2024–25 Bulletin

School of Arts & Sciences, Graduate Studies

Washington University in St. Louis

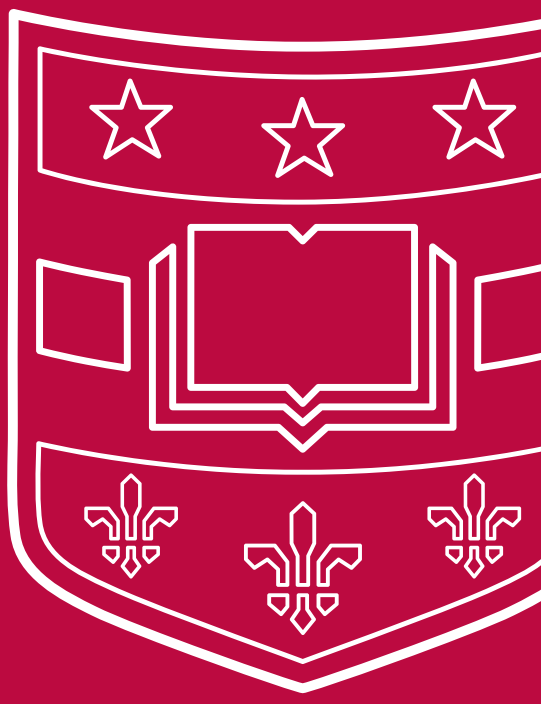

Table of Contents

About This Bulletin

The graduate and professional *Bulletins* are the catalogs of programs, degree requirements, courses that may be offered and course descriptions, pertinent university policies, and faculty of the following schools of Washington University in St. Louis: Architecture & Urban Design; Art; Arts & Sciences; Business; Engineering; Law; Medicine; and Social Work & Public Health.

The *School of Continuing & Professional Studies Bulletin* is the catalog of the School of Continuing & Professional Studies (CAPS), the professional and continuing education division at Washington University in St. Louis. The catalog includes programs, degree requirements, course descriptions, and pertinent university policies for students earning a degree through CAPS.

The *2024-25 Bulletin* is entirely online but may be downloaded in PDF format for printing. Individual pages as well as information from individual tabs may be downloaded in PDF format using the PDF icon in the top right corner of each page. To download the full PDF, please choose from the following:

—The 2024-25 Bulletin PDFs are coming soon!—

- Architecture & Urban Design Bulletin (PDF)
- Art Bulletin (PDF)
- Arts & Sciences Bulletin (PDF)
- Business Bulletin (PDF)
- Engineering Bulletin (PDF)
- Law Bulletin (PDF)
- Medicine Bulletin (PDF)
- Social Work & Public Health Bulletin (PDF)
- School of Continuing & Professional Studies Bulletin (undergraduate & graduate) (PDF)

The degree requirements and policies listed in the *2024-25 Bulletin* apply to students entering Washington University during the 2024-25 academic year. For more information, please visit the Catalog Editions (p. 9) page.

Every effort is made to ensure that the information, applicable key policies and other materials presented in the *Bulletin* are accurate and correct as of the date of publication (July 1, 2024). To view a list of changes that have taken place after that date, visit the Program & Policy Updates page. Please note that the *Bulletin* highlights key university policies applicable to its students. Not all applicable university and departmental policies are included here.

Washington University reserves the right to make changes at any time without prior notice to the *Bulletin* and to university policies. Therefore, the electronic version of the *Bulletin* as published online is considered the official, governing document, and it may change from time to time without notice.

The next edition of the *Bulletin* will be published on July 1, 2025. In the interim, semester course offerings will be found in Washington University's Course Listings; these are usually available at the end of September for the upcoming spring semester, in early February for the upcoming summer semester, and in late February for the upcoming fall semester. Midyear changes to current courses (titles, descriptions, and credit units) are not reflected in this *Bulletin* and will only appear in the Course Listings. For more information about determining the appropriate edition of the *Bulletin* to consult, please visit the Catalog Editions page (p. 9) in the About This Bulletin section.

For the most current information about registration and available courses, visit WebSTAC and Course Listings, respectively. Please email the Bulletin editor, Jennifer Gann, (jennifer.gann@wustl.edu) with any questions concerning the *Bulletin.*

Bulletin Policies

Changes to the Bulletin

Every effort is made to ensure that the information, policies and other materials presented in the *Bulletin* are accurate and correct as of the date of publication. For more information about the content review process for the Bulletin, please visit the Catalog Editions page (p. 9).

The *Bulletin* for the upcoming academic year is published annually on July 1, and certain post-publication changes may be made until October 1. To view a list of changes that have taken place after the July 1 publication date, please visit the Program & Policy Updates page.

Washington University reserves the right to make changes at any time without prior notice. Therefore, the electronic version of the *Bulletin* and the policies set forth therein may change from time to time without notice. The governing document at any given time is the then-current version of the *Bulletin,* as published online, and then-currently applicable policies and information are those contained in that *Bulletin.*

Discontinued Programs

Periodically, Washington University schools will change their program offerings. If a program is no longer accepting applicants, we will note this in the *Bulletin,* and soon after the program will be removed from the *Bulletin.* Students who are actively enrolled in these programs will be held to the requirements and policies published in the *Bulletin* from their year of matriculation. If a student has not been continuously enrolled in such a program and now wishes to inquire whether a discontinued program can still be completed, they should contact the relevant department or school to determine whether this opportunity is available.

Year of Matriculation

Students who attend Washington University are held to the policies in place as published in the *Bulletin* during their year of matriculation. For more information, please visit the Catalog Editions page (p. 9).

Course Numbering

Courses at Washington University are coded by department and include a three- or four-digit number that generally means the following, although students should check with the school or department offering the courses to be certain:

- 100 to 199 are primarily for first-year students;
- 200 to 299 are primarily for sophomores;
- 300 to 399 are primarily for juniors;
- 400 to 499 are primarily for juniors and seniors, although certain courses may carry graduate credit; and
- 500 and above are offered to graduate students and to juniors and seniors who have met all stated requirements. (If there are no stated requirements, juniors and seniors should obtain permission of the instructor.)

For example: Course L07 105 is an introductory course offered by the Department of Chemistry (L07).

The presence of a course in this *Bulletin* signifies that it is part of the curriculum currently offered and may be scheduled for registration. Enrollment requirements are determined by term.

Curriculum Designators

The designators shown below are used in Washington University's course descriptions and listed here alphabetically by code. The primary fields covered in each section are also listed.

A (Architecture)

Code	Name
A46 ARCH	Architecture
A48 LAND	Landscape Architecture
A49 MUD	Urban Design
AS1 MedSoc	Medicine and Society
AS2 PCS	Process Control Systems
AS3 UMSLEN	UMSL Joint Engineering Program

B (Business)

Code	Name
B50 ACCT	Accounting
B51 ADMN	Administration
B52 FIN	Finance
B53 MGT	Management
B54 MEC	Managerial Economics
B55 MKT	Marketing
B56 OB	Organizational Behavior
B57 SCOT	Supply Chain, Operations, and Technology
B59 DAT	Data Analytics
B60 ACCT	Graduate Accounting
B62 FIN	Graduate Finance
B63 MGT	Graduate Management
B64 MEC	Graduate Managerial Economics
B65 MKT	Graduate Marketing
B66 OB	Graduate Organizational Behavior
B67 SCOT	Graduate Supply Chain, Operations, and Technology
B69 DAT	Graduate Data Analytics
B90 BEE	Brookings Executive Education
B99 INTL	International Studies

E (Engineering)

Code	Name
E35 ESE	Electrical & Systems Engineering
E37 MEMS	Mechanical Engineering & Materials Science
E44 EECE	Energy, Environmental & Chemical Engineering
E60 Engr	General Engineering
E62 BME	Biomedical Engineering
E81 CSE	Computer Science & Engineering
EGS EGS	Engineering Graduate Studies

F (Art)

Code	Name
F00 Art	Art
F10 ART	Art (Core and Major Studio Courses)
F20 ART	Art (Elective Studio Courses)

I (Interdisciplinary Programs)

Code	Name
I02 MAIR	Military Aerospace Science
I25 MILS	Military Science
I50 INTER D	Interdisciplinary Studies
I52 IMSE	Institute of Materials Science & Engineering
I53 DCDS	Division of Computational and Data Sciences
I60 BEYOND	Beyond Boundaries

L (Arts & Sciences)

Code	Name
L01 Art-Arch	Art History and Archaeology
L04 Chinese	Chinese
L05 Japan	Japanese
L07 Chem	Chemistry
L08 Classics	Classics
L09 Greek	Greek
L10 Latin	Latin
L11 Econ	Economics
L12 Educ	Education
L13 Writing	Writing
L14 E Lit	English Literature
L15 Drama	Drama
L16 Comp Lit	Comparative Literature
L18 URST	Urban Studies

L19 EEPS	Earth, Environmental, and Planetary Sciences
L21 German	Germanic Languages and Literatures
L22 History	History
L23 Re St	Religious Studies
L24 Math	Mathematics and Statistics
L27 Music	Music
L28 P.E.	Physical Education
L29 Dance	Dance
L30 Phil	Philosophy
L31 Physics	Physics
L32 Pol Sci	Political Science
L33 Psych	Psychological & Brain Sciences
L34 French	French
L36 Ital	Italian
L37 Portug	Portuguese
L38 Span	Spanish
L39 Russ	Russian
L40 SOC	Sociology
L41 Biol	Biology and Biomedical Sciences
L43 GeSt	General Studies
L44 Ling	Linguistics
L45 LatAm	Latin American Studies
L46 AAS	Asian American Studies
L48 Anthro	Anthropology
L49 Arab	Arabic
L51 Korean	Korean
L52 ARC	Archaeology
L53 Film	Film and Media Studies
L56 CFH	Center for the Humanities
L57 RelPol	Center on Religion and Politics
L59 CWP	College Writing Program
L61 FYP	First-Year Programs
L62 Praxis	Praxis
L63 IPMS	Movement Science
L64 PNP	Philosophy-Neuroscience-Psychology
L66 ChSt	Children's Studies
L73 Hindi	Hindi
L74 HBRW	Hebrew
L75 JIMES	Jewish, Islamic, and Middle Eastern Studies
L77 WGSS	Women, Gender, and Sexuality Studies
L81 EALC	East Asian Languages & Cultures
L82 EnSt	Environmental Studies
L84 Lw St	Legal Studies
L85 MedH	Medical Humanities
L86 PBPM Study	Biological & Physical Sciences for PBPM
L87 SDS	Statistics and Data Science
L89 Sphr	Speech and Hearing
L90 AFAS	African and African-American Studies
L92 APL	Applied Linguistics
L93 IPH	Interdisciplinary Project in the Humanities
L97 GS	Global Studies
L98 AMCS	American Culture Studies
L99 OSP	Overseas Programs
LGS GSAS	The Graduate School
LPH LPHS	Public Health and Society

M (Medicine)

Code	Name
M01 OT	Occupational Therapy Program
M02 PhysTher	Physical Therapy Program-Grad
M04 FYSelect	First-Year Selectives
M05 Neurosci	Neuroscience
M10 Anesth	Anesthesiology
M15 Biochem	Biochemistry and Molecular Biophysics
M17 CLNV	Clinical Investigation
M18 BMI	Biomedical Informatics
M19 PHS	Population Health Sciences
M20 Genetics	Genetics
M21 MSB	Biostatistics and Genetic Epidemiology
M25 Medicine	Internal Medicine
M26 FamMed	Family Medicine
M27 EMED	Emergency Medicine
M30 MolMB	Molecular Microbiology
M35 Neurol	Neurology
M40 NeurSurg	Neurological Surgery
M45 ObGyn	Obstetrics and Gynecology
M50 Ophth	Ophthalmology and Visual Sciences
M55 Oto	Otolaryngology
M60 Path	Pathology
M65 Peds	Pediatrics
M70 MolBio/Pha	Molecular Biology and Pharmacology
M75 CellBio	Cell Biology and Physiology
M80 Interdis	Interdisciplinary
M81 Gateway	Gateway Curriculum
M85 Psych	Psychiatry
M88 AHBR	Applied Health Behavior Research
M89 PACS	Audiology and Communication Sciences
M90 Radiol	Radiology
M91 MedPhys	Medical Physics
M92 RadOnc	Radiation Oncology

M93 NrsSci	Nursing Science
M95 Surgery	Surgery
M96 Ortho	Orthopedic Surgery
M99 Ind Stdy	Independent Study

S (Social Work and Public Health)

Code	Name
S10 SWCR	Core
S15 SWCR	MSW Foundation
S20 SWHS	Theory, Problems & Issues
S30 SWDP	Practice Methods
S31 SWDP	Practice Methods
S40 SWSP	Social Policy
S48 SWSP	Social Policy
S50 SWSA	Practice Methods
S55 MPH	Master of Public Health (MPH)
S60 SWCD	Practice Methods
S65 SWCD	Practice Methods
S70 SWPR	MSW Practicum
S81 SKILL	Skill Labs
S90 SWDT	Brown PhD
S91 PSTM	Post-Master Certificate

T (Engineering - Joint Program & Sever Institute)

Code	Name
T11 JCS	Joint Introduction to Computing
T54 PRJM	Project Management
T55 ETEM	Engineering Management
T64 CNST	Construction Management
T71 HLTHCARE	Health Care Operations
T81 INFO	Information Management
T83 CYBER	Cybersecurity Management
T92 HCO	Health Care Operations (Online)
T93 CSM	Cybersecurity Management (Online)
T95 EMGT	Engineering Management (Online)

U (School of Continuing & Professional Studies)

Code	Name
U02 Classics	Classics
U03 GS	General Studies
U05 Chem	Chemistry
U07 Econ	Economics
U08 Educ	Education
U09 Psych	Psychological & Brain Sciences (Psychology)
U10 ArtArch	Art History and Archaeology
U11 EComp	English Composition
U12 Fr	French
U13 EPSc	Earth and Planetary Sciences
U14 German	Germanic Languages and Literatures
U15 ELP	English Language Programs
U16 Hist	History
U18 Film	Film and Media Studies
U19 SUST	Sustainability
U20 Math	Mathematics and Statistics
U21 Drama	Drama
U22 Phil	Philosophy
U23 Phys	Physics
U24 Mus	Music
U25 PolSci	Political Science
U26 Port	Portuguese
U27 Span	Spanish
U29 Bio	Biology
U30 Spch	Speech
U31 Dance	Dance and Somatic Movement Studies
U32 CompLit	Comparative Literature
U35 Arab	Arabic
U36 Japan	Japanese
U37 Hebr	Hebrew
U38 Chinese	Chinese
U39 Russ	Russian
U40 Ital	Italian
U43 IS	International Studies
U44 Bus	Business
U47 IRISH	Irish Studies
U48 Comm	Communications
U49 JRN	Journalism
U51 KOREAN	Korean
U56 ISLA	Integrated Studies in Liberal Arts
U65 ELit	English and American Literature
U66 RelSt	Religious Studies
U67 LAS	Latin American Studies
U68 SOC	Sociology
U69 Anthro	Anthropology
U71 DATA	Data Studies
U73 Hindi	Hindi
U74 Sci	Science
U76 NPM	Nonprofit Management
U78 EAsia	East Asian Studies
U79 Art	Art
U80 CRM	Clinical Research Management

U82 CIM	Computers and Information Management
U84 AFAS	African and African-American Studies
U85 IA	International Affairs
U86 HCARE	Health Care
U87 HRM	Human Resources Management
U89 AMCS	American Culture Studies
U90 GIS	Geographic Information Systems
U91 Ling	Linguistics
U92 WGSS	Women, Gender, and Sexuality Studies
U93 Scan	Scandinavian
U94 JME	Jewish, Islamic, and Middle Eastern Studies
U96 DLA	DLA Seminars
U98 MLA	MLA Seminars

W (Law)

Code	Name
W74 LAW	Law
W75 LAW	Law
W76 LAW	Law
W77 LAW	Law
W78 LAW	Law
W79 LAW	Law
W80 OLAW	Law Onlin

X (Design & Visual Arts)

Code	Name
X10 XCORE	Design & Visual Arts - Core
X20 XELEC	Design & Visual Arts - Elective

Catalog Editions

The courses and policies listed in this *Bulletin* are subject to change at any time through normal approval channels within Washington University. New courses, changes to existing course work and new policies are initiated by the appropriate institutional departments, committees or administrators. Academic policy revisions are generally implemented in the next academic year following notification thereof. Washington University publishes a new edition of the *Bulletin* each July, and its contents apply to the subsequent fall, spring, and summer terms. Occasionally a policy or requirement must be changed and implemented during the same academic year (e.g., in the case of relevant external requirements such as state regulations). All changes must be approved by college or school personnel who oversee academic curriculum and policies.

Washington University students must complete the graduation requirements in effect during the term that they matriculated into their program of study as published in the edition of the *Bulletin* from that academic year. Undergraduates who initially enroll in a summer term to pursue a special program follow requirements for the subsequent fall term. Students will need to check their school's processes to potentially change applicable catalog years or alter their degree requirements.

Students should review specific Washington University and individual school policies related to transfer credit, changing programs, leaves of absence, and military service.

Prior Bulletins

To find program details, course descriptions, and relevant policies, choose the year of enrollment below to find the available *Bulletins.* If the required year is not shown or the school's *Bulletin* is not available, please email the Office of the University Registrar (registrar@wustl.edu) with specifics of the needed information.

2023-2024

The HTML archives of the 2023-24 Bulletin are coming soon.

- Graduate Architecture & Urban Design Bulletin (HTML) (PDF)
- Graduate Art Bulletin (HTML) (PDF)
- Graduate Arts & Sciences Bulletin (HTML) (PDF)
- Graduate Business Bulletin (HTML) (PDF)
- Graduate Engineering Bulletin (HTML) (PDF)
- Law Bulletin (HTML) (PDF)
- Medicine Bulletin (HTML) (PDF)
- Social Work & Public Health Bulletin (HTML) (PDF)
- Undergraduate Bulletin (HTML) (PDF)
- School of Continuing & Professional Studies Bulletin (HTML: Undergraduate, Graduate) (PDF)

2022-2023

- Graduate Architecture & Urban Design Bulletin (HTML) (PDF)
- Graduate Art Bulletin (HTML) (PDF)
- Graduate Arts & Sciences Bulletin (HTML) (PDF)
- Graduate Business Bulletin (HTML) (PDF)
- Graduate Engineering Bulletin (HTML) (PDF)
- Law Bulletin (HTML) (PDF)
- Medicine Bulletin (HTML) (PDF)
- Social Work & Public Health Bulletin (HTML) (PDF)
- Undergraduate Bulletin (HTML) (PDF)
- University College Bulletin (HTML: Undergraduate, Graduate) (PDF)

2021-2022

- Graduate Architecture & Urban Design Bulletin (HTML) (PDF)
- Graduate Art Bulletin (HTML) (PDF)
- Graduate Arts & Sciences Bulletin (HTML) (PDF)
- Graduate Business Bulletin (HTML) (PDF)
- Graduate Engineering Bulletin (HTML) (PDF)
- Law Bulletin (HTML) (PDF)
- Medicine Bulletin (HTML) (PDF)
- Social Work & Public Health Bulletin (HTML) (PDF)
- Undergraduate Bulletin (HTML) (PDF)
- University College Bulletin (HTML: Undergraduate, Graduate) (PDF)

2020-2021

- Graduate Architecture & Urban Design Bulletin (HTML) (PDF)
- Graduate Art Bulletin (HTML) (PDF)
- Graduate Arts & Sciences Bulletin (HTML) (PDF)
- Graduate Business Bulletin (HTML) (PDF)
- Graduate Engineering Bulletin (HTML) (PDF)
- Law Bulletin (HTML) (PDF)
- Medicine Bulletin (HTML) (PDF)
- Social Work & Public Health Bulletin (HTML) (PDF)
- Undergraduate Bulletin (HTML) (PDF)
- University College Bulletin (HTML: Undergraduate, Graduate) (PDF)

2019-2020

- Graduate Architecture & Urban Design Bulletin (HTML) (PDF)
- Graduate Art Bulletin (HTML) (PDF)
- Graduate Arts & Sciences Bulletin (HTML) (PDF)
- Graduate Business Bulletin (HTML) (PDF)
- Graduate Engineering Bulletin (HTML) (PDF)
- Law Bulletin (HTML) (PDF)
- Medicine Bulletin (HTML) (PDF)
- Social Work & Public Health Bulletin (HTML) (PDF)
- Undergraduate Bulletin (HTML) (PDF)
- University College Bulletin (HTML: Undergraduate, Graduate) (PDF)

2018-2019

- Graduate Architecture & Urban Design Bulletin (HTML) (PDF)
- Graduate Art Bulletin (HTML) (PDF)
- Graduate Arts & Sciences Bulletin (HTML) (PDF)
- Graduate Engineering Bulletin (HTML) (PDF)
- Law Bulletin (HTML) (PDF)
- Medicine Bulletin (HTML) (PDF)
- Social Work & Public Health Bulletin (HTML) (PDF)
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2017-2018

- Graduate Architecture & Urban Design Bulletin (HTML) (PDF)
- Graduate Art Bulletin (HTML) (PDF)
- Graduate Arts & Sciences Bulletin (HTML) (PDF)
- Graduate Engineering Bulletin (HTML) (PDF)
- Law Bulletin (HTML) (PDF)
- Medicine Bulletin (HTML) (PDF)
- Social Work & Public Health Bulletin (HTML) (PDF)
- Undergraduate Bulletin (HTML) (PDF)
- University College Bulletin (HTML: Undergraduate, Graduate) (PDF)

2016-2017

- Graduate Architecture & Urban Design Bulletin (HTML) (PDF)
- Graduate Art Bulletin (HTML) (PDF)
- Graduate Arts & Sciences Bulletin (HTML) (PDF)
- Graduate Engineering Bulletin (HTML) (PDF)
- Medicine Bulletin (PDF)
- Undergraduate Bulletin (HTML) (PDF)
- University College Bulletin (HTML: Undergraduate, Graduate) (PDF)

2015-2016

- Graduate Arts & Sciences Bulletin (HTML) (PDF)
- Medicine Bulletin (PDF)
- Undergraduate Bulletin (HTML) (PDF)

2014-2016

- University College Bulletin (undergraduate & graduate) (PDF)

2014-2015

- Medicine Bulletin (PDF)
- Undergraduate Bulletin (HTML) (PDF)

2013-2014

- Medicine Bulletin (PDF)
- Undergraduate Bulletin (HTML) (PDF)

2012-2015

- Graduate Arts & Sciences Bulletin (PDF)

2012-2014

- University College Bulletin (undergraduate & graduate) (PDF)

2012-2013

- Medicine Bulletin (PDF)
- Undergraduate Bulletin (HTML) (PDF)

2011-2012

- Medicine Bulletin (PDF)
- Undergraduate Bulletin (HTML) (PDF)

2010-2011

- Medicine Bulletin (PDF)
- Undergraduate Bulletin (PDF)

2009-2012

- Graduate Arts & Sciences Bulletin (PDF)

2009-2010

- Medicine Bulletin (PDF)

2008-2010

- Undergraduate Bulletin (PDF)

2008-2009

- Medicine Bulletin (PDF)

2006-2009

- Graduate Arts & Sciences Bulletin (PDF) and accompanying 2008 Update (PDF)

2006-2008

- Undergraduate Bulletin (PDF)

About Washington University in St. Louis

Who We Are Today

Washington University in St. Louis — a medium-sized, independent university — is dedicated to challenging its faculty and students alike to seek new knowledge and greater understanding of an ever-changing, multicultural world. The university is counted among the world's leaders in teaching and research, and it draws students from all 50 states, the District of Columbia, Guam, Puerto Rico and the Virgin Islands. Students and faculty come from more than 100 countries around the world.

The university offers more than 250 programs and 5,500 courses leading to associate, bachelor's, master's, and doctoral degrees in a broad spectrum of traditional and interdisciplinary fields, with additional opportunities for minor concentrations and individualized programs. For more information about the university, please visit the University Facts page of our website.

Enrollment by School

For enrollment information, please visit the University Facts page of our website.

Our Mission Statement

The mission of Washington University in St. Louis is to act in service of truth through the formation of leaders, the discovery of knowledge and the treatment of patients for the betterment of our region, our nation and our world.

At WashU, we generate, disseminate, and apply knowledge. We foster freedom of inquiry and expression of ideas in our research, teaching and learning.

We aim to create an environment that encourages and supports wide-ranging exploration at the frontier of discovery by embracing diverse perspectives from individuals of all identities and backgrounds. We promote higher education and rigorous research as a fundamental component of an open, vibrant society. We strive to enhance the lives and livelihoods not only of our students, patients, and employees but also of the people of the greater St. Louis community and beyond. We do so by addressing scientific, social, economic, medical, and other challenges in the local, national, and international realms.

Our goals are:

- to foster excellence and creativity in our teaching, research, scholarship, patient care and service
- to welcome students, faculty and staff from all backgrounds to create an inclusive, equitable community that is nurturing and intellectually rigorous
- to cultivate in students habits of lifelong learning and critical and ethical thinking, thereby enabling them to be productive members and leaders of a global society
- to contribute positively to our home community of St. Louis, and to effect meaningful, constructive change in our world

To this end we intend:

- to hold ourselves to the highest standards of excellence
- to educate aspiring leaders of great ability from diverse backgrounds
- to encourage faculty and students to be innovative, bold, independent, critical thinkers
- to build an inclusive, equitable, respectful, ethically-principled environment for living, teaching, learning and working for the present and future generations
- to focus on meaningful and measurable outcomes for all of our endeavors

Mission statement endorsed by the Faculty Senate Council in April 2021 and approved by the Board of Trustees on October 1, 2021.

Trustees & Administration

Board of Trustees

Washington University's Board of Trustees is the chief governing body of Washington University in St. Louis. Please visit the Board of Trustees website for more information.

University Administration

In 1871, Washington University co-founder and then-Chancellor William Greenleaf Eliot sought a gift from Hudson E. Bridge, a charter member of the university's Board of Directors, to endow the chancellorship. Soon after this endowment was received, the position was renamed the "Hudson E. Bridge Chancellorship."

The officers of the university administration are currently led by Chancellor Andrew D. Martin. University leadership is detailed on the Washington University website.

Academic Calendar

The academic calendar of Washington University in St. Louis is designed to provide an optimal amount of classroom instruction and examination within a manageable time frame, facilitating our educational mission to promote learning among both students and faculty. Individual schools — particularly our graduate and professional schools — may have varying calendars due to the nature of particular fields of study. Please refer to each school's website for more information.

Fall Semester 2024

College of Arts & Sciences, McKelvey School of Engineering, Olin Business School, Sam Fox School of Design & Visual Arts, and the School of Continuing & Professional Studies

Date	Day	Description
August 26	Monday	First day of classes
September 2	Monday	Labor Day (no classes)
October 5-8	Saturday-Tuesday	Fall Break (no classes)
November 27-December 1	Wednesday-Sunday	Thanksgiving Break (no classes)
December 6	Friday	Last day of classes
December 9-11	Monday-Wednesday	Reading days
December 12-18	Thursday-Wednesday	Final exams

Spring Semester 2025

College of Arts & Sciences, McKelvey School of Engineering, Olin Business School, Sam Fox School of Design & Visual Arts, and the School of Continuing & Professional Studies

Date	Day	Description
January 13	Monday	First day of classes
January 20	Monday	Martin Luther King, Jr. holiday (no classes)
March 9-16	Sunday-Sunday	Spring Break (no classes)
April 25	Friday	Last day of classes
April 28-30	Monday-Wednesday	Reading days
May 1-7	Thursday-Wednesday	Final exams

Commencement

Date	Day	Description
May 12	Monday	Class of 2025 Commencement

Summer Semester 2025

Date	Day	Description
May 19	Monday	First Summer Session begins
May 26	Monday	Memorial Day (no classes)
July 4	Friday	Independence Day (no classes)
August 14	Thursday	Last Summer Session ends

Washington University recognizes the individual student's choice in observing religious holidays (PDF). Students are encouraged to make arrangements with instructors to complete work missed due to religious observance. Instructors are asked to make every reasonable effort to accommodate such requests.

Campus Resources

Student Support Services

The Learning Center. The Learning Center is located on the lower level of the Mallinckrodt Center, and it is the hub of academic support at Washington University in St. Louis. We provide undergraduate students with assistance in a variety of forms. Most services are free, and each year more than 2,000 students participate in one or more of our programs. For more information, visit the Learning Center website or call 314-935-5970. There are three types of services housed within the Learning Center:

- **Academic Mentoring Programs** offer academic support in partnership with the academic departments in a variety of forms. Academic mentoring programs are designed to support students in their course work by helping them develop the lifelong skill of "learning how to learn" and by stimulating their independent thinking. Programs include course-specific weekly structured study groups facilitated by highly trained peer leaders as well as course-specific weekly walk-in sessions facilitated by academic mentors in locations, at times and in formats convenient for the students. The Learning Center also offers individual consulting/coaching for academic skills such as time management, study skills, note taking, accessing resources and so on. Other services include fee-based graduate and professional school entrance preparation courses.
- **Disability Resources** supports students with disabilities by fostering and facilitating an equal access environment for the Washington University community of learners. Disability Resources partners with faculty and staff to facilitate academic and housing accommodations for students with disabilities on the Danforth Campus. Students enrolled in the School of Medicine should contact their program's director. Please visit the Disability Resources website or contact the Learning Center at 314-935-5970 for more information.
- **TRIO: Student Support Services** is a federally funded program that provides customized services for undergraduate students who are low income, who are the first in their family to go to college, and/or who have a documented disability. Services include academic coaching, academic peer mentoring, cultural and leadership programs, summer internship assistance and post-graduation advising. First-year and transfer students are considered for selection during the summer before they enter their first semester. Eligible students are encouraged to apply when they are notified, because space in this program is limited. For more information, visit the TRIO Program website.

Medical Student Support Services. For information about Medical Student Support Services, please visit the School of Medicine website.

Office for International Students and Scholars. If a student is joining the university from a country other than the United States, this office can assist that individual through their orientation programs, issue certificates of eligibility (visa documents), and provide visa and immigration information. In addition, the office provides personal and cross-cultural counseling and arranges social, cultural and recreational activities that foster international understanding on campus.

The Office for International Students and Scholars is located on the Danforth Campus in the Danforth University Center at 6475 Forsyth Boulevard, Room 330. The office can be found on the Medical Campus in the Mid Campus Center (MCC Building) at 4590 Children's Place, Room 2043. For more information, visit the Office for International Students and Scholars website or call 314-935-5910.

Office of Military and Veteran Services. This office serves as the university's focal point for military and veteran matters, including transitioning military-connected students into higher education, providing and connecting students with programs and services, and partnering across campus and in the community. Services include advising current and prospective students on how to navigate the university and maximize Department of Defense and Veterans Affairs (VA) educational benefits, transition support, Veteran Ally training for faculty and staff, veteran-unique programming, and connecting students to campus and community resources. Military-connected students include veterans, military service members, spouses, dependent children, caregivers, survivors and Reserve Officer Training Corp cadets. There are two university policies that apply to students who still serve in the Armed Forces and students who use VA educational benefits:

- The Policy on Military Absences, Refunds and Readmissions applies to students serving in the U.S. Armed Forces and their family members when military service forces them to be absent or withdraw from a course of study.
- The Policy on Protections for VA Educational Benefit Users applies to students using VA education benefits when payments to the institution and the individual are delayed through no fault of the student.

The Office of Military and Veteran Services is located in Umrath Hall on the Danforth Campus. Please visit the Military and Veteran Services website or send an email to veterans@wustl.edu for more information.

Relationship and Sexual Violence Prevention (RSVP) Center. The RSVP Center offers free and confidential services including 24/7 crisis intervention, counseling services, resources, support and prevention education for all students on the Danforth Campus. The RSVP Center operates from a public health model and uses trauma-informed practices to address the prevalent issues of relationship and sexual violence. By providing support for affected students, it is our goal to foster post-traumatic growth and resilience and to help ensure academic retention and success. Our prevention efforts call for community engagement to engender an intolerance of violence and an active stance toward challenging cultural injustices that perpetuate such issues. Learn more at the RSVP Center website.

WashU Cares. WashU Cares assists the university with handling situations involving the safety and well-being of Danforth Campus students. WashU Cares is committed to fostering student success and campus safety through a proactive, collaborative and systematic approach to the identification of, intervention with and support of students of concern while empowering all university community members to create a culture of caring. If there is a concern about the physical or mental well-being of a student, please visit the WashU Cares website to file a report.

The Writing Center. The Writing Center — a free service — offers writing support to all Washington University undergraduate and graduate students. Tutors will read and discuss any kind of work in progress, including student papers, senior theses, application materials, dissertations and oral presentations. The Writing Center staff is trained to work with students at any stage of the writing process, including brainstorming, developing and clarifying an argument, organizing evidence, and improving style. Rather than editing or proofreading, tutors will emphasize the process of revision and teach students how to edit their own work.

The Writing Center is located in Mallinckrodt Center on the lower level. Appointments are preferred and can be made online, but walk-ins will be accepted if tutors are available.

Student Health and Well-Being Services, Danforth Campus

The Habif Health and Wellness Center provides medical, psychiatric, and health promotion services for undergraduate and graduate students on the Danforth Campus. Please visit the Habif Health and Wellness Center website for more information about Habif's services and staff members.

Hours:
Monday, Tuesday, Thursday, and Friday: 8 a.m. - 5 p.m.
Wednesday: 10 a.m. - 5 p.m.
Saturday, Sunday, and university holidays: Closed

For after-hours care, students should access TimelyCare.

Medical Services

Medical Services staff members provide care for the evaluation and treatment of an illness or injury, preventive health care and health education, immunizations, nutrition counseling, sports medicine, travel medicine, and sexual health services. Psychiatry Services staff provide ongoing medication management for students to address their mental health concerns. Habif Health and Wellness Center providers are participating members of the Washington University in St. Louis Physician's Network. Any condition requiring specialized medical services will be referred to an appropriate specialist. Habif accepts health insurance plans that have met waiver criteria for the Student Health Insurance Plan and will be able to bill the plan according to plan benefits. The Student Health Insurance Plan requires a referral for medical care any time care is not provided at Habif (except in an emergency). Call 314-935-6666 or visit the Habif website to schedule an appointment.

Appointments are also available for the assessment and referral of students struggling with substance use.

Quadrangle Pharmacy, located in the Habif Health and Wellness Center, is available to all Washington University students and their dependents. The pharmacy accepts most prescription insurance plans; students should check with the pharmacist to see if their prescription plan is accepted at the pharmacy.

The Habif Health and Wellness Center lab provides full laboratory services. Some tests can be performed in house. The remainder of all testing that is ordered by Habif is completed by LabCorp. LabCorp serves as Habif's reference lab, and it is a preferred provider on the student health insurance plan. This lab can perform any test ordered by Habif providers or outside providers.

All incoming students must provide proof of immunization for measles, mumps, and rubella (i.e., two vaccinations after the age of one year old; a titer may be provided in lieu of the immunizations). Proof of receiving a meningococcal vaccine is required for all incoming undergraduate students. A TB test in the past six months is required for students entering the university who screen positive on the TB questionnaire found on the student portal. It is also recommended that, during the five years before beginning their studies at Washington University, all students will have received the tetanus diphtheria immunization, the hepatitis A vaccine series, the hepatitis B vaccine series, the HPV vaccine series, the meningitis B vaccine, and the varicella vaccine. Medical history forms are available online. Failure to complete the required forms will delay a student's registration and prevent their entrance into housing assignments. Please visit the Habif website for complete information about immunization requirements and deadlines.

Health Promotion Services

Health Promotion Services staff and Peer Health Educators provide free programs and risk reduction information related to mental health, sexual health, alcohol/other drugs, and community care. For more information, visit the Zenker Wellness Suite in Sumers Recreation Center, consult the Health and Wellness Digital Library, follow Habif on Instagram (@washu_habif), and/or email wellness@wustl.edu. In 2018, this department launched the WashU Recovery Group to provide an opportunity for students in recovery from substance use to connect with other students with similar experiences.

Center for Counseling and Psychological Services (CCPS)

Hours:
Monday, Tuesday, Thursday, and Friday: 8 a.m. - 5 p.m.
Wednesday: 10 a.m. - 5 p.m.
Saturday, Sunday, and university holidays: Closed

For after-hours mental health support, students should access TimelyCare.

Located in the Habif Health and Wellness Center, CCPS is staffed by licensed professional staff members who work with students to resolve personal and interpersonal difficulties. These may include conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety and depression. Services include individual, group, and couples counseling; crisis counseling; and referral for off-campus counseling when students' needs can be better met outside of CCPS. Providers also offer self-help programs, including Therapy Assistance Online (TAO). All full-time students who pay the university health and wellness fee as part of their tuition are eligible for services. Visit the CCPS website or call 314-935-6695 to schedule an appointment during business hours. For additional information, visit the CCPS website or send an email to ccpscoordinator@wustl.edu.

Important Information About Health Insurance and Fees for Danforth Campus Students

All full-time, degree-seeking Washington University students are automatically enrolled in the Student Health Insurance Plan upon completion of registration. Students may opt out of this coverage and receive a refund of the health insurance fee if they provide proof of existing comprehensive insurance coverage that meets all university requirements. Information concerning opting out of the student health insurance plan can be found online after June 1 of each year. All students must request to opt out by September 5 of every year in which they wish to be removed from the Student Health Insurance Plan. Habif provides billing services to many of the major insurance companies in the United States. Specific fees and copays apply to students using Medical Services and Mental Health Services; these fees may be billable to the students' insurance plans. More information is available on the Habif Health and Wellness Center website. In addition, WashU has a health and wellness fee designed to improve the health and well-being of the campus community. It is assessed by the university, and it is entirely separate from health insurance. It covers a membership to the Sumers Recreation Center, health education, prevention efforts, and other benefits, including no-cost counseling visits.

Student Health Services, Medical Campus

For information about student health services on the Medical Campus, please visit the Student & Occupational Health Services page of the School of Medicine website.

Campus Security

The Washington University campus is among the most attractive in the nation, and it enjoys a safe and relaxed atmosphere. Personal safety and the security of personal property while on campus is a shared responsibility. Washington University has made safety and security a priority through our commitment to a full-time professional police department, the use of closed-circuit television, card access, extensive lighting initiatives based on Crime Prevention Through Environmental

Design (CPTED) practices, shuttle services, emergency telephones, and ongoing educational safety awareness programs. The vast majority of crimes that occur on college campuses are crimes of opportunity, which can be prevented.

The best protection against crime is an informed and alert campus community. Washington University has developed several programs to help make everyone's experiences here safe and secure. An extensive network of emergency telephones — including more than 200 "blue light" telephones — is connected directly to the University Police Department and can alert the police to a person's exact location. In addition to the regular shuttle service, an evening student walking/mobile escort service known as "Bear Patrol" and a mobile Campus Circulator shuttle are available on the Danforth Campus.

The Campus2Home shuttle will provide a safe ride home for those living in four designated areas off campus — Skinker-DeBaliviere, Loop South, north of the Loop, and just south of the campus — from 7:00 p.m. to 4:00 a.m. seven days a week. The shuttle leaves from the Mallinckrodt Bus Plaza and Forsyth/Goldfarb Hall Center every 15 minutes from 7:00 p.m. to 1:00 a.m. and at the top (:00) and bottom (:30) of the hour from 1:00 a.m. to 4:00 a.m. The shuttle takes passengers directly to the front doors of their buildings. Shuttle drivers will then wait and watch to make sure passengers get into their buildings safely. Community members can track the shuttle in real time using the WUSTL Mobile App. The app can be downloaded free of charge from the Apple iTunes Store or the Google Play Store.

The University Police Department is a full-service organization staffed by certified police officers who patrol the campus 24 hours a day throughout the entire year. The department offers a variety of crime prevention programs, including a high-security bicycle lock program, free personal-safety whistles, computer security tags, personal safety classes, and security surveys. Community members are encouraged to download and install the WashU Safe personal safety app on their phones; this app allows users to call for help during emergencies, to use Friend Walk to track their walks on and off campus, and to access many additional safety features. For more information about these programs, visit the Washington University Police Department website.

In compliance with the Campus Crime Awareness and Security Act of 1990, Washington University publishes an annual report entitled *Safety & Security: Guide for Students, Faculty, and Staff — Annual Campus Security and Fire Safety Reports and Drug & Alcohol Abuse Prevention Program*. This report is available to all current and prospective students on the Danforth Campus and to university employees on the Danforth, North and West campuses. To request a hard copy, contact the Washington University Police Department, CB 1038, One Brookings Drive, St. Louis, MO 63130-4899, 314-935-9011.

For information regarding protective services at the School of Medicine, please visit the Campus Safety page of the Washington University Operations & Facilities Management Department.

Policies

Washington University has various policies and procedures that govern our faculty, staff and students. Highlighted below are several key policies of the university. Web links to key policies and procedures are available on the Office of the University Registrar website and on the university's Compliance and Policies page. Please note that the policies identified on these websites and in this *Bulletin* do not represent an entire repository of university policies, as schools, offices and departments may implement policies that are not listed. In addition, policies may be amended throughout the year.

Courses and Credit

Academic Calendar

Washington University in St. Louis primarily follows a standard semester-based academic calendar: a fall and spring semester of approximately 16 weeks, including sessions of half-semester lengths and intersessions beginning before the term start date, and a summer term of 13 weeks, including sessions of half-term length, an intersession beginning before the term start date, and 3-, 5- and 8-week lengths. The Doctor of Medicine program follows a yearlong calendar supporting modular curriculum delivery.

Credit Measure

Credit hours for undergraduate and graduate programs are awarded as “units.” A semester-long 3-unit undergraduate lecture class may meet three times per week for 50 minutes per session or twice per week for 80 minutes per session. Teaching and learning take many forms; online and hybrid classes require considerable time in the form of digital engagements such as discussion board activities, asynchronous webinar-type instruction or other online interactions. For all modalities of learning, the University assigns 3 units of credit when at least 9 full hours of standard academic work per week are expected of students.

Washington University credit for School of Law programs on the semester calendar is awarded in credit hours as outlined by the “American Bar Association (ABA) Standards and Rules of Procedure for Approval of Law Schools” document, further noted on the School of Law website.

Courses in the Washington University School of Medicine MD program are scheduled in weeks, and credit is awarded as credit hours such that each week of instruction is valued at 1 unit of credit. A week of instruction represents at least 45 hours of direct instruction and out-of-class related academic work.

For the full policy, visit the Office of the Provost website.

Email Communication

Email is the mechanism for official communication with students at Washington University. Students are expected to read email communications from the university in a timely fashion.

All students will be individually assigned a University email address, which will be maintained in the University email directory. Official University communications will be sent to the student's University email address in order to ensure such communications reach the intended recipient.

With the exception of School of Medicine students, a student may have email forwarded from their assigned University email address to another email address of the student's choice. School of Medicine students are prohibited from forwarding their University-assigned email address to an email address external to the University other than @bjc.org and @va.gov email domains. Students who choose to have email forwarded to another email address do so at their own risk. The University is not responsible for email forwarded to any other email address. A student's failure to read official University communications sent to the student's University email address does not absolve the student of responsibility for awareness of and compliance with the content of the official communication. Faculty and administrators should use a student's University email address when communicating via email with the student. This policy will ensure that all students will be able to comply with course and other requirements communicated to them by email from course instructors and administrators.

Graduate Student Academic Integrity Policies

Authority of Schools Over Graduate and Graduate Professional Students

1. Each school at the university may establish an academic integrity officer and/or a panel to hear and decide cases of alleged academic or professional misconduct by its graduate or graduate professional students. Schools that so choose are required to create procedures to govern the process of investigating and adjudicating the complaints filed.
    a. The school dean, or a designee, determines the composition of such a panel and the scope of the panel's authority, which will not exceed the parameters set out immediately below.
    b. The panel has authority to impose or recommend appropriate sanctions to the school dean, including suspension or expulsion, if academic or professional misconduct is determined.
    c. Appeals of decisions made by an academic and professional integrity panel of a school may be made to the school dean, whose decision is final. This includes decisions of a school's academic and professional integrity panel, where the panel is vested with such authority, and the panel's decision is to impose the sanctions of suspension or expulsion. Schools are permitted, but not required, to establish an intermediate level of appeal that must be completed before a final appeal to the dean.
    d. Except for cases falling within the immediately preceding sub-bullet, any appeal from a decision of a dean of a school to suspend or expel a student will be made in accordance with the provisions of Section VI of the Code.
2. If a school does not establish an academic integrity officer or panel or if an established officer or panel fails to function, complaints of academic or professional misconduct against graduate or graduate professional students may be heard by Academic Integrity in the Office of the Provost, the Academic Integrity Board, or the Student Conduct Board.

Source: Washington University Student Conduct Code IV.A.6

Nondiscrimination Statement

Washington University encourages and gives full consideration to all applicants for admission, financial aid and employment. The university does not discriminate in access to, treatment during, or employment in its programs and activities on the basis of race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information.

Policy on Discrimination and Harassment

Washington University is committed to having a positive learning and working environment for its students, faculty and staff. University policy prohibits discrimination on the basis of race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information. Harassment based on any of these classifications is a form of discrimination; it violates university policy and will not be tolerated. In some circumstances, such discriminatory harassment may also violate federal, state or local law. A copy of the Policy on Discrimination and Harassment is available on the Human Resources website.

Sexual Harassment

Sexual harassment is a form of discrimination that violates university policy and will not be tolerated. It is also illegal under state and federal law. Title IX of the Education Amendments of 1972 prohibits discrimination based on sex (including sexual harassment and sexual violence) in the university's educational programs and activities. Title IX also prohibits retaliation for asserting claims of sex discrimination. The university has designated the Title IX Coordinator identified below to coordinate its compliance with and response to inquiries concerning Title IX.

For more information or to report a violation under the Policy on Discrimination and Harassment, please contact the following individuals:

Discrimination and Harassment Response Coordinators

Chalana Ferguson, Associate Vice Chancellor, Office of Institutional Equity
Phone: 314-935-2846
chalana.ferguson@wustl.edu

Gillian Boscan, Director, Investigations and Conflict Resolution, Office of Institutional Equity
Phone: 314-935-1139
oie-investigations@wustl.edu; gillian.boscan@wustl.edu

Office: The Link in the Loop
Address: 621 N. Skinker Blvd., Suite 300, St. Louis, MO 63130

WashU Confidential Concern Reporting Portal

Title IX Coordinator

Jessica Kennedy, Director & Title IX Coordinator, Office of the Provost
Phone: 314-935-3118
jwkennedy@wustl.edu

Office: Umrath Hall, Room 001
Address: One Brookings Drive, MSC 1175-0153-0B, St. Louis, MO 63130

Inquiries or complaints regarding civil rights may also be submitted to the United States Department of Education's Office of Civil Rights at 400 Maryland Avenue, SW, Washington, DC 20202-1100; by visiting the U.S. Department of Education website; or by calling 800-421-3481.

Statement of Intent to Graduate

Students are required to file an Intent to Graduate via WebSTAC prior to the semester in which they intend to graduate. Additional information is available from school dean's offices and the Office of the University Registrar.

Student Academic Records and Transcripts

Under the Family Educational Rights and Privacy Act of 1974 (FERPA) — Title 20 of the United States Code, Section 1232g, as amended — current and former students of the university have certain rights with regard to their educational records. Washington University's FERPA policy is available via the Office of the University Registrar's website.

All current and former students may request official Washington University transcripts from the Office of the University Registrar via either WebSTAC (if they remember their WUSTL Key) or Parchment (if they do not have or cannot remember their WUSTL Key). Students may print unofficial transcripts for their personal use from WebSTAC. Instructions and additional information are available on the Office of the University Registrar's website.

Washington University does not release nor certify copies of transcripts or other academic documents received from other schools or institutions. This includes test score reports and transcripts submitted to Washington University for purposes of admission or evaluation of transfer credit.

Student Conduct

The Washington University in St. Louis Student Conduct Code ("the Code") sets forth community standards and expectations for university students. These community standards and expectations are intended to foster an environment conducive to working, learning, and inquiry. Each student is held to the expectations outlined in the Code.

Freedom of thought and expression as well as respect for different points of view are essential to the university's academic mission. Nothing in the Code should be construed to limit the lawful, free, and open exchange of ideas and viewpoints, even if that exchange proves to be offensive, distasteful, or disturbing to some. However, such speech must conform to university policies.

The Code also describes general procedures that may be used to ensure that these standards and expectations are upheld by all students. The university is committed to ensuring that students adhere to university policies, take responsibility for their actions, and recognize how their choices may affect others.

Complaints against students that include allegations of sex-based discrimination — including sexual harassment, sexual assault, dating violence, domestic violence and stalking — in violation of the Student Conduct Code are governed by the procedures found on the Gender Equity and Title IX Compliance Office website. These procedures are also available in hard copy from the Title IX Coordinator or the director of the Office of Student Conduct and Community Standards.

Students may be accountable to both governmental authorities and to the university for acts that constitute violations of law and the Student Conduct Code.

For a complete copy of the Student Conduct Code, visit the Student Affairs website.

For more information, visit the Student Conduct and Community Standards website.

Student Financial Responsibility

Communication

Washington University in St. Louis uses University-assigned email accounts and University-supported systems for communication with students and authorized users. Washington University will also contact students via personal email addresses, cellular phone numbers, or wireless devices from time to time regarding the Student Account or other general information. Students are responsible for reading University communications in a timely manner.

Promise to Pay

When students register for any course at or receive any service from Washington University in St. Louis, they accept full responsibility to pay all tuition, fees, and other associated charges assessed as a result of registration and/or receipt of services such as housing, dining, and other University-provided items that exceed financial support provided

by the University, the University payment plan, and/or third parties by the scheduled due dates shown on the WebSTAC student account. Failure to attend class or receive a bill does not absolve students of financial responsibility as described above.

Failure to Pay

University policies regarding Student Accounts (including payment options, late fees, holds, and refunds) are published on the University's Financial Services website. If a student fails to pay the Student Account balance by the scheduled due dates, the University will place a financial hold preventing the student from registering for future courses and could assess a late fee on the past due portion until the past due amount is paid in full. Failure to pay will result in a Delinquent Student Receivable Account. Delinquent Student Accounts will be referred to University's Collection Services department. Collection Services may report the Delinquent Student Account to one or more national credit bureaus, refer the Delinquent Student Account to a third-party collection agency, and pursue all legal and equitable remedies to collect the monies owed to the University.

Student Health

Drug and Alcohol Policy

Washington University is committed to maintaining a safe and healthy environment for members of the university community by promoting a drug-free environment as well as one free of the abuse of alcohol. Violations of the Washington University Drug and Alcohol Policy will be handled according to existing policies and procedures concerning the conduct of faculty, staff, and students. This policy is adopted in accordance with the Drug-Free Workplace Act and the Drug-Free Schools and Communities Act.

Tobacco-Free Policy

Washington University is committed to providing a healthy, comfortable and productive work and learning environment for all students, faculty and staff. Research shows that tobacco use in general, including smoking and breathing secondhand smoke, constitutes a significant health hazard. The university strictly prohibits all smoking and other uses of tobacco products within all university buildings and on university property, at all times. A copy of our complete Tobacco-Free Policy is available on the Human Resources website.

Medical Information

Entering students in Danforth Campus programs must provide medical information to the Habif Health and Wellness Center. This will include the completion of a health history and a record of all current immunizations.

If students fail to comply with these requirements prior to registration, they will be required to obtain vaccinations for measles, mumps and rubella at the Habif Health and Wellness Center, if there is no evidence of immunity. In addition, undergraduate students will be required to obtain meningitis vaccinations. Students will be assessed the cost of the vaccinations. Students will be unable to complete registration for classes until all health requirements have been satisfied.

Noncompliant students may be barred from classes and from all university facilities, including housing units, if in the judgment of the university their continued presence would pose a health risk to themselves or to the university community.

Medical and immunization information is to be given via the student portal on the Habif Health and Wellness Center website. All students who have completed the registration process should access the student portal on the website. Students should fill out the form and follow the instructions for transmitting it to the Habif Health and Wellness Center. Student information is treated securely and confidentially.

Entering students in Medical Campus programs must follow the requirements as outlined on the Washington University School of Medicine Student Health Services website.

Time Away and Reinstatement

Degree-seeking students may be eligible to request a leave of absence for health or other personal reasons (e.g., family, military service, professional obligations, religious mission). The mechanism and process are described on the Office of the University Registrar's website. Such leaves may exceed no more than two years from the effective date of the leave; individual programs' policies may limit students to shorter leaves. Students must verify their school and program policies and any other relevant requirements related to immigration or financial aid/support policies. Students who have not requested and received approval for reinstatement after two years will have their records withdrawn.

Required enrollment reporting to the federal government will reflect a leave of absence for 180 days after it is enacted; any longer duration of institutional leave is recorded in their systems as a withdrawal.

Students on approved leave of absence will have their Washington University email addresses remain active, and they will retain access to WebSTAC to review their records. Access to other University privileges such as recreation facilities and libraries as well as participation in activities are paused during a leave of absence.

Students are expected to request reinstatement to in-progress status to resume studies via the process outlined on the Office of the University Registrar's website. Depending on the nature of their leave, additional steps or documentation may be required and must be provided to appropriately consider the request. Students whose records have been withdrawn as a result of two years of inactivity may be allowed, depending on program-specific policies regarding the maximum time allowed to complete the program of study, to re-enter their programs.

In these cases, additional requirements or steps may be required of the student depending on the circumstances, the length of time away, and whether their program of study has undergone curricular revisions since their enrollment.

Undergraduate Student Academic Integrity Policy

Effective learning, teaching, and research all depend upon the ability of members of the academic community to trust one another and to trust the integrity of work that is submitted for academic credit or conducted in the wider arena of scholarly research.

Such an atmosphere of mutual trust fosters the free exchange of ideas and enables all members of the community to achieve their highest potential.

In all academic work, the ideas and contributions of others must be appropriately acknowledged, and the work of a student that is presented as original must be, in fact, original. Faculty, students, and administrative staff all share the responsibility of ensuring the honesty and fairness of the intellectual environment at Washington University in St. Louis.

Scope and Purpose

This statement on academic integrity applies to all undergraduate students at Washington University. Graduate students may be governed by policies in each graduate school or division. To the extent a graduate school or program has not adopted its own academic integrity policy, the provisions of this policy will apply. All students are expected to adhere to the highest standards of behavior.

The purpose of the statement is twofold:

1. To clarify the university's expectations with regard to undergraduate students' academic behavior; and
2. To provide specific examples of academic misconduct (the examples are only illustrative, *not* exhaustive).

This policy and statement were endorsed by the Faculty Senate Council. Any changes to the policy are to be reviewed by the Faculty Senate Council, as described in the Faculty Senate Council bylaws.

Violations of This Policy Include but Are Not Limited to the Following:

1. **Plagiarism**
   Plagiarism consists of taking someone else's ideas, words or other types of work product and presenting them as one's own. To avoid plagiarism, students are expected to be attentive to proper methods of documentation and acknowledgement. To avoid even the suspicion of plagiarism, a student must always:
   - Enclose every quotation in quotation marks and acknowledge its source.
   - Cite the source of every summary, paraphrase, abstraction or adaptation of material originally prepared by another person and any factual data that is not considered common knowledge. Include the name of author, title of work, publication information and page reference.
   - Acknowledge material obtained from lectures, interviews or other oral communication by citing the source (name of the speaker, the occasion, the place and the date).
   - Cite material from the internet or material generated by an artificial intelligence as if it were from a traditionally published source. Follow the citation style or requirements of the instructor for whom the work is produced.
2. **Cheating on an Examination**
   A student must not receive or provide any unauthorized assistance on an examination. During an examination, a student may use only materials authorized by the faculty.
3. **Copying or Collaborating on Assignments Without Permission**
   When a student submits work with their name on it, this is a written statement that credit for the work belongs to that student alone. If the work was a product of collaboration, each student is expected to clearly acknowledge in writing all persons or artificial intelligences who contributed to its completion.

   Unless the instructor explicitly states otherwise, it is dishonest to collaborate with others when completing any assignment or test, performing laboratory experiments, writing and/or documenting computer programs, writing papers or reports, and completing problem sets.

   If the instructor allows group work in some circumstances but not others, it is the student's responsibility to understand the degree of acceptable collaboration for each assignment and to ask for clarification if necessary.

   To avoid cheating or unauthorized collaboration, a student should never:
   - Use, copy, or paraphrase the results of another person's work or material generated by an artificial intelligence and represent that work as their own, regardless of the circumstances.
   - Refer to, study from, or copy archival files (e.g., old tests, homework, solutions manuals, or backfiles) that were not approved by the instructor.
   - Copy another's work or to permit another student to copy their work.
   - Submit work as a collaborative effort if they did not contribute a fair share of the effort.
4. **Fabrication or Falsification of Data or Records**

It is dishonest to fabricate or falsify data in laboratory experiments, research papers, reports or in any other circumstances; to fabricate source material in a bibliography or "works cited" list; or to provide false information on a résumé or other document in connection with academic efforts. It is also dishonest to take data developed by someone else and present them as one's own.

Examples of falsification include:

- Altering information on any exam, problem set, or class assignment being submitted for a re-grade.
- Altering, omitting, or inventing laboratory data to submit as one's own findings. This includes copying laboratory data from another student to present as one's own; modifying data in a write-up; and providing data to another student to submit as their own.

5. **Other Forms of Deceit, Dishonesty or Inappropriate Conduct**
Under no circumstances is it acceptable for a student to:

- Submit the same work, or essentially the same work, for more than one course without explicitly obtaining permission from all instructors. A student must disclose when a paper or project builds on work completed earlier in their academic career.
- Request an academic benefit based on false information or deception. This includes requesting an extension of time, a better grade or a recommendation from an instructor.
- Make any changes (including adding material or erasing material) on any test paper, problem set or class assignment being submitted for a re-grade.
- Willfully damage the efforts or work of other students.
- Steal, deface, or damage academic facilities or materials.
- Collaborate with other students planning or engaging in any form of academic misconduct.
- Submit any academic work under someone else's name other than their own. This includes but is not limited to sitting for another person's exam; both parties will be held responsible.
- Violate any rules or conditions of test-taking or other course assessment (e.g., bringing materials or devices into an exam room when disallowed).
- Engage in any other form of academic misconduct not covered here.

This list is not intended to be exhaustive. To seek clarification, students should ask the professor or teaching assistant for guidance.

Reporting Misconduct

Faculty Responsibility

If a student observes others violating this policy, they are strongly encouraged to report the misconduct to the instructor, to seek advice from the academic integrity coordinator in the Office of the Provost, or to address the student(s) directly.

Student Responsibility

If a student observes others violating this policy, they are strongly encouraged to report the misconduct to the instructor, to seek advice from the academic integrity coordinator in the Office of the Provost, or to address the student(s) directly.

Exam Proctor Responsibility

Exam proctors are expected to report incidents of suspected student misconduct to the course instructor and/or the Disability Resources, if applicable.

Procedure

Jurisdiction

This policy covers all undergraduate students, regardless of their college of enrollment, as well as graduate and professional students whose schools and programs do not have a separate policy and procedure. Cases will be heard by a panel drawn from an Integrity Council made up of faculty, staff, and students representing the undergraduate schools and participating graduate programs.

Student Rights and Responsibilities in a Hearing

A student accused of an academic integrity violation, whether by a professor, teaching/graduate assistant, academic integrity coordinator or student is entitled to:

- A presumption of non-responsibility unless and until a panel determines that, based upon the evidence, it is more likely than not that the student engaged in a violation of academic integrity under this policy.
- Request a mediation/facilitation session prior to a hearing.
- Review the written evidence in support of the charge.
- Ask relevant questions.
- Offer an explanation as to what occurred.
- Present relevant material that would cast doubt on the correctness of the charge.
- Determination of the validity of the charge by an unbiased and objective panel and generally without reference to any past record of misconduct.

When responding to a charge of an academic integrity violation, a student may:

- Deny the charges and request a hearing in front of an Integrity Council panel.
- Admit the charges and request a hearing to determine recommended sanction(s).
- Admit the charges and accept the imposition of sanctions by the academic integrity coordinator without a committee hearing.
- Request a leave of absence from the university. The academic integrity matter must be resolved prior to re-enrollment. A notation will be placed on the student's transcript indicating there is an unresolved academic integrity matter pending.
- Request to withdraw permanently from the university with a transcript notation that there is an unresolved academic integrity matter pending.

A student has the following responsibilities in resolving the charge of academic misconduct:

- Admit or deny the charge. This will determine the course of action to be pursued.
- Provide truthful information regarding the charges. It is a student code violation to provide false information to the university or anyone acting on its behalf.

Sanctions

If Found *Not* in Violation of the Academic Integrity Policy

If the charges of academic misconduct are not proven, no record of the allegation will appear on the student's transcript.

If Found in Violation of the Academic Integrity Policy

If, after a hearing, a student is found responsible for violation of the academic integrity policy or if a student has admitted to the charges prior to a hearing, the academic integrity coordinator may impose sanctions, including but not limited to the following:

- Issue a formal written reprimand.
- Impose educational sanctions, such as completing a workshop on plagiarism or academic ethics.
- Recommend to the instructor that the student fail the assignment. (A grade is ultimately the prerogative of the instructor.)
- Recommend to the instructor that the student fail the course.
- Recommend to the instructor that the student receive a course grade penalty less severe than failure of the course.
- Place the student on disciplinary probation for a specified period of time or until defined conditions are met. The probation will be noted on the student's transcript and internal record while it is in force.
- Impose suspension or expulsion.

Additional educational sanctions may be imposed. This list is not intended to be exhaustive.

A hearing panel may also elect to refer their recommended sanctions to the SCB Chairperson for determination if, for example, the recommendation departs from their standard recommendations.

Withdrawing from the course will not prevent the academic integrity coordinator or hearing panel from adjudicating the case, imposing sanctions, or recommending grade penalties, including a failing grade in the course.

A copy of the sanction letter will be placed in the student's academic file and may be reported in accordance with the Policy on Reporting of Student Conduct Violations.

Appeals

If a student believes the panel did not conduct a fair hearing, or if a student believes the sanction imposed is excessive (i.e., suspension or expulsion), they may seek an appeal within 14 days of the original decision. For cases in which the decision was made by the panel and Academic Integrity Coordinator, the appellate officer will be the Chair of the Student Conduct Board. For cases in which the decision was made by the Panel and the Student Conduct Board Chairperson, the Vice Provost of Educational Initiatives or the Vice Provost for Graduate Education will serve as the appellate officer. Appeals are governed by Section VII of the university Student Conduct Code.

Administrative Record-Keeping Responsibilities

It is the responsibility of the academic integrity coordinators to keep accurate, confidential records concerning academic integrity violations. When a student has been found responsible for an academic integrity violation, a letter summarizing the allegation, the outcome, and the sanction will be placed in the student's official conduct file and may be reported out in accordance with the Policy on Reporting of Student Conduct Violations.

In addition, a report of the outcome of every formal accusation of student academic misconduct will be shared with the director of university student conduct programs, who shall maintain a record of each incident.

Multiple Offenses

When a student is formally accused of academic misconduct and a hearing is to be held, the academic integrity coordinator shall query the Office of Student Conduct and Community Standards (OSCCS) about the student(s) accused of misconduct. OSCCS shall provide any information in the OSCCS records concerning prior code violations of that student to the integrity coordinator. Such information will be used in determining sanctions if the student is found responsible for an academic integrity violation in the present case. Evidence of past misconduct generally may not be used to resolve the issue of whether a student has committed a violation in a subsequent case unless the hearing chair deems it relevant.

Reports to Faculty and Student Body

Periodic (at least annual) reports will be made to the students and faculty of their school concerning accusations of academic misconduct and the outcomes, without disclosing specific information that would allow identification of the student(s) involved.

Endorsed by the Faculty Senate Council on March 16, 2010
Effective July 1, 2010
Updated December 4, 2014

Endorsed by the Faculty Senate Council on October 18, 2023
Updated April 18, 2024

University Affiliations

The accrediting organizations and memberships of the different areas of Washington University are listed below.

Additional information about professional and specialized accreditation can be found on the Office of the Provost website.

Washington University in St. Louis

Accreditation

- Higher Learning Commission

Memberships

- American Academy of Arts & Sciences
- American Association of Colleges & Universities
- American Council of Learned Societies
- American Council on Education
- Association of American Universities
- Hispanic Association of Colleges and Universities
- Independent Colleges and Universities of Missouri
- National Association of Independent Colleges and Universities
- National Council for State Authorization Reciprocity Agreements
- Universities Research Association

College of Arts & Sciences

Memberships

- American Academy of Physician Associates
- American Camp Association
- Association for Pre-College Program Directors
- Association of University Summer Sessions
- Diversity Abroad
- Forum on Education Abroad
- Higher Education Protection Network
- International Center for Academic Integrity
- International Educational Exchange
- Midwest Association of Pre-Law Advisors
- National Academic Advising Association
- National Association of Advisors for the Health Professions
- National Association of Fellowships Advisors
- North American Association of Summer Sessions
- Professional and Organizational Development Network

Office of Graduate Studies, Arts & Sciences

Memberships

- American Academy of Physician Associates
- Association of Graduate Schools (Founding member)
- Council of Graduate Schools (Founding member)
- Midwest Association of Pre-Law Advisors
- Pod Network
- Student Affairs Administrators in Higher Education
- The Council of Independent Colleges

Sam Fox School of Design & Visual Arts

Accreditation — College of Art

- National Association of Schools of Art & Design (Founding member)

Accreditation — College of Architecture

- Master of Architecture: National Architectural Accrediting Board
- Master of Landscape Architecture: Landscape Architectural Accreditation Board

Membership — College of Architecture

- Association of Collegiate Schools of Architecture

Accreditation — Mildred Lane Kemper Art Museum

- American Alliance of Museums

Membership — Mildred Lane Kemper Art Museum

- Association of Academic Museums and Galleries
- Association of Art Museum Directors
- College Art Association

Olin Business School

Accreditation

- Association of MBAs
- Association to Advance Collegiate Schools of Business International
  (Charter member since 1921)
- EQUIS

McKelvey School of Engineering

Accreditation

- In the McKelvey School of Engineering, many of the undergraduate degree programs are accredited by the Engineering Accreditation Commission of ABET.

Membership

- American Society for Engineering Education

School of Law

Accreditation

- American Bar Association
- Media Law Resource Center

Memberships

- American Association of Law Libraries
- American Society of Comparative Law
- American Society of International Law
- Association of Academic Support Educators
- Association of American Law Schools
- Central States Law Schools Association
- Clinical Legal Education Association
- Equal Justice Works
- Mid-America Association of Law Libraries
- Mid-America Law Library Consortium
- National Association for Law Placement
- National Association of Law Student Affairs Professionals
- Southeastern Association of Law Schools

School of Medicine

Accreditation

- Liaison Committee on Medical Education

Membership

- Association of American Medical Colleges

Brown School

Accreditation

- Council on Education for Public Health
- Council on Social Work Education

School of Continuing & Professional Studies

Memberships

- American Association of Collegiate Registrars and Admissions Officers
- Council for Adult and Experiential Learning
- International Center for Academic Integrity
- National Academic Advising Association
- National Association of Student Personnel Administrators
- University Professional and Continuing Education Association

Note: Business-related programs in the School of Continuing & Professional Studies are not accredited by the Association to Advance Collegiate Schools of Business International.

University Libraries

Membership

- Association of Research Libraries

Graduate Study

Policies & Guidelines

Academic Load Status for Financial Aid, Immigration and Enrollment Verification

Graduate (Fall, Spring):

Status	Enrolled Units of Credit
Full time	9+ units
Half time	4.5-8.99 units
Less than half time	Fewer than 4.5 units

Graduate (Summer):

Status	Enrolled Units of Credit
Full time	6+ units
Half time	3-5.99 units
Less than half time	Fewer than 3 units

Certain courses may, due to appropriate curriculum and monitoring circumstances, be encoded to carry a load value higher than the actual academic credit awarded. Examples include certain engineering co-op experiences, doctoral research study and select clinical or practicum courses.

Postdoctoral Training

According to the National Institutes of Health and the National Postdoctoral Association, a postdoctoral appointee is an individual holding a doctoral degree who is engaged in a temporary period of mentored research or scholarly training for the purpose of acquiring the professional skills needed to pursue a career path of their choosing. At Washington University in St. Louis, postdoctoral appointees conduct advanced research training with a faculty mentor and are supported by either research grants, individual fellowships, or institutional training grants.

Under the purview of the Office of the Vice Chancellor for Research, the Office of Postdoctoral Affairs (OPA) serves postdoctoral research associates and postdoctoral research scholars on both the Danforth and Medical campuses. The OPA helps postdoctoral appointees reach their career and professional development goals, advocates for postdoctoral issues, acts as a resource for information regarding postdoctoral life and recruitment, and, in collaboration with the Washington University Postdoc Society (WUPS), creates a lively postdoctoral community. Washington University in St. Louis is an institutional member of the National Postdoctoral Association.

For more information, visit the OPA website.

Registration in Courses

Registration dates are published in advance on the Office of the University Registrar's website. Late registration after the term begins is permitted only until the "add/drop" deadline relevant to a student's program. Students will not earn credit for courses in which they are not duly registered. Students may not register in courses that have conflicting meeting times.

Students may drop a course by the published deadline found on the Office of the University Registrar's website; dropped courses do not appear on the permanent academic record, and no grade is recorded. Students may withdraw from a course after the drop deadline and until the published withdrawal deadline. A withdrawal will result in a W notation associated with the course on the permanent record, including the transcript. Students who wish to drop or withdraw from a course are expected to follow steps to do so by the appropriate deadline. Failure to drop a course or withdraw by the published deadline may result in a failure of the course, and the transcript will reflect the failing grade.

Transfer Credit

Transfer credit is recorded on a student's permanent record. Courses transferred from other institutions of higher education do not have grades or grade points awarded and therefore do not apply toward a student's GPA.

Institutionally, Washington University participates in the Inter-University Exchange Program. Courses taken at Saint Louis University and the University of Missouri–St. Louis, according to the parameters documented, are approved to transfer to Washington University. The School of Law has a specific agreement in place with Saint Louis University for JD students only and under certain circumstances. Other transfer credit policies vary by school and program. Details may be found in the relevant academic sections of this *Bulletin.*

Tuition and Cost of Attendance

The cost of a Washington University education varies by school and, in some cases, by program. Tuition rates and fees are available through the Office of Financial Planning and Budget and are typically listed in greater detail (including fees and financial support options and procedures) on school websites.

Withdrawals and Refunds

If a student withdraws from Washington University after classes have begun, they must promptly file a request to withdraw in order to have appropriate registration and refund policies apply. These timelines vary by school and, in some cases, by program. Students should refer to the appropriate sections of this *Bulletin* for details.

University PhD Policies & Requirements

Academic PhD Programs

The following university-wide policies and practices apply to all PhD students regardless of school affiliation. They are specific to PhD program administration and PhD student experience. Schools/divisions may set stricter standards for students within their ambit, but they may not set standards that fall below university-wide policies. This page *does not* include those policies and practices that apply to the student community as a whole (e.g., the University Student Conduct Code).

Academic and Professional Integrity for PhD Students

The Academic and Professional Integrity Policy for PhD Students (PDF) continues to apply to all PhD students on the Danforth and Medical campuses, including dual-degree students when one of the degree programs is a PhD program.

Involuntary Leave of Absence

The Involuntary Leave of Absence Policy that applies to undergraduates was adopted to apply to all PhD students in 2014.

PhD Student Support Policies and Resources

New Child Leave

Full-time PhD students may request a New Child Leave to assume care for a new child. They should maintain their full-time student status. Students on New Child Leave are not expected to participate in mentored teaching or research experience for up to 60 calendar days and will receive their current stipend support during this 60-day period. Students may request additional time off via a leave of absence without receiving a stipend (for up to a full semester) if approved by the student's department/program. A leave of absence pauses the academic clock.

New Child Leave does not affect the student's full-time status and will not appear on the student's official transcript. New Child Leave must be taken within the first year after the child's date of birth or adoption. Students should contact their department/program to request a New Child Leave. Students who receive support from external agencies should consult the policies and guidelines of the sponsor as well as their Vice Dean or designee before requesting a New Child Leave.

Child Daycare Subsidy

The Child Daycare Subsidy is sponsored by Washington University in St. Louis, and its purpose is to help PhD students with children under their care (who meet the requisite eligibility criteria) to meet the costs of child daycare while they pursue their studies.

The amount of the Child Daycare Subsidy awarded to eligible applicants is based on their financial need, the number of children they have enrolled in child daycare facilities, their child daycare expenses, and available funding. Eligible PhD students can expect the following:

- For one child, the maximum award is $3,550 per Fall/Spring semester.
- For two children, the maximum award is $4,550 per Fall/Spring semester.
- For three or more children, the maximum award is $5,550 per Fall/Spring semester.

The subsidy amount cannot exceed the cost of the daycare facility.

The application is available on the Office of the Provost website.

Financial Policies

PhD Student Minimum Financial Award

The education of PhD students represents a significant commitment on the part of both Washington University in St. Louis and the students admitted/enrolled. Washington University in St. Louis typically funds most full-time PhD students for a minimum of five years (with the exception of post-professional PhD programs in the School of Medicine). Funding typically consists of full tuition scholarship and financial support to defray living expenses. Financial support may also be referred to as stipends or fellowships. Such financial support may be sourced internally from university-wide fellowships such as the Olin Chancellor's Fellowship, the McDonnell International Scholars Academy, or school/program/department funds or from external sources (e.g., external research contracts and grants, external fellowships such as NSF GRFP).

The minimum PhD financial support rate for the 2024-25 academic year is $36,050 annually, dispersed on a monthly basis while the student is enrolled full time. The rate applies to all PhD programs with the exception of post-professional specialty programs in the School of Medicine. Departments, schools, cross-school interdisciplinary programs, and other fellowship programs may choose to offer a rate higher than the established minimum, but they must do so for all students in their cohort. The eligibility criteria for PhD students receiving such financial support are outlined in the PhD Student Funding section below.

Students admitted to a part-time PhD program or on a part-time basis are not usually eligible for this minimum financial award.

PhD Student Funding

Financial support at or above the university-wide PhD minimum stipend rate allows PhD students to focus on their programmatic requirements, enabling them to make expeditious progress toward degree completion. This section predominantly pertains to PhD students, but it may apply to other graduate and professional students receiving financial support from the university.

Eligibility and Status

Students receiving university financial support must do the following:

- Enroll and maintain full-time student status in a graduate or professional program during the academic year;
- Make satisfactory academic progress in accordance with their degree program requirements; and
- Report to their degree program and university fellowship program (if applicable) any additional financial award(s) they receive or employment they engage in as outlined in this policy.

Because graduate students sometimes receive funding from multiple sources, it is the responsibility of the student, the student's department/degree program, and the Principal Investigator (if applicable) to understand and abide by the terms and conditions of each funding source.

Funding From Multiple Sources

Eligible students are encouraged to seek additional fellowships from external agencies. In addition to the funding amount, which can be more generous than that of a university financial award, these external fellowships are prestigious; they provide valuable training, experiences, and resources, and they enhance future career opportunities. In addition, securing external funding to support training and research is often an important component of the professional development of graduate students.

PhD students receiving university financial support who also receive an external fellowship or stipendiary award **may not** combine or "stack" the external award with the university financial support.* Students receiving an external fellowship or stipendiary award have two options.

Option 1: Supplementation of an External Fellowship or Stipendiary Award

If the sum of all external fellowship or stipendiary awards is less than the university financial support, the university funds may supplement the total amount of external funding to bring the student up to their guaranteed university fellowship or to the minimum university financial support for PhD students.

Students who receive external fellowship or stipendiary awards providing annual stipends that total more than the university financial support will retain the full external award(s) and will receive no additional university financial support for the duration of the external award.

- *Example One:* A student has a university award of $38,000. The student receives a $34,000 external award; the university will supplement the external award by $4,000 to bring the student up to their university award of $38,000.
- *Example Two:* A student has a university award of $38,000. The student receives an external foundation award of $42,000. Since the external award is greater, no university funds will be distributed while the student is supported by the external award.

Option 2: Deferral of University Fellowship or Stipendiary Award

Students receiving an external fellowship or stipendiary award during years one through five of study may, with program approval, defer up to one year of the university fellowship or stipendiary award made at the time of admission, if permissible based upon the award criteria from the external funding agency.

The university fellowship program and/or the student's home department or program can assist students when considering the benefits of each option. For cases in which a student has access to multiple sources of funding, external funds must be used before university funds are applied. University, school, and degree program funds will be the last source of funds to be applied to a student's financial support.

Schools and departments/programs may choose to offer an additional financial incentive to students who are awarded competitive external funding. Any such incentives must be uniformly awarded to all qualifying students within a degree program. Incentive awards given by school or degree programs to students who win external awards do not count toward the total university financial support; these incentive awards are in addition to the fellowship or stipendiary award.

All financial support will be applied in accordance with the terms and conditions of each funding source. In consultation with the student, departments/programs should ensure financial support is dispersed in the correct amount and in accordance with applicable policy.

* Limited exceptions may occur for instances in which the external award is explicitly contingent on the continuation of the university stipendiary award. In such instances, the decision on stacking is at the discretion of the school dean or their designee for support provided by the school or by a cross-school interdisciplinary program and at the discretion of the fellowship administrator for university-wide fellowships (e.g., OCF, MISA).

PhD Student Employment

Full-Time Employment

University financial support that is provided at or above the university-wide PhD minimum stipend rate is intended to enable students to focus exclusively (i.e., full time) on their studies. Students who receive university financial support at or above the university-wide minimum PhD stipend rate are not permitted to hold full-time employment.

Students who perform full-time employment during the summer term will have their university fellowship or stipendiary award stopped for the duration of their full-time employment. Students are also subject to any school or program-based policies regarding employment, which may be more restrictive. Students should consult their school and degree program for approval.

Part-Time Employment

To ensure that students receiving university financial support can focus on their programmatic requirements and make expeditious progress toward degree completion, part-time employment should not exceed an average of 10 hours per week. This allowance may be restricted by schools/departments/programs to a smaller number of hours per week to conform with a student's funding source policies and with federal time and effort reporting guidelines (as applicable).

If a student and that student's advisor(s) believe that additional part-time employment will enhance the student's outcomes and is unlikely to hinder timely progress toward degree completion, the student may request approval for an exception through their school's graduate program office. Any such exceptions will be documented and kept on file in the school. For students supported on federal grants, it is the school's responsibility to ensure adherence to any constraints derived from time and effort reporting.

To reiterate, students are also subject to any school or department/program-based policies regarding employment, which may be more restrictive. Students should consult their school and degree program for approval prior to undertaking any part-time employment.

Implications for International Students

International students attending Washington University in St. Louis on a visa must consult with the Office for International Students and Scholars (OISS) before accepting any external or internal employment, either full-time or part-time.

Tax Implications

Please visit Washington University in St. Louis's Financial Services site for more information about the taxability of stipend payments. Students are encouraged to consult a personal tax advisor to ensure that they are adhering to federal and state laws and Internal Revenue Service (IRS) regulations.

PhD General Requirements and Policies

To earn a PhD at Washington University in St. Louis, a student must complete all courses required by their department/program; maintain satisfactory academic progress; pass certain examinations; fulfill residence and mentored experience requirements; write, defend, and submit a dissertation; and file an Intent to Graduate form via WebSTAC. **Note:** Individual schools and departments/programs may have more restrictive policies than the university-wide policies stated herein.

Residence Requirement

Each full-time PhD student must spend at least one academic year enrolled full-time at Washington University in St. Louis. Any exceptions must be approved by the dean of the student's respective school and the Vice Provost for Graduate Education.

Students admitted to a part-time PhD program must be enrolled in at least 3 units for each Fall/Spring semester until the unit requirements for their program are satisfied

Time Limit for PhD Enrollment Eligibility

Full-time PhD students are eligible for enrollment at Washington University in St. Louis for a maximum of 14 Fall/Spring semesters (seven years). Enrollment includes traditional course registration and 0-unit courses that carry a full-time enrollment status. Semesters of approved leaves of absence do not count toward this time limit.

Students admitted to a part-time PhD program are eligible for enrollment at Washington University in St. Louis for 18 Fall/Spring semesters (nine years). Semesters of approved leaves of absence do not count toward this time limit.

Full-time PhD students and those admitted to part-time PhD programs may petition for an enrollment eligibility extension for a maximum of one academic year. Petitions must be directed to the student's dean or their designee. Supplemental petitions will not be permitted. In unusual circumstances, the dean or their designee may appeal to the Vice Provost for Graduate Education on behalf of a particular student.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying examination process varies considerably according to the department/program, and the structure and schedule of the qualifying exam are set by the department/program in accordance with best practices within their field. The department/program is responsible for documenting the process properly and ensuring the process is clearly outlined to their students. Each PhD program is responsible for notifying the school registrar or the appropriate record custodian of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirement

All PhD students at Washington University in St. Louis must complete a department/program-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department/program has an established Mentored Experience Implementation Plan in which the number of semesters that a student must engage in a Mentored Teaching Experience or a Mentored Professional Experience is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments/programs may elect to include the Mentored Professional Experiences as an avenue for completing one or more semesters of

the Mentored Experience Requirement. Doctoral students will enroll in Mentored Teaching Experiences or Mentored Professional Experiences to signify their progression toward completing the overall Mentored Experience Requirement for their degree.

The Mentored Experience Requirement will be altered for the 2025-26 academic year and will be documented in the *Bulletin.* Some programs are piloting changes for the 2024-25 academic year and will independently communicate with their students regarding any changes.

Dissertation

As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation. Each PhD candidate will form a Research Advisory Committee (RAC) approved by their department/program and by their school's graduate program oversight body. The RAC will approve the subject and approach of the dissertation, which will be evidenced by the student's completion of the Title, Scope and Procedure requirement.

The RAC should consist of at least three full-time Washington University in St. Louis faculty members who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study. One of these faculty members must be the student's primary research advisor/mentor. Additional members, including external members with active research programs at outside institutions, may serve on the RAC subject to approval by the school's graduate program oversight body.

- For cross-school/interdisciplinary PhD programs, the approvals referenced above should be obtained from the graduate program oversight body of the school of the primary research advisor/mentor.
- For a PhD program offered in partnership with an external academic institution, one full-time faculty member of the partner institution who is authorized to supervise PhD students and who has appropriate expertise in the proposed field of study may serve on the RAC as part of the three-member minimum requirement.

A Title, Scope and Procedure form for the dissertation must be signed by the RAC members and by the program chair. Full-time students must submit the Title, Scope and Procedure form to the school registrar or the appropriate record custodian at least six months before the degree is expected to be conferred or before the beginning the fifth year of full-time enrollment, whichever is earlier. Students enrolled in a part-time PhD program must submit the Title, Scope and Procedure form to the school registrar or the appropriate record custodian at least six months before the degree is expected to be conferred or before the beginning of the sixth year of enrollment, whichever is earlier.

A Doctoral Dissertation Guide and a template that provides instructions regarding the format of the dissertation are available through the website of the Office of the Provost; both of these should be read carefully at every stage of dissertation preparation.

Each student is required to make the full text of the dissertation available to the committee members for their review at least one week before the dissertation defense. Most degree programs require two or more weeks for the review period; students should check their department/program's policies.

Dissertation Defense

Approval of the written dissertation by the Research Advisory Committee (RAC) is strongly recommended before the student can orally defend the dissertation. The doctoral dissertation committee that examines the student during the defense consists of at least five members. Normally, the members of the RAC also serve on the Doctoral Dissertation Committee. The dissertation committee is then additionally augmented to ensure that the following criteria are met:

1. Three of the five members (or a similar proportion of a larger committee) must be full-time Washington University in St. Louis faculty members or, for programs offered by Washington University in St. Louis–affiliated partners, full-time members of a Washington University in St. Louis–affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study. One of these three members must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty.
2. All other committee members must be active in research/scholarship and have appropriate expertise in the proposed field of study whether at Washington University in St. Louis, at another university, in government, or in industry.
3. At least one of the five members must bring expertise outside of the student's field of study to the committee, as judged by the relevant school's graduate program oversight body.

The approval processes outlined under RAC in the Doctoral Council bylaws also apply to the doctoral dissertation committee, including approval of each dissertation committee by the host school's graduate program oversight body/bodies.

The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense according to program rules. Washington University in St. Louis community members and guests of the student who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee chair. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Attendance by a minimum of four members of the Doctoral Dissertation Committee, including the committee chair and an outside member, is required for the defense to take place. This provision is designed to permit the student's defense to proceed in case of a situation that unexpectedly prevents one of the five members from attending. Students should not plan in advance to only have four members in attendance; if one of those four cannot attend, the defense must be rescheduled. The absence of all outside members or of the committee chair would necessitate rescheduling the defense.

Students, with the support of their Doctoral Dissertation Committee chair, may opt to hold their dissertation defense in-person or by utilizing a virtual or hybrid format.

Dissenting Vote(s) at a Dissertation

Faculty members of the Doctoral Dissertation Committee normally will examine the PhD candidate and vote on whether to approve the dissertation. In the vast majority of cases, these votes are unanimously for approval. In the rare case that there are faculty concerns that cannot be resolved through subsequent revisions and which therefore result in dissenting (negative) vote(s), the committee chair will refer the case to the Vice Provost for Graduate Education for resolution.

In the case of a single dissenting vote, the committee chair and the dissenting voter will be asked to explain the reasons for the dissent in a letter to the Vice Provost for Graduate Education. After consulting with these and other members of the committee, the Vice Provost for Graduate Education may then decide to accept the majority opinion and approve the dissertation, or they may seek the opinion of an additional reader. After considering this additional evidence, the Vice Provost for Graduate Education may approve or decline to approve the dissertation.

In the case of two or more dissenting votes, the committee chair and the dissenting voters will again be asked to explain the reasons for the dissent. The Vice Provost for Graduate Education may then decide to decline to approve the dissertation. Alternatively, they may ask the department or graduate program to name a Resolution Committee, consisting of three tenured or tenure-track professors at Washington University in St. Louis or elsewhere who did not serve on the original committee, to reexamine the dissertation and the candidate. A unanimous positive recommendation from this committee will be required in order for the Vice Provost for Graduate Education to approve the dissertation. Failure of a department or graduate program to identify three faculty members to serve on this Resolution Committee will be tantamount to a rejection of the dissertation.

Dissertation Submission

After the successful defense of their dissertation, the student must submit an electronic copy of the dissertation online to the university by the established deadline for their graduation term. Dissertations must be submitted no later than three months after the oral defense of the dissertation. Petitions for an extension to the three-month limit may be submitted to the Director of Graduate Studies for consideration and approval. The submission website requires students to choose from among publishing and copyrighting services offered by ProQuest ETD Administrator, but the university permits students to make whichever choices they prefer. Students are asked to submit the Survey of Earned Doctorates separately. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the department/program chair or director, to the school registrar or the appropriate record custodian. Students who complete all degree requirements and defend their dissertations successfully have not completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by their school of record.

Degree Candidacy Extension (DCE)

Degree Candidacy Extension (DCE) refers to a non-enrolled status available, under exceptional circumstances, to full-time PhD students who have completed all PhD degree requirements with the exception of the dissertation.

Extended degree candidates are not registered for any courses, have no enrollment status, and are ineligible for financial awards or support, benefits, and resources available to enrolled Washington University in St. Louis students. Once a student enters DCE, they may not register or enroll with Washington University in St. Louis as a student in their intended degree program in a future term.

DCE status may be assigned to full-time students in a variety of situations, including but not limited to the following:

- PhD students who do not complete their dissertation after exhausting the time allowable for PhD enrollment status due to circumstances beyond their control (see Time Limit for PhD Enrollment Eligibility earlier on this page);
- PhD students who secure full-time employment prior to the completion of their dissertation and who have established a timeline for the completion of the dissertation requirement; and
- PhD students who have exhausted their university financial support period as defined by their school or program prior to the completion of their dissertation and who have established a time line for the completion of the dissertation requirement.

DCE status may be inappropriate for international students dependent on a U.S. visa, and such students may not be eligible for this status. International students should always consult with an OISS advisor prior to making an enrollment status change. In addition, students admitted as part-time PhD students are not eligible for DCE status.

DCE status is not the rule. Rather, it is assigned as an exception. Students must obtain the recommendation of their department/program leadership and petition the Vice Dean for Graduate Education (or equivalent) within their school to request to enter DCE status. If the petition is successful, the DCE status is conferred for the period of one year, after which an additional petition should be made and approved. Students seeking to remain in DCE status are obligated to provide a written report on their dissertation's progress annually to their department to secure their approval for subsequent petitions. Individual departments may require additional checkpoints to ensure progression. Students may remain a PhD candidate in this status for a maximum of three calendar years.

If three calendar years pass from the first semester in which a student was placed on DCE and the student has not successfully completed all degree requirements, then that student has officially forfeited their eligibility to earn the PhD degree. Under these circumstances, the student may petition the Vice Provost of Graduate Education with the support of their department chair and school vice dean to be allowed to complete the degree outside of the three-year extension period. The petition will include a timeline for completion. The Vice Provost of Graduate Education reserves the right to deny any such request.

PhD Mentored Experiences

Mentored Experience Requirements

Doctoral students at Washington University must complete a department defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student transcript, when complete. Each department has an established Mentored Experience Implementation Plan in which the number of semesters in which a student must engage in a Mentored Teaching or Mentored Professional Experience is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue to complete one or more semesters of the Mentored Experience Requirement. Doctoral students will enroll in LGS 600 (Mentored Teaching Experience) or LGS 603 (Mentored Professional Experience) to signify progression in completing the overall Mentored Experience Requirement for the degree. *Please note: A committee is looking into the MTE and there may be updates to the policy.*

Mentored Experience Implementation Plans

A department defined requirement for PhD students to engage in mentored teaching activities and/or other mentored professional activities. The requirement includes information related to the role of teaching or professional experiences within the discipline, the department's plan for supporting and offering pedagogical training, the normal sequence of opportunities for a PhD student, and the number of semesters required. Departments have the opportunity to send updated Mentored Experience Implementation plans to the Vice Provost for Graduate Education and International Affairs each academic year.

Current Departmental Plans

- Anthropology
- Art History & Archaeology
- Biology & Biomedical Sciences
- Biomedical Engineering
- Business
- Chemistry
- Classics
- Comparative Literature
- Computer Science & Engineering
- Earth, Environmental, & Planetary Sciences
- East Asian Languages & Cultures
- Economics
- Education
- Electrical & Systems Engineering
- Energy, Environmental, & Chemical Engineering
- English
- French
- Germanic Languages & Literature
- Hispanic Studies
- History
- Materials Science & Engineering
- Mathematics & Statistics
- Mechanical Engineering
- Movement Science
- Music
- Nursing Science
- Performing Arts – Dance
- Philosophy
- Physics
- Political Science
- Psychological & Brain Sciences
- Rehabilitation & Participation Science
- Sociology
- Speech & Hearing
- Writing

Mentored Experience Student FAQs

Am I able to teach as a primary instructor as part of the Mentored Teaching Experience (MTE)?

Yes, once students have completed the minimum pedagogical competencies associated with mentored teaching, the department may assess the students' ability and interest to determine if the opportunity to teach as a primary instructor (with faculty support), proves advantageous for the doctoral student. A faculty member must be listed as a support person with the label Mentor. Students will enroll in LGS 600.

I completed my department's defined mentored experience requirement. Can I continue to teach or engage in a professional experience?

Yes, students who completed the department's mentored experience may continue to teach if they are hired as an adjunct instructor. Students who completed the department's mentored experience may continue to engage in a professional experience either as an extracurricular activity or as an internship, either paid or unpaid. Students may not enroll in LGS 600 and LGS 603 after the Mentored Experience requirement is complete.

Can I use a paid experience to count toward my department's Mentored Experience requirements?

No, paid experiences may not be counted toward your degree requirements. However, professional experiences that encourage the exploration of diverse careers are certainly supported by the the Vice Provost for Graduate Education and International Affairs. Students should always heed the part-time employment policy when considering engagement in a paid professional experience. Students are also encouraged to meet with the Director of Institutional Development for guidance on how these experiences fit into individualized career goals.

My department does not offer the Mentored Professional Experience as an option to fulfill the Mentored Experience requirement. Can I still engage in an MPE?

No, MPE is an academic endeavor that is applied toward a degree requirement.

Can I participate in a paid mentored professional experience?

Students may participate mentored experience as part of an internship, externship, or other similar experience. Students may not enroll in LGS 603 for a professional experience that is paid; this includes paid Curricular Practical Training (CPT) experiences.

Mentored Experience Department FAQs

How often should Mentored Experience Implementation Plans be reviewed and updated?

Departments may update their Mentored Experience Implementation Plans (formally Teaching Implementation Plans) at any time. Generally, students should be held to the defined plan that was in effect when the student was admitted. However, plans that are expanded to become more inclusive of diverse options may be offered as the guideline to students who were admitted in a previous term. Under no circumstance should a student be required to complete more semesters of the Mentored Experience than what was defined by the department when the student was admitted to the PhD program.

The Director of Institutional Development will send a call for review to the Mentored Experience plan during the Spring term of each academic year. Departments are encouraged to review the plan to determine if any changes are needed.

Are AM students allowed to complete a Mentored Experience?

AM students are not eligible for enrollment in LGS 600 (MTE) or LGS 603 (MPE). AM students engaged in teaching activities must be compensated by the department.

Can we count a student's previous semester's engagement in a mentored professional experience toward the Mentored Experience requirement?

Yes, the department has the right to apply those experiences toward the students' semester requirements for Mentored Experiences. Note that students will not be retroactively enrolled in LGS 603 to account for these activities. The department will need to track any activities completed in a previous semester independently of SIS.

Office of Graduate Studies

The Office of Graduate Studies (OGS), Arts & Sciences, administers master's and PhD degrees for departments within the School of Arts & Sciences. Graduate students in Arts & Sciences programs are supported administratively by the OGS.

Governance

The OGS, Arts & Sciences, is led by the Vice Dean of Graduate Education and the OGS team. The Vice Dean also works closely with an Advisory Council, which consists of nominated and selected faculty from across Arts & Sciences as well as student representatives from Arts & Sciences graduate programs. The Advisory Council advises the Vice Dean and the OGS team on policies, the implementation of strategic initiatives, and emerging issues and opportunities related to graduate education in Arts & Sciences. The Council provides initial reviews of curricular proposals.

Contact Information

Office of Graduate Studies, Arts & Sciences
Cupples II, Suite 204
Washington University in St. Louis
One Brookings Drive, MSC 1187-0012-02
St. Louis, MO 63130-4899

Phone:	314-935-6880
Email:	artscigrads@wustl.edu
Website:	https://gradstudies.artsci.wustl.edu/

Doctoral Degrees

The PhD is not only an exploration of the body of knowledge of a given discipline, it is also an original contribution to that discipline. To the extent that doctoral education has been successful, the student's relationship to learning is significantly changed. Having made a discovery, developed an insight, tested a theory, or designed an application, the PhD recipient is no longer a student but rather a colleague of the faculty. It is for this reason that the PhD is the highest degree offered by a university, and such graduates of Washington University participate in both research and teaching.

The core mission of PhD programs is to prepare graduate students for a range of professional careers. These include educating the future faculty of other research universities and institutions of higher education. Our students also make valuable contributions to society by applying the analytical and creative skills required for scholarship to careers in the business, government, and nonprofit sectors. The Office of Graduate Studies, Arts & Sciences, therefore works with other university offices to ensure that students have the opportunity to develop these transferable skills.

Among the critical components the university provides for these purposes are a small and select graduate student body, faculty members dedicated to scholarly work, and the physical facilities required for research. In these regards, Washington University compares favorably to the finest graduate institutions in the world. However, the key ingredients of PhD completion must be provided by the student: a love of learning and a desire to increase the sum of human knowledge. In addition, motivation and perseverance are prerequisites for success in PhD programs.

Academic Information

General Requirements for PhD Degrees in Arts & Sciences

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate form on WebSTAC. (WebSTAC is the primary academic records and accounts portal for students at Washington University.)

Enrollment and Registration

Students newly admitted to graduate programs in Arts & Sciences receive information on creating a WUSTL Key from the university. The WUSTL Key is Washington University users' login ID and password for the use of university systems, and it is used (among other accesses) to register for courses online via WebSTAC during open registration periods. All registrations require online approval by the student's faculty advisor and are monitored by the Office of Graduate Studies, Arts & Sciences.

Regular Enrollment

Students admitted to a PhD program in Arts & Sciences must maintain full-time continuous enrollment throughout the approved length of their programs. Most of our PhD programs will be completed within five or six years. During those years, students will be considered full-time if they have one of the following statuses:

- They are registered for 9 or more course units; *or*
- They are registered in a zero-unit course (LGS 9000 Full-time Graduate Research/Study or LGS 9001 Full-time Graduate Study in Absentia) that indicates the student's full-time engagement in research or academic writing. **Note:** Enrollment in LGS 9000 or LGS 9001 is not viewed as a full-time enrollment status by Veterans Affairs (VA). Students expecting to use VA benefits must be enrolled in 9 credit-bearing units.

During a student's period of regular registration, they may have a need or opportunity to study away from Washington University. Recommendations from departments for students' registration in absentia will be considered by the Office of Graduate Studies, Arts & Sciences, on a case-by-case basis. If approved by the Office of Graduate Studies, Arts & Sciences, the student will be registered for LGS 9001 Full-

time Graduate Study in Absentia. Students may be allowed to register for LGS 9001 for up to four consecutive or nonconsecutive fall/spring semesters. Semesters in which a student is registered in absentia are counted as part of the student's program length.

PhD students in Arts & Sciences who are fully funded, registered full-time, within their program length, and making satisfactory academic progress will receive tuition remission and a 90% subsidy of health insurance, dental insurance and wellness fees. Tuition each semester will be calculated based on the number of registered course units, where applicable.

Enrollment Extension

Students may be permitted to register for one additional year beyond their program length. When recommended by their department and approved by the Office of Graduate Studies, Arts & Sciences, these students will be registered in a zero-unit course (LGS 9002 Full-time Graduate Study Extension) that confers full-time enrollment status. Students registered for LGS 9002 may or may not receive stipend support, but they are eligible to receive other benefits available to full-time PhD students in Arts & Sciences, including health insurance and wellness fee subsidies.

Students may be registered for LGS 9002 for a maximum of two semesters. Students who do not complete their programs within this time limit must either withdraw from the program or be designated as Degree Candidacy Extended.

Degree Candidacy Extended

Upon the recommendation of their departments and the approval of the Office of Graduate Studies, Arts & Sciences, students who do not complete their PhD degrees within their program length and potential one-year enrollment extension may remain doctoral candidates for up to five years. Extended degree candidates are not registered for any courses, have no enrollment status, and receive none of the benefits available to registered Washington University students, including student loan deferment.

Part-Time Students

PhD candidates are not admitted as part-time students. Part-time status will be calculated strictly on the basis of registration in fewer than 9 course units without LGS 9000-level registration and will be permitted only in extraordinary circumstances.

Courses and Tuition Remission

The Office of Graduate Studies, Arts & Sciences, will approve and apply tuition remission for a limit of up to 72 course units. The 72-unit calculation may include courses transferred from other graduate programs, which would then count toward degree completion.

Students pursuing a certificate or an unrelated master's degree in addition to their PhD must consult the departments and advisors about credit sharing between the programs. Tuition remission for units in excess of 72 will not be provided by the Office of Graduate Studies, Arts & Sciences.

To be eligible for tuition remission, courses must be offered at the graduate level, taken for a grade, and approved in advance by the student's advisor and program as necessary for the student's degree. Graduate-level courses begin with courses numbered in the 500s/5000s. Audited courses are not eligible for tuition remission and cannot count toward full-time status in a given semester. Students should consult their advisors regarding course selection.

When certain conditions apply, graduate students may be permitted to register for Arts & Sciences courses numbered below 500/5000, but those courses will not be covered by tuition remission and will not count toward the student's degree requirements. These courses, then, will require that the student pay tuition for them unless the courses are taken along with 9 units of approved graduate course work during the relevant semester. Arts & Sciences graduate students are not allowed to take courses in the School of Continuing & Professional Studies. Further, Arts & Sciences graduate students may only enroll in Summer School courses with the approval of both their academic advisor and the Office of Graduate Studies, Arts & Sciences. Tuition remission may be available for Summer School courses if the courses are approved by both the department and the Office of Graduate Studies, Arts & Sciences, and if they fall within the 72-unit limit.

Outside of the stipulations noted above, graduate students in Arts & Sciences may enroll in English Language Program (ELP) courses. The Office of Graduate Studies, Arts & Sciences, will allow tuition remission to cover a maximum of 6 units of ELP courses throughout a student's graduate degree. Students who want to enroll in more than 6 units of ELP courses must cover the cost beyond the first 6 units.

Online Courses

Online courses are not applicable to Arts & Sciences degree programs. Therefore, students may not enroll in online courses offered by other schools at Washington University nor attempt to transfer courses, taken at other institutions, that were delivered online.

Grades

Credit-conferring grades for graduate students in Arts & Sciences are as follows:

- A: outstanding (an A grade may be modified by a plus or minus)
- B: good (a B grade may be modified by a plus or minus)
- C: conditional (a C grade may be modified by a plus or minus)
- CR: credit awarded, work not given finer evaluation (CR is used with the Pass/Fail grade option)
- S: satisfactory (the S grade is used almost exclusively for credit units earned by doing research)
- NCR: no credit awarded due to unsatisfactory work (NCR is used with the Pass/Fail grade option)
- U: unsatisfactory (the U grade is used almost exclusively for credit units earned by doing research)
- F: failing
- X: final examination missed
- I: incomplete

In the rare event that an instructor is unable to submit a grade by the grade deadline, an N, signifying that the grade has not yet been submitted, may temporarily appear as a transcript notation on the student's record. Grades that are not posted within 120 days of the last day of the semester for which the N notation was posted will result in these temporary notations being automatically changed to a grade of F (or, in the case of a course taken as Satisfactory/Unsatisfactory, to a grade of U).

Grades cannot be changed after the sealing of a student's transcript, which follows the conferral of the student's degree.

The Office of Graduate Studies, Arts & Sciences, uses a 4-point scale for calculating grade point averages:

- A = 4
- B = 3
- C = 2

A plus adds 0.3 to the value of a grade, and a minus subtracts 0.3 from the value of the grade.

Zero-unit LGS 9000-level courses will have only the Satisfactory/Unsatisfactory grade option.

Grade Appeals

If a student believes a grade they have received — whether referring to a single assignment or to the course grade as a whole — is inappropriate, arbitrary, or assigned for nonacademic reasons, they have the right to discuss any grade(s) with their instructor and to request a change of grade(s). (Students wanting to discuss the possibility of appealing their grades are welcome to do so with their advisor or the Office of Graduate Studies academic affairs team. Connect with the Office of Graduate Studies at artscigrads@wustl.edu.)

Grade appeals should be filed as soon as possible after the grade is assigned and must be addressed in a timely manner. Grade appeals are not allowed after one semester has passed since the grade has been awarded. Grade appeals during the semester prior to the student's graduation must be raised immediately and addressed on a truncated timeline from what is outlined below in order for the appeal to be addressed prior to the conferral of a degree and the sealing of the student's transcript. If a grade appeal is submitted after a student has graduated, it will not be reviewed as no grade changes will be made to the academic record following the conferral of a degree.

The below steps outline the grade appeal process:

- The student must first request the grade change from the instructor. The request should be in writing and outline the reasons the grade change is being requested. The instructor must respond to the student in writing with detailed justification for the grade given within two weeks of the student's request.
- If the student is not satisfied by the instructor's justification for the grade, they may appeal the grade in writing to the appropriate department chair or program director (based on the home department or program of the course and not on the student's program of enrollment) within one week of the instructor's response. The student's statement should respond to the instructor's detailed justification and explain why the student believes there remains cause for appeal. The appropriate chair or director will review the appeal and provide a written response to the student within three weeks.
- A graduate student's last opportunity for appeal is to the Vice Dean of Graduate Education. If a student wants to pursue a grade appeal to this level, the appeal must be in writing and be submitted within one week of the written response from the chair. The student's statement should acknowledge both the instructor's and the chair's responses and explain why the student believes there remains cause for appeal. The Vice Dean of Graduate Education must respond within four weeks of the student's appeal, and the response must be in writing.

If a student believes that the grade is the result of identity-based discrimination, they should make a report through the Bias Report and Support System.

Incomplete Grades

A student may be eligible for a grade of Incomplete if they experience medical or acute personal challenges that make the satisfactory completion of course work difficult or unlikely. The student may request a grade of Incomplete (I) from one or more instructors and must take the following steps with each instructor:

1. The student should meet with the instructor before the final examination or due date for the final paper/project to request the Incomplete.
2. If the instructor grants the Incomplete, the student and instructor should agree on the scope of the work remaining to complete the course and a date when it will be submitted. This date should be within 120 days of the last day of the semester in which the course is being taken. The instructor should confirm with the student, in writing, the details of the work with respective deadlines.

Whether or not to grant an Incomplete is at the instructor's discretion. When determining whether to do so, the instructor should consider whether the student has consistently attended and engaged with the course (for example, whether the student has submitted all assignments except the final assignments/assessments) and made satisfactory progress in the course. Incompletes should not be granted unless the student has completed at least two-thirds of the assignments/assessments for the course.

If sufficient work has not been completed, the grade of Incomplete will not be feasible. In such situations, the instructor will submit whatever final grade the student has earned. The student may repeat the course at a later time if they choose. (For information about repeating a course, see below.)

If an Incomplete is granted, the work should be completed in the time frame agreed upon with the instructor. However, this time frame should not extend more than 120 days from the last day of the semester in which the Incomplete is granted/the course for which the Incomplete is granted is taken.

Failure to submit completed work and for the earned grade to be posted within 120 days of the last day of the semester in which the Incomplete was granted will result in the grade of Incomplete being automatically changed to a grade of F (or, in the case of a course being taken as Satisfactory/Unsatisfactory, to a grade of U).

Further, students cannot have a grade of Incomplete on their transcripts when their degrees are conferred. Thus, students who are expecting to graduate at the end of the semester in which the course being considered for an Incomplete was taken should not request or be granted a grade of Incomplete.

Any student who does have an Incomplete on their transcript at the time of certification and degree conferral will have the Incomplete changed to a grade of F (or, in the case of a course being taken as Satisfactory/Unsatisfactory, to a grade of U).

Grades cannot be changed after the conferral of a student's degree.

Note: If an Incomplete is granted, students cannot be added to the Canvas shell of a subsequent offering of the course in order to complete the previous enrollment. Instead, at the instructor's request, the student can be given access to the original course shell, and the instructor can reopen assignments within that course shell. All work for an Incomplete should occur within the original course's Canvas course shell or outside of Canvas entirely.

Retaking a Course

Graduate students may be allowed to retake a course once with prior permission from their department or program. The department can refuse the student's request. If permission to retake a course is granted, both registrations will show on the transcript. The grade for the first enrollment will always be updated to include the symbol R, which will cause the grade calculation for the first enrollment to be removed from the grade point average calculations. Whether or not it is lower than or equal to the original grade, the grade for the second enrollment will be used to calculate the grade point average. The grade for the first enrollment will not be replaced with an R until the second enrollment is completed and its grade has posted. A student who retakes a course without prior permission might not receive permission retroactively. No student may use the retake option to replace a grade received as a sanction for violation of the Academic Integrity Policy. The R option may be invoked only once per course, and the original grade option must be retained.

Transferred Credit

Students who have completed graduate-level course work or a graduate degree at an institution prior to joining Washington University may request to transfer a portion of that credit toward the course work in their Washington University degree program.

Graduate-Level Courses Completed Prior to Joining Washington University

A student may transfer graduate-level course credits amounting to a maximum of up to 35% of the course work requirement in the Washington University PhD program and a maximum of up to 10% of the course work requirement in the Washington University master's degree program. For example, in a PhD program that requires twelve 3-credit courses, a student could transfer, at most, four 3-credit courses toward their Washington University degree. Individual departments may choose to allow the transfer of fewer credits than the maximum percentage allowed by the Office of Graduate Studies. Individual departments retain the autonomy to decide which specific courses can transfer from a previous institution and which courses will need to be completed at Washington University.

Please note that the Master of Arts in Education (MAEd) is an exception. It allows the maximum transfer of 15 credit units from institutions that have entered into special cooperative agreements with Washington University for this purpose.

Credit for previous graduate-level courses will be transferred to a student's Washington University record only to fulfill departmental course requirements. Students may not transfer credit for other program requirements (e.g., qualifying exams, mentored experiences, prospectus defense). In addition, graduate-level course work that has been applied toward an undergraduate degree may not be transferred for credit in a Washington University PhD or master's degree program.

Transfer requests will be reviewed by the Office of Graduate Studies and the Washington University department offering the student's degree program. The total number of credits transferred may impact the duration of funding the student receives from the university as well as the expected time to degree completion; these details are determined by the department of the student's program of study and the Office of Graduate Studies.

Joining a Graduate Program Through Faculty Recruitment

Faculty members recruited to Washington University may have students at their prior institution who would like to join the faculty member at Washington University. Those situations will be addressed through a separate process. Please contact the Office of Graduate Studies Admissions for further information.

Satisfactory Academic Progress

Satisfactory academic progress for students in Arts & Sciences PhD programs is monitored by the Office of Graduate Studies, Arts & Sciences, as well as by the degree program. Failure to maintain satisfactory academic progress may result in a student's placement on academic probation or their immediate dismissal. Most financial awards — and all federally funded awards — are contingent on the maintenance of satisfactory academic progress. Moreover, satisfactory academic progress is a prerequisite for service on any committee authorized by the Office of Graduate Studies, Arts & Sciences. The following are minimal standards of satisfactory academic progress for PhD students; degree programs may set stricter standards but must not relax these standards.

1. Students are expected to proceed at a pace appropriate to enable them to finish within the time limits discussed below. Students are expected to have completed all PhD requirements except for the dissertation by no later than the end of the fourth year of full-time graduate study.

2. Students are expected to maintain a cumulative grade point average of at least 3.0 on a 4.0 scale. Note that plus and minus marks alter the numerical value of a letter grade.
3. Students are expected not to carry, at one time, any more than 9 credit units for which an I (incomplete), X (final examination missed), or N (grade not yet submitted) is recorded. The Office of Graduate Studies, Arts & Sciences, may deny a student with more than 9 unfinished credits permission to register.
4. After four years of full-time graduate study, doctoral students who cannot identify three faculty members who are willing to serve on their Research Advisory Committee (RAC) are not considered to be making satisfactory academic progress. A student must file an RAC form during their fourth year of study in order to identify membership of the RAC.
5. A student's Title, Scope and Procedure form must be filed before the fifth year in order to identify the composition of the dissertation work.
6. A one-year extension beyond a student's designated program length is available if circumstances warrant. Extensions are obtained by application by the student to the degree program, endorsement by the degree program to the Office of Graduate Studies, Arts & Sciences, and approval by the Office of Graduate Studies, Arts & Sciences.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive*, or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Residence Requirement

Each student must spend at least one academic year enrolled full-time at Washington University. Any exceptions must be approved by the Office of Graduate Studies, Arts & Sciences.

Mentored Experience Requirement

Doctoral students at Washington University must complete department-defined Mentored Experience Requirements. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) or Mentored Professional Experiences is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created by the end of the student's third year. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope, & Procedure form (PDF) for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least six months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least one week before the defense. Most degree programs require two or more weeks for the review period; students should check with their faculty.

Dissertation Defense

Approval of the written dissertation by the Research Advisory Committee is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

1. Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
2. Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. Students are asked to submit the Survey of Earned Doctorates separately. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Graduation Information

Students are responsible for filing an Intent to Graduate form in order to have each earned degree conferred. The Intent to Graduate is available online through WebSTAC. Deadlines for filing an Intent to Graduate are listed on the website of the Office of Graduate Studies, Arts & Sciences. No degree will be awarded if this form has not been filed. Students who do not complete their degree requirements by their intended graduation date must refile for the next graduation date. Students who are completing a master's degree en route to the PhD must file for their master's degree upon completion of the master's degree requirements in order to have the degree conferred; master's degrees completed en route to PhD degrees are not automatically conferred.

Specific Circumstances

Changes in Program of Study

Students are usually admitted to graduate programs in Arts & Sciences to study toward specific degrees. Therefore, a change in the degree objective (e.g., from AM to PhD) is subject to the approval of both the student's program and the Office of Graduate Studies, Arts & Sciences. A request for a change in the subject of study (e.g., from economics to history) requires the approval of both programs concerned as well as that of the Office of Graduate Studies, Arts & Sciences. Students may be required to fill out a new application for admission before making such changes, but they will not be charged a second application fee.

Student Grievances: Guidelines and Procedures

Students may encounter experiences in which they have legitimate complaints regarding academic matters or an interaction with a faculty member, staff member, or fellow student. It is important that students and faculty have a common understanding of how such complaints may be expressed and resolved.

Students with complaints regarding academic matters or interactions with a faculty member, staff member, or fellow student should initially seek resolution from their faculty advisor, then from their director of graduate studies, and finally from the chair of their degree program. Complaints that remain unresolved may be addressed to the Vice Dean of Graduate Education in the Office of Graduate Studies (OGS) in Arts & Sciences. The Vice Dean may follow up with the complainant, with faculty in the student's degree program, or with other stakeholders on campus to review and investigate the grievance and to work toward a resolution. Faculty involved in the process of receiving or reviewing a complaint should treat the information and relevant conversations as highly confidential.

Students with complaints regarding nonacademic matters (including but not limited to unprofessional behavior, a hostile learning environment, and abusive or offensive language and/or behavior) — whether by faculty, staff, or fellow students — are first encouraged, depending on the severity of the alleged behavior, to seek resolution with the alleged offender(s). If a complainant is not comfortable with doing so or if the problem persists after they have done so, they should seek resolution from their faculty advisor, then from their director of graduate studies, and finally from the chair of their degree program. Complaints that remain unresolved may be addressed in several ways:

- *By the Ombuds:* The Offices of the Ombuds serve as confidential, independent, and impartial resources that offer assistance in the informal resolution of university-related conflicts and advocate for fair treatment and process.
- *By the OGS:* The OGS does not adjudicate matters of nonacademic student grievance. However, it can and should be used as a source of support, mediation, and advising for such matters.
- *By the Office of University Compliance:* Students with such complaints have the option of reporting suspected violations of the University Code of Conduct using the online form on the Office of University Compliance webpage.

All complaints regarding academic and professional integrity should be first addressed to the respective department head(s). The department, with the counsel of the OGS, can submit a report of academic and professional integrity through the appropriate mechanism (i.e., the OGS for master's student concerns and the Vice Provost for Graduate Education Academic and Professional Integrity Officer for PhD concerns).

Washington University policies state that members of the university community can expect to be free from discrimination and harassment. Students, faculty, staff, and outside organizations working on campus are required to abide by specific policies prohibiting harassment. An allegation of discrimination or harassment may be appealed to the

Vice Chancellor for Human Resources, who will determine whether to convene the Title IX Grievance Committee to hear the case. Allegations of bias, prejudice, or discrimination should be reported using the Bias Report and Support System. Visit the Discrimination and Harassment page on the Human Resources site for more information.

Leaves of Absence

A student may request and be approved for a leave of absence during their regular registration period if they are not registered in absentia (LGS 9001). Leaves of absence must be endorsed by the degree program and approved by the Office of Graduate Studies, Arts & Sciences, for up to one year. Extensions must be reapproved.

Approved leaves of absence are not counted as part of a student's program length and will not be approved for semesters beyond the program length, including enrollment extension. While on a leave of absence, the student is not registered and has no student status at Washington University. Students who begin a leave during any semester will be dropped from all course registration for that semester and will receive no course credit for work completed during that semester prior to the leave.

Leaves of absence may be personal or medical. In the case of a medical leave, the student must present an authorization from the Habif Health and Wellness Center at the beginning and again at the end of the leave. At the end of any leave of absence, a student is reinstated into the School of Arts & Sciences under the conditions prevailing at the time the leave was granted. Being on leave suspends student status and financial support from the university. Therefore, taking a leave may adversely affect loan deferment, visa status, the right to rent university-owned housing, and so on. Most visa types would prevent international students from remaining in the United States while taking a leave of absence; international students should consult the Office for International Students and Scholars as well as their faculty advisor, their program's director of graduate studies, and the Office of Graduate Studies, Arts & Sciences, before taking a leave of absence.

Prior to taking a leave of absence, students should also consider their need for health insurance coverage. The continuation of student health insurance and access to the Habif Health and Wellness Center depends on such factors as the type of leave (medical or personal), the length of time the student has already been covered during the current insurance year, and the student's location during the leave. Students should consult the Habif Health and Wellness Center website for current policies related to leaves of absence; these policies may change annually if insurance carriers change.

Withdrawals

Students wishing to withdraw from their programs must give notice in writing by filling out the withdrawal form available on the Forms page of the Office of Graduate Studies, Arts & Sciences, where it can be found under the "Change to Enrollment Status" heading. This form must include the date upon which the withdrawal should be considered effective. Without such information, there may be serious financial repercussions for the student and/or the university. International students should contact their advisors in the Office for International Students and Scholars before taking this action so that they can understand all potential visa and student status implications.

Dismissals

A program may wish to dismiss a student for a number of reasons, including willful misrepresentation to gain admission to graduate study, breaches of academic integrity, academic failure, or behavior destructive to the welfare of the academic community. Dismissals are recommended by the degree program and are not final until approved by the Office of Graduate Studies, Arts & Sciences. Any student who believes their dismissal was undeserved may appeal to the Vice Dean of Graduate Education within 14 calendar days. Except for circumstances justifying immediate dismissal, a student may not be dismissed on the basis of academic performance without the opportunity to return to good standing during an identified period of probation.

For details of these or any other policies of the Office of Graduate Studies, Arts & Sciences, please visit the Policies & Procedures page.

Interdisciplinarity

Interdisciplinary Courses

PhD students can discuss with their advisors individual courses available outside of their school that may advance their research or professional goals. A university tuition agreement signed by all of the deans of the university's graduate and professional schools fosters interdisciplinary study across the schools and allows enrollment in courses outside of the student's home school. Many courses are available for graduate student enrollment, subject to the following eligibility guidelines:

- Students must be enrolled full-time in graduate degree programs and have the approval of their faculty advisor or administrative officer to take a course outside of their home school.
- Courses will be open to students outside of the discipline only if the students have met the required prerequisites and have the approval of both their department and the course instructor.
- Finally, courses in the evening divisions, including the School of Continuing & Professional Studies, are not part of this agreement. Courses that require individualized instruction and/or additional fees (e.g., independent studies, individual music lessons) are also excluded.

Dual Degree Programs

The university has set up numerous programs that permit students to earn two graduate and/or professional degrees at the same time. One of these programs includes a PhD:

- Medical Scientist Training Program (MD/PhD in various disciplines)

The Office of Graduate Studies, Arts & Sciences, uses the term *dual degree* to identify instances when two separate programs of study share some common curricular elements and may allow a specified amount of double-counting, which means that certain courses or credits can count toward the requirements for both programs. These programs have been designed and approved by either a cross-departmental or cross-school faculty committee or separately by both schools' committees who have agreed on the common elements.

Students wishing to pursue dual degrees other than the Medical Scientist Training Program may be permitted to do so, but such requests are considered on a case-by-case basis.

Admission to an individualized dual degree program between two School of Arts & Sciences disciplines on the Danforth Campus must be recommended by the directors of graduate studies for both disciplines and approved by the Office of Graduate Studies, Arts & Sciences. Admission to an individualized dual degree program involving another school of the university must be recommended by the directors of graduate studies for both disciplines and approved by the deans of both schools. Recommendations should address a variety of academic and administrative concerns, including the timeline for the completion of both degrees and the responsibility for funding the student and remitting the tuition. Students should not undertake study toward an individualized dual degree program until it has been fully approved.

Graduate Certificates

The certificates offered to full-time students in the School of Arts & Sciences are all interdisciplinary in nature:

- American Culture Studies (p. 49)
- Data Science in the Humanities (p. 163)
- Early Modern Studies (p. 163)
- Film and Media Studies (p. 254)
- Higher Education (p. 224)
- Language Instruction (p. 382)
- Latin American Studies (p. 290)
- Quantitative Data Analysis (p. 364)
- Translation Studies (p. 163)
- Women, Gender, and Sexuality Studies (p. 423)

Graduate certificates are open to students in PhD programs in Arts & Sciences and require the completion of 15 to 18 credit units. Interested students must fill out an application for admission to a certificate program (PDF) and receive the approval of their degree program's chair, the certificate program's director, and the Office of Graduate Studies, Arts & Sciences. The application form is also posted on the website of the Office of Graduate Studies, Arts & Sciences. Tuition remission may be available for the credit units required to complete a certificate program if the student's total units do not exceed 72. Earning a certificate should not increase a student's expected time to degree or the amount of support from the School of Arts & Sciences. No student will be admitted to, given tuition remission for, or awarded more than one graduate certificate.

Financial Information

The amounts and vehicles of financial support for graduate students are usually decided by individual schools. Washington University is committed to funding most PhD students for five to six years, depending on the time needed to complete their particular program. Funding typically consists of full tuition remission and a monthly stipend to defray living expenses. Monetary support may come from the university or from outside sources.

Financial Support

Tuition Scholarships

Scholarships to cover part or all of the costs of tuition are available to both new and continuing students. Since the perception of academic merit is the sole criterion for the award of tuition scholarships, such scholarships are not subject to taxation under federal tax law at this time.

Research Assistantships

Research assistantships are generally (but not exclusively) found in the natural and social sciences, and they are offered through research grants, departments, committee-run programs, and research centers. Research assistantships allow participation in collaborative enterprises of research and in the discipline's community of scholars.

Traineeships

Many degree programs, especially in the biological and behavioral sciences, fund students by means of traineeships. These positions may be awarded on an annual basis, or they may be renewable for periods of up to three years, subject to satisfactory academic progress. Traineeships frequently emphasize research; however, in the applied social sciences, they may combine theory, research, and clinical experience in the field.

Fellowships

Fellowships, which provide a living stipend, may be awarded to a student by the Office of Graduate Studies, Arts & Sciences; the student's degree program; or the office of the Vice Provost of Graduate Education. In addition, a student may apply for and win certain fellowships that are awarded directly to the student; these fellowships require joint administration between the department in which the student's degree program is housed and the Office of Graduate Studies, Arts & Sciences. There are also two unique fellowships: the Dean's Distinguished Graduate Fellowships in Arts & Sciences (administered by Arts & Sciences) and the Ann W. and Spencer T. Olin - Chancellor's Fellowship (administered by the Office of the Provost). These awards provide year-round funding for the duration of the student's defined program length. For the latter two fellowships, prospective students must apply for the fellowships at the time of their application for admission, not after they have enrolled at Washington University as graduate students.

Loans

Federally underwritten loans are another centrally administered resource for students who are U.S. citizens or permanent residents. Unsubsidized Stafford loans can be arranged for graduate students. Applicants for these loans are required to submit the Free Application for Federal Student Aid (FAFSA). The Office of Graduate Studies, Arts & Sciences, determines eligibility and processes loan applications for all master's and PhD students in Arts & Sciences. *All other master's and PhD students are processed by their individual school's financial aid offices.* For more information about applying for loans, please visit the Financial Support webpage of the Office of Graduate Studies, Arts & Sciences.

Financial Costs

Tuition Charges and Refunds

The maximum tuition fee is the equivalent of 9 semester units. Students who enroll in 9 or more units per semester are automatically regarded as full-time students and are charged a flat full-time rate. Students enrolled in fewer than 9 units are charged on a per-unit basis. The tuition rate is subject to annual change.

A request for the refund of tuition paid by a student who is withdrawing from a degree program should be made by submitting a Withdrawal Form (PDF) to the Office of Graduate Studies, Arts & Sciences. The last date of class attendance is ordinarily used in determining the amount that can be refunded. Students withdrawing within the first two weeks of classes will receive a full refund; those students withdrawing before the end of the fourth week pay 20%; and students withdrawing before the end of the eighth week pay 40%. There is no refund after the eighth week of the semester except for reasons of health. Such reasons must be certified or verified by the Habif Health and Wellness Center, in which case the university will make a prorated refund of tuition if notice of withdrawal is received before the end of the 12th week of the semester. Students who have had their full tuition remitted for them by their school or by a third party will not receive any refund.

Health Fees

All full-time students in degree programs based on the Danforth Campus are charged a mandatory health fee that gives them access to the Habif Health and Wellness Center. In addition, they must either enroll in the student health insurance plan or present proof of comparable coverage. Dental insurance is also available. The health fee, the health insurance premium, and the dental insurance premium are subject to annual change. The Office of Graduate Studies, Arts & Sciences, subsidizes these insurance costs for most full-time fully supported students.

All full-time students in degree programs based on the Medical Campus (e.g., Division of Biology & Biomedical Sciences) are also charged a mandatory health fee that provides coverage equivalent to a health insurance plan. Details can be found on the Student Health Services website.

Master's Degrees

There are different ways to earn a master's degree at Washington University:

- Students who have not previously earned a master's degree in the same field as their PhD may earn the degree on the way to their PhD. This option is available in some disciplines but not in all of them.
- Students who have not previously earned a master's degree in the same field as their PhD may be awarded a master's degree for work done in a PhD program that they are leaving without completing. This option is available in some disciplines but not in all of them.
- There are a number of Arts & Sciences disciplines that admit students to pursue a stand-alone master's degree. The majority of these programs are for full-time students and are described by their departments in other sections (p. 47) of this *Bulletin*. Two instances of stand-alone part-time master's degree programs exist in Arts & Sciences: the Master of Arts in Biology and the Master of Liberal Arts. (Most part-time stand-alone master's programs are available through the School of Continuing & Professional Studies and are described in that school's section of this *Bulletin*.)
- Undergraduate students in Arts & Sciences at Washington University may apply for the accelerated AB/AM program, in which graduation with a Bachelor of Arts (AB) is followed by one year of graduate study leading to the AM. This option is described in the Accelerated AB/Master's Program (p. 41) section of this *Bulletin*.

Academic Information

General Requirements for Master's Degrees in Arts & Sciences

The minimum requirement of the master's degree is 30 credits.

The master's degree program can require a master's thesis, make the thesis optional, or decline to offer a thesis. A thesis is always required for students who pursue a master's degree outside of their area of study for their intended PhD program. No more than 6 credits toward the terminal master's degree may be awarded for master's thesis research. No more than 15 units of master's thesis research may be applied to a master's degree earned en route to a PhD program. A master's thesis must be defended before a committee of no fewer than three faculty members. A master's degree without a thesis must include an examination that tests competence in the field of study. Degree programs are free to include additional requirements. Master's students must also maintain satisfactory academic progress and fulfill residence requirements.

Registration

Students newly admitted to graduate programs in Arts & Sciences receive information about creating a WUSTL Key (a university login identity credential) from the university. The WUSTL Key is an account that is used to register for courses online via WebSTAC during open registration periods. All registrations require online approval by the student's faculty advisor and are monitored by the Office of Graduate Studies, Arts & Sciences.

Credit Units

Full-time students register for 9 to 12 units per semester. Master's students who have completed their courses and need additional time to complete other degree requirements will be registered for LGS 9000 Full-time Graduate Research/Study.

Courses

To count toward a master's degree, courses must be offered at the graduate level, taken for a grade, and approved in advance by the student's advisor and program as eligible to count toward the student's degree. Graduate-level courses are designated by numbers in the 500s/5000s or above. Audited courses may not be counted toward the degree or toward full-time status in a given semester. Courses, with the exception of LGS courses, taken with the Satisfactory/Unsatisfactory grading option may not be counted toward the degree. Students should consult their advisors regarding these options.

Online Courses

Online courses are not applicable to Arts & Sciences degree programs. Therefore, students may not enroll in online courses offered by other schools at Washington University (with the exception of courses required for part-time master's programs) nor attempt to transfer courses, taken at other institutions, that were delivered online.

Grades

Credit-conferring grades for graduate students in Arts & Sciences are as follows:

- A: outstanding (an A grade may be modified by a plus or minus)
- B: good (a B grade may be modified by a plus or minus)
- C: conditional (a C grade may be modified by a plus or minus)
- CR: credit awarded, work not given finer evaluation (CR is used with the Pass/Fail grade option)
- S: satisfactory (the S grade is used almost exclusively for credit units earned by doing research)
- NCR: no credit awarded due to unsatisfactory work (NCR is used with the Pass/Fail grade option)
- U: unsatisfactory (the U grade is used almost exclusively for credit units earned by doing research)
- F: failing
- X: final examination missed
- I: incomplete

In the rare event that an instructor is unable to submit a grade by the grade deadline, an N, signifying that the grade has not yet been submitted, may temporarily appear as a transcript notation on the student's record. Grades that are not posted within 120 days of the last day of the semester for which the N notation was posted will result in these temporary notations being automatically changed to a grade of F (or, in the case of a course taken as Satisfactory/Unsatisfactory, to a grade of U).

Grades cannot be changed after the sealing of a student's transcript, which follows conferral of the student's degree.

The Office of Graduate Studies, Arts & Sciences, uses a 4-point scale for calculating grade point averages:

- A = 4
- B = 3
- C = 2

A plus adds 0.3 to the value of a grade, and a minus subtracts 0.3 from the value of a grade.

Zero-unit LGS 9000-level courses will have only the Satisfactory/Unsatisfactory grade option.

Grade Appeals

If a student believes a grade they have received — whether referring to a single assignment or to the course grade as a whole — is inappropriate, arbitrary, or assigned for nonacademic reasons, they have the right to discuss any grade(s) with their instructor and to request a change of grade(s). (Students wanting to discuss the possibility of appealing their grades are welcome to do so with their advisor or the Office of Graduate Studies academic affairs team. Connect with the Office of Graduate Studies at artscigrads@wustl.edu.)

Grade appeals should be filed as soon as possible after the grade is assigned and must be addressed in a timely manner. Grade appeals are not allowed after one semester has passed since the grade has been awarded. Grade appeals in the semester prior to the student's graduation must be raised immediately and addressed on a truncated timeline from what is outlined below in order for the appeal to be addressed prior to the conferral of a degree and the sealing of the student's transcript. If a grade appeal is submitted after a student has graduated, it will not be reviewed as no grade changes will be made to the academic record following conferral of a degree.

The below steps outline the grade appeal process:

- The student must first request the grade change from the instructor. The request should be in writing and outline the reasons the grade change is being requested. The instructor must respond to the student in writing with detailed justification for the grade given within two weeks of the student's request.

- If the student is not satisfied by the instructor's justification for the grade, they may appeal the grade in writing to the appropriate department chair or program director (based on the home department or program of the course and not on the student's program of enrollment) within one week of the instructor's response. The student's statement should respond to the instructor's detailed justification and explain why the student believes there remains cause for appeal. The appropriate chair or director will review the appeal and provide a written response to the student within three weeks.
- A graduate student's last opportunity for appeal is to the Vice Dean of Graduate Education. If a student wants to pursue a grade appeal to this level, the appeal must be in writing and be submitted within one week of the written response from the chair. The student's statement should acknowledge both the instructor's and the chair's responses and explain why the student believes there remains cause for appeal. The Vice Dean of Graduate Education must respond within four weeks of the student's appeal, and the response must be in writing.

If a student believes that the grade is the result of identity-based discrimination, they should make a report through the Bias Report and Support System.

Incomplete Grades

A student may be eligible for a grade of Incomplete if they experience medical or acute personal challenges that make the satisfactory completion of course work difficult or unlikely. The student may request a grade of Incomplete (I) from one or more instructors and must take the following steps with each instructor:

1. The student should meet with the instructor before the final examination or due date for the final paper/project to request the Incomplete.
2. If the instructor grants the Incomplete, the student and instructor should agree on the scope of the work remaining to complete the course and a date when it will be submitted. This date should be within 120 days of the last day of the semester in which the course is being taken. The instructor should confirm with the student, in writing, the details of the work with respective deadlines.

Whether or not to grant an Incomplete is at the instructor's discretion. When determining whether to do so, the instructor should consider whether the student has consistently attended and engaged with the course (for example, whether the student has submitted all assignments except the final assignments/assessments) and made satisfactory progress in the course. Incompletes should not be granted unless the student has completed at least two-thirds of the assignments/assessments for the course.

If sufficient work has not been completed, the grade of Incomplete will not be feasible. In such situations, the instructor will submit whatever final grade the student has earned. The student may repeat the course at a later time if they choose. (For information about repeating a course, see below.)

If an Incomplete is granted, the work should be completed in the time frame agreed upon with the instructor. However, this time frame should not extend more than 120 days from the last day of the semester in which the Incomplete is granted/the course for which the Incomplete is granted is taken.

Failure to submit completed work and for the earned grade to be posted within 120 days of the last day of the semester in which the Incomplete was granted will result in the grade of Incomplete being automatically changed to a grade of F (or, in the case of a course being taken as Satisfactory/Unsatisfactory, to a grade of U).

Further, students cannot have a grade of Incomplete on their transcripts when their degrees are conferred. Thus, students who are expecting to graduate at the end of the semester in which the course being considered for an Incomplete was taken should not request or be granted a grade of Incomplete.

Any student who does have an Incomplete on their transcript at the time of certification and degree conferral will have the Incomplete changed to a grade of F (or, in the case of a course being taken as Satisfactory/Unsatisfactory, to a grade of U).

Grades cannot be changed after the conferral of a student's degree.

Note: If an Incomplete is granted, students cannot be added to the Canvas shell of a subsequent offering of the course in order to complete the previous enrollment. Instead, at the instructor's request, the student can be given access to the original course shell, and the instructor can reopen assignments within that course shell. All work for an Incomplete should occur within the original course's Canvas course shell or outside of Canvas entirely.

Retaking a Course

Graduate students may be allowed to retake a course once with prior permission from their department or program. The department can refuse the student's request. If permission to retake a course is granted, both registrations will show on the transcript. The grade for the first enrollment will always be updated to include the symbol R, which will cause the grade calculation for the first enrollment to be removed from the grade point average calculations. Whether or not it is lower than or equal to the original grade, the grade for the second enrollment will be used to calculate the grade point average. The grade for the first enrollment will not be replaced with an R until the second enrollment is completed and its grade has posted. A student who retakes a course without prior permission might not receive permission retroactively. No student may use the retake option to replace a grade received as a sanction for violation of the Academic Integrity Policy. The R option may be invoked only once per course, and the original grade option must be retained.

Transferred Credits

Students who have completed graduate-level course work or a graduate degree at an institution prior to joining Washington University may request to transfer a portion of that credit toward the course work in their Washington University degree program.

Graduate-Level Courses Completed Prior to Joining Washington University

A student may transfer graduate-level course credits amounting to a maximum of up to 35% of the course work requirement in the Washington University PhD program and a maximum of up to 10% of the course work requirement in the Washington University master's degree program. For example, in a PhD program that requires twelve 3-credit courses, a student could transfer, at most, four 3-credit courses toward their Washington University degree. Individual departments may choose to allow the transfer of fewer credits than the maximum percentage allowed by the Office of Graduate Studies. Individual departments retain the autonomy to decide which specific courses can transfer from a previous institution and which courses will need to be completed at Washington University.

Please note that the Master of Arts in Education (MAEd) is an exception. It allows the maximum transfer of 15 credit units from institutions that have entered into special cooperative agreements with Washington University for this purpose.

Credit for previous graduate-level courses will be transferred to a student's Washington University record only to fulfill departmental course requirements. Students may not transfer credit for other program requirements (e.g., qualifying exams, mentored experiences, prospectus defense). In addition, graduate-level course work that has been applied toward an undergraduate degree may not be transferred for credit in a Washington University PhD or master's degree program.

Transfer requests will be reviewed by the Office of Graduate Studies and the Washington University department offering the student's degree program. The total number of credits transferred may impact the duration of funding the student receives from the university as well as the expected time to degree completion; these details are determined by the department of the student's program of study and the Office of Graduate Studies.

Joining a Graduate Program Through Faculty Recruitment

Faculty members recruited to Washington University may have students at their prior institution who would like to join the faculty member at Washington University. Those situations will be addressed through a separate process. Please contact the Office of Graduate Studies Admissions for further information.

Shared Credits With the PhD

The doctorate-granting department determines which courses will count toward the doctoral degree. These and related details are shared on their program pages in this *Bulletin.*

Satisfactory Academic Progress

Satisfactory academic progress for students in Arts & Sciences master's programs is monitored by the Office of Graduate Studies, Arts & Sciences, as well as by the degree program. Failure to maintain satisfactory academic progress may result in immediate dismissal or in placement on academic probation for a minimum of three months. Most financial awards and all federally funded awards are contingent on the maintenance of satisfactory academic progress. Moreover, satisfactory academic progress is a prerequisite for service on any committee authorized by the Office of Graduate Studies, Arts & Sciences. The following are minimal standards of satisfactory academic progress for master's students; degree programs may set stricter standards but must not relax these.

1. Students are expected to proceed at a pace appropriate to enable them to finish within the time limits customary in their degree program. At most, students enrolled in full-time master's degree programs have four calendar years, dated from their first registration in a graduate degree program at Washington University, to complete degree requirements.
2. Students are expected to maintain a cumulative grade point average of at least 3.0 on a 4.0 scale in courses that count toward their credit units. Note that plus and minus marks alter the numerical value of a letter grade.
3. Students are expected not to carry, at one time, any more than 9 credit units for which an I (incomplete), X (final examination missed), or N (grade not yet submitted) is recorded. The Office of Graduate Studies, Arts & Sciences, may deny a student with more than 9 unfinished credits permission to register.

Residence Requirement

The residence requirement for full-time master's degree students is that each student must spend at least one academic year registered for full-time credits (9 to 12 credits in the fall followed by 9 to 12 credits in the spring) at Washington University. Any exceptions to this requirement must be approved by the Office of Graduate Studies, Arts & Sciences. All programs, with the exception of the Master of Arts in Biology and the Master of Liberal Arts, prefer that students remain full-time and in residence throughout their work toward the degree.

Thesis

The thesis topic is subject to approval by the master's student's faculty advisor and by the chair of the degree program. As soon as the thesis topic has been approved (but no later than six months before the thesis defense is likely to occur), students should submit the Title, Scope and Procedure form to the Office of Graduate Studies, Arts & Sciences. It must be signed by the three-member committee before whom the student will defend the thesis as well as by the chair of the degree program. At least three members of the thesis committee must be Washington University faculty; at least two of them must be appointed in the master's student's degree program; and at least two of them (not necessarily the same two) must be tenured or tenure-track, including the committee chair or co-chair. Exceptions must be approved by the Office of Graduate Studies, Arts & Sciences, or their designee.

A Master's Thesis Guide and a template that provide instructions regarding the format of the thesis are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of thesis preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the thesis available to the committee members for their review at least one week before the defense. Most degree programs require two or more weeks for the review period; students should check with their faculty.

After the defense, the student must submit an electronic copy of the thesis online to the Office of Graduate Studies, Arts & Sciences via BePress at the university library. The degree program is responsible for delivering the Master's Thesis Approval form (PDF), signed by the committee members at the defense and then by the program chair, to the Office of Graduate Studies, Arts & Sciences. Students who defend their theses successfully have not yet completed their master's requirements; they finish earning the degree only when their thesis submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Graduation Information

Students are responsible for filing an Intent to Graduate form in order to have their earned master's degree conferred. The Intent to Graduate form is available online through WebSTAC. Deadlines for filing an Intent to Graduate are listed on the website of the Office of Graduate Studies, Arts & Sciences. No degree will be awarded if this form has not been filed. Students who do not complete their degree requirements by their intended graduation date must refile for the next graduation date.

Specific Circumstances

Changes in Program of Study

Students are usually admitted to graduate programs in Arts & Sciences to study toward specific degrees. Therefore, a change in the degree objective (e.g., from AM to PhD) is subject to the approval of both the student's program and the Office of Graduate Studies, Arts & Sciences. A request for a change in the subject of study (e.g., from economics to history) requires the approval of both programs concerned as well as that of the Office of Graduate Studies, Arts & Sciences. Students may be required to fill out a new application for admission before making such changes, but they will not be charged a second application fee.

Student Grievances: Guidelines and Procedures

Students may encounter experiences in which they have legitimate complaints regarding academic matters or an interaction with a faculty member, staff member, or fellow student. It is important that students and faculty have a common understanding of how such complaints may be expressed and resolved.

Students with complaints regarding academic matters or interactions with a faculty member, staff member, or fellow student should initially seek resolution from their faculty advisor, then from their director of graduate studies, and finally from the chair of their degree program. Complaints that remain unresolved may be addressed to the Vice Dean of Graduate Education in the Office of Graduate Studies (OGS) in Arts & Sciences. The Vice Dean may follow up with the complainant, with faculty in the student's degree program, or with other stakeholders on campus to review and investigate the grievance and to work toward a resolution. Faculty involved in the process of receiving or reviewing a complaint should treat the information and relevant conversations as highly confidential.

Students with complaints regarding nonacademic matters (including but not limited to unprofessional behavior, a hostile learning environment, and abusive or offensive language and/or behavior) — whether by faculty, staff, or fellow students — are first encouraged, depending on the severity of the alleged behavior, to seek resolution with the alleged offender(s). If a complainant is not comfortable with doing so or if the problem persists after they have done so, they should seek resolution from their faculty advisor, then from their director of graduate studies, and finally from the chair of their degree program. Complaints that remain unresolved may be addressed in several ways:

- *By the Ombuds:* The Offices of the Ombuds serve as confidential, independent, and impartial resources that offer assistance in the informal resolution of university-related conflicts and advocate for fair treatment and process.
- *By the OGS:* The OGS does not adjudicate matters of nonacademic student grievance. However, it can and should be used as a source of support, mediation, and advising for such matters.
- *By the Office of University Compliance:* Students with such complaints have the option of reporting suspected violations of the University Code of Conduct using the online form on the Office of University Compliance webpage.

All complaints regarding academic and professional integrity should be first addressed to the respective department head(s). The department, with the counsel of the OGS, can submit a report of academic and professional integrity through the appropriate mechanism (i.e., the OGS for master's student concerns and the Vice Provost for Graduate Education Academic and Professional Integrity Officer for PhD concerns).

Washington University policies state that members of the university community can expect to be free from discrimination and harassment. Students, faculty, staff, and outside organizations working on campus are required to abide by specific policies prohibiting harassment. An allegation of discrimination or harassment may be appealed to the Vice Chancellor for Human Resources, who will determine whether to convene the Title IX Grievance Committee to hear the case. Allegations of bias, prejudice, or discrimination should be reported using the Bias Report and Support System. Visit the Discrimination and Harassment page on the Human Resources site for more information.

Leaves of Absence

Students who wish to suspend their graduate study should apply for a leave of absence. A student's application for a leave of absence must be endorsed by the degree program and then approved by the Office of Graduate Studies, Arts & Sciences.

Such a leave may be personal or medical. In the case of a medical leave, the student must present authorization from the Habif Health and Wellness Center at both the beginning and again at the end of the leave. At the end of a leave of absence, a student is reinstated into the School of Arts & Sciences under the conditions prevailing at the

time the leave was granted. Being on leave suspends student status and any financial support from the university. Taking a leave may, therefore, adversely affect loan deferment, visa status, the right to rent university-owned housing, and so on. Most visa types would prevent international students from remaining in the United States while taking a leave of absence; international students should consult the Office for International Students and Scholars as well as their faculty advisor, their program's director of graduate studies, and the Office of Graduate Studies, Arts & Sciences, before taking a leave of absence.

Prior to taking a leave of absence, students should also consider their need for health insurance coverage. The continuation of student health insurance and access to the Habif Health and Wellness Center depends on such factors as the kind of leave (medical or personal), the length of time the student has already been covered during the current insurance year, and the student's location during the leave. Students should consult the Habif Health and Wellness Center website for current policies with regard to leaves of absence; these policies may change annually if insurance carriers change.

Withdrawals

Students wishing to withdraw from their programs must give notice in writing by filling out the withdrawal form available on the Forms page of the Office of Graduate Studies, Arts & Sciences, where it can be found under the "Change to Enrollment Status" heading. This form must include the date upon which the withdrawal should be considered effective. Without such information, there may be serious financial repercussions for the student and/or the university. International students should contact their advisors in the Office for International Students and Scholars before taking this action so that they can understand all potential visa and student status implications.

Dismissals

A program may wish to dismiss a student for a number of reasons, including willful misrepresentation to gain admission to graduate study, breaches of academic integrity, academic failure, or behavior destructive to the welfare of the academic community. Dismissals are recommended by the degree program and are not final until approved by the Office of Graduate Studies, Arts & Sciences. Any student who believes their dismissal was undeserved may appeal to the Vice Dean of Graduate Education within 14 calendar days. Except for circumstances justifying immediate dismissal, a student may not be dismissed on the basis of academic performance without the opportunity to return to good standing during an identified period of probation.

For details of these or any other policies of the Office of Graduate Studies, Arts & Sciences, please visit the Policies & Procedures page.

Interdisciplinarity

Dual Degree Programs

The university has set up numerous programs that permit students to earn two graduate and/or professional degrees at the same time. Two of these programs include an AM degree:

- Dual Master of Social Work/Master of Arts in Education
- Dual Juris Doctoris/Master of Arts in Women, Gender, and Sexuality Studies

The Office of Graduate Studies, Arts & Sciences, uses the term *dual degree* to identify instances when two separate programs of study share some common curricular elements and may allow a specified amount of double-counting, which means that certain courses or credits can count toward the requirements for both programs. These programs have been designed and approved by either a cross-departmental or cross-school faculty committee or separately by both schools' committees who have agreed on the common elements.

Interested students must apply to and be admitted by each degree program separately, but ideally, all applications should be made before beginning graduate or professional study. Dual degrees are ordinarily conferred simultaneously after all requirements for both degrees have been met. For details of the programs listed above, students should consult the websites of the two disciplines.

Accelerated AB/Master's Program

The Accelerated AB/Master's program allows qualified Washington University undergraduates to complete a master’s degree in a one-year accelerated program after completing the AB degree. The undergraduate and graduate degrees are awarded sequentially, with admission to the master’s degree, if approved, for the fall semester following completion of the undergraduate degree in the preceding December, May, or August.

Applications must be submitted by March 15, and GRE tests are not required. The program is available only to students currently in their senior year and only for continuous enrollment in the next year. There is no option for deferred admissions. In order to complete a master’s degree in one year, students may apply five courses taken at the 400/4000 level or above as an undergraduate (with a maximum of 16 units) toward master’s degree programs that require 36 or more units for completion. For master’s programs that require fewer than 36 units, three courses at the 400/4000 level or above (with a maximum of 12 units) may be applied. Master’s programs requiring more than 36 units may require an additional semester or summer of enrollment. Undergraduate courses must be acceptable to the department or program offering the master’s degree and must be completed with a final grade of B or higher. All admissions are provisional until the successful completion of the AB.

The actual awarding of each degree is contingent on the successful completion of all requirements for that degree. The application for admission must be made to the department, which forwards the application and the department's recommendation for admission to Arts & Sciences. There is no application fee. Students accepted into the program will retain their student ID numbers and will not need to replace their ID cards. In every other respect, they will be treated as new students in Arts & Sciences and should familiarize themselves with the relevant sections of this *Bulletin*.

Please consult the home department and the Information for Accelerated AB/Master's Degree Program Applicants for more detailed information.

Financial Information

Master's degree programs vary considerably in the extent to which they are eligible for financial support from the degree program or from the Office of Graduate Studies, Arts & Sciences. Typical awards, where applicable, include scholarships for part or all of the tuition charges. Part-time employment and student loans are possible sources of support.

Financial Support

Tuition Scholarships

Scholarships to cover part or all of the costs of tuition are available to both new and continuing students. Since the perception of academic merit is the sole criterion for the award of tuition scholarships, such scholarships are not subject to taxation under federal tax law at this time.

Loans

Federally underwritten loans are another resource for students who are U.S. citizens or permanent residents. Unsubsidized Stafford loans can be arranged for graduate students. Applicants for these loans are required to submit the Free Application for Federal Student Aid (FAFSA). The Office of Graduate Studies, Arts & Sciences, determines eligibility and processes loan applications for all full-time Arts & Sciences master's students. *All other master's students are processed by their individual school's financial aid office.* For more information about applying for loans, please visit the Funding and Support webpage of the Office of Graduate Studies, Arts & Sciences.

Financial Costs

Tuition Charges and Refunds

The maximum tuition fee is the equivalent of 9 semester units. Students who enroll in 9 or more units per semester are automatically regarded as full-time students and are charged a flat full-time rate. Students enrolled in fewer than 9 units are charged on a per-unit basis. The tuition rate is subject to annual change.

Requests for refund of tuition paid by a student who is withdrawing from a degree program should be made by submitting a Withdrawal Form (PDF) to the Office of Graduate Studies, Arts & Sciences. Requests for refund of tuition paid by a student who is withdrawing from a specific course should be submitted in writing to the Office of Graduate Studies, Arts & Sciences. The last date of class attendance is ordinarily used in determining the amount that can be refunded. Students withdrawing within the first two weeks of classes will receive a full refund; those students withdrawing before the end of the fourth week pay 20%; and students withdrawing before the end of the eighth week pay 40%. There is no refund after the eighth week of the semester except for reasons of health. Such reasons must be certified or verified by the Habif Health and Wellness Center, in which case the university will make a prorated refund of tuition if notice of withdrawal is received before the end of the 12th week of the semester. Students who have had their full tuition remitted for them by their school or by a third party will not receive any refund.

Health Fees

All full-time Arts & Sciences students on the Danforth campus are charged a mandatory health fee that gives them access to the Habif Health and Wellness Center. In addition, they must either enroll in the student health insurance plan or present proof of comparable coverage. Dental insurance is also available. The health fee, the health insurance premium, and the dental insurance premium are subject to annual change.

Fields of Study

A

American Culture Studies (p. 49)

Anthropology (p. 51)

Art History and Archaeology (p. 70)

B

Biology (p. 81) (Part-Time)

Biology & Biomedical Sciences (p. 99)

Biochemistry, Biophysics, & Structural Biology (p. 99) (Biology & Biomedical Sciences)

Biomedical Informatics & Data Science (p. 99) (Biology & Biomedical Sciences)

C

Cancer Biology (p. 99) (Biology & Biomedical Sciences)

Chemistry (p. 143)

Classics (p. 152)

Comparative Literature (p. 163) (Comparative Literature and Thought)

Comparative Literature and Thought (p. 163)

Computational & Systems Biology (p. 99) (Biology & Biomedical Sciences)

D

Dance (p. 315) (Performing Arts)

Data Science in the Humanities (p. 163) (Comparative Literature and Thought)

Developmental, Regenerative, & Stem Cell Biology (p. 99) (Biology & Biomedical Sciences)

E

F

G

H

I

J

L

M

N

P

Q

R

S

T

Translation Studies (p. 163) (Comparative Literature and Thought)

W

Women, Gender, and Sexuality Studies (p. 423)

Writing (p. 241) (English)

American Culture Studies

The **Graduate Certificate in American Culture Studies** (AMCS) enables doctoral students to develop multidisciplinary expertise and encourages them to bring that added competence to bear in dissertation research that, while satisfying the demands of their principal disciplines, is broad-based and informed by studies from across the humanities and the social sciences.

AMCS brings together a community of graduate students and faculty with overlapping interests in American topics. Through formal and informal intellectual exchange, they share knowledge, methods, and ideas across the boundaries that define the traditional academic disciplines. This intellectual community promotes the give-and-take of ideas, making graduate study more stimulating and graduate research more original and creative.

Students who satisfy certificate requirements will receive the Graduate Certificate in American Culture Studies along with the award of their PhD. This certificate is one of several interdisciplinary certificates offered by the Office of Graduate Studies, Arts & Sciences. The certificate helps its holders to build academic careers — including careers that involve interdisciplinary teaching — and to develop distinctive research profiles.

Contact:	Noelani Kelly, Graduate Program Administrator
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Website:	http://amcs.wustl.edu

Faculty

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Lecturer in History and American Culture Studies
PhD, University of California at Santa Barbara

Dave Walsh
Lecturer in American Culture Studies
MA, Washington University in St. Louis

Degree Requirements

- American Culture Studies, Graduate Certificate (p. 51)

Courses

Visit online course listings to view semester offerings for L98 AMCS.

L98 AMCS 504 Local Archives: Directed Study in St. Louis
Credit variable, maximum 3 units.

L98 AMCS 506L Street Cultures of the Americas

Same as L38 Span 506
Credit 3 units.

L98 AMCS 5152 Pluralism, Politics, and Religion
A graduate seminar for students in social sciences, history or philosophy, focusing on issues of multiculturalism, ethnic and religious pluralism, and governance of ethnic and religious diversity in European, Asian, and North American societies. Course is open to graduate students in all disciplines and is part of an exchange program with Societies, Religions, Laicites Laboratory in Paris. Independent research is expected; nature of research will vary by discipline but can include ethnographic, historical, or theoretical work, to be evaluated by instructor in consultation with appropriate departmental supervisors. Instructor's permission is required.
Same as L48 Anthro 5152
Credit 3 units.

L98 AMCS 519 American Political Institutions
This course provides an overview of the scholarly work on American political institutions. Readings include the classic literature on political behavior, interest groups, Congress, the Executive, and the Court.
Same as L32 Pol Sci 520
Credit 3 units.

L98 AMCS 5243 Seminar: The 20th Century

Same as L14 E Lit 524
Credit 3 units.

L98 AMCS 535 Graduate Seminar: Performance and Protest in the Long Civil Rights Movement

Same as L15 Drama 535
Credit 3 units.

L98 AMCS 5370 Music and Performance: Pleasure and Politics in Popular Music
Christopher Small has asserted that music is not a thing but an activity--something that people DO. Starting from this premise, this course explores popular music in performance and introduces students to the flourishing scholarship at the intersection of performance studies, sound studies, and popular music studies. We will attend to sound, music, listening, and voice-and we will consider these elements of performance in combination with costume, choreography, stage design, and audience participation and interaction. Exploring the choices of performers and the expectations of audience members in settings from gospel churches to Radio City Music Hall, this course moves through a wide variety of musical genres, including cabaret, blues, opera, musical theater, and rock. We will consider the pleasure and politics embraced by everyday people and activists who have used music in protest movements from the labor movement to Black Lives Matter. We also attend performances around St. Louis, guided by the interests of the class. Upper-level undergraduates and graduate students (enrolled under a 500-number) with an interest in music, theater, dance, cultural history, American studies, and African American studies are especially welcome.
Same as L98 AMCS 4370
Credit 3 units. A&S IQ: HUM BU: HUM EN: H

L98 AMCS 540 Prefiguration and Performance
"Prefigurative politics" describes activists' creation of a desired future world in the present. The term has been used to describe social movements (from Occupy to Tahrir Square to the Movement for Black Lives); Black and interracial intentional communities pursuing racial justice (including the Harlem Ashram and the Highlander Folk School); and experiments in radical pedagogy (such as Freedom Schools). Prefiguration takes many forms: in staging a new world, activists might establish systems of mutual aid or other models of care; promote a model of participatory democracy; challenge the relationship between the state and its citizens; establish new histories and myths; reimagine economic models; and/or create new aesthetic forms. Political theorists and sociologists have much to teach us about prefigurative politics and the many debates that surround it. For example, what is the relationship between prefiguration and political strategy? Are the two at odds, or compatible? Students enrolled in this course will work assiduously to assess this literature. We will then put the contemporary scholarship on prefigurative politics into conversation with a set of conversations emerging from performance theory that traverse similar terrain, among them debates about performance, utopia, and futurity; explorations of rehearsal and simulation; and the performativity of assembly. We will use our work to make sense of our contemporary moment, consider the performance and performativity of politics, and draw inspiration from those who have worked and continue to work to build "a new world in the shell of the old."
Same as L15 Drama 540
Credit 3 units.

L98 AMCS 5450 Writing Black Lives: The Theory and Literary History of African American Autobiography
This course is an intensive overview of Black autobiographical writing. We begin with the premise that the autobiography has been one of the earliest forms--and the major foundation--of the Black American literary tradition. We will begin with selective slave narratives and then proceed to variety of autobiographies--some by literary people, some by celebrities, some by politicians, some by people of opposing political orientations. We will also read some of the significant critical studies that have been written about Black autobiography and autobiography in general. The aim of the course is simple: To Understand the aesthetic nature, political purpose, and cultural history of Black American autobiography and its relationship to and departure from the larger tradition of autobiographical writing in the United States. We will also devote a portion of the course to looking at one major Black biographer who wrote about Black subjects: Shirley Graham Du Bois, who wrote books on Black heroic figures for young readers.
Same as L90 AFAS 545
Credit 3 units.

L98 AMCS 560 Senior Honors Seminar in American Culture Studies
This course is required for students seeking college honors through American Culture Studies. Students will discuss research methods and make regular research reports, both to the instructor and for other students. Prerequisite: satisfactory standing as a candidate for senior honors (3.5 cumulative GPA) and permission of thesis director.
Credit variable, maximum 3 units.

L98 AMCS 561 Seminar: Narrative and the Figure of the Storyteller
Graduate Seminar: Topics vary
Same as L14 E Lit 561
Credit 3 units.

L98 AMCS 5630 Mellon Postdoctoral Seminar: Theorizing the Body

Same as L14 E Lit 5631
Credit 4 units.

L98 AMCS 5884 Advanced Seminar: The Roots of the American Working Classes: Myths, Realities, Histories
The diverse realities of American labor and working-class experience have long been submerged under layers of politics and ideology. How should we study the lives of working people? What questions should we ask? Where do we go to answer them? This research seminar engages the lived experiences of the American working classes, in all their complexity, over the long 19th- and 20th-centuries, to the present. The course has the double project of (1) exploring the roots of mythologies about American working people that have the effect of distorting or erasing their experiences, efforts and accomplishments, and struggles for organization, visibility, citizenship, and power, with special attention to mythologies about American workers who are non-white, non-male, and non-U.S.-born who did/do not fit conventional tropes of "American labor" or "the white worker"; and (2) exploring the roots of working people's experiences, as shaped by forces of technology, class, race, gender and sexuality, religion, nationalism, and violence : what are the challenges, conceptual and archival, of studying the people, in their working and familial/community lives, as producers and consumers, in

their organizing efforts, and in their civic and political capacities? How did the transformation of work, technology, culture, and society over this long era from Enslavement to Artificial Intelligence, from Blackface Minstrelsy to Hip Hop, shape working people's lives and struggles? How did working people survive cataclysmic crises, from the Civil War to Covid, and mold the evolution of American citizenship and democracy? Each student will produce a 12-15 page original research paper related to the course material, based on an analysis of primary sources, in consultation with the instructor, and due at the end of the semester; the course is designed to closely mentor students in this project.
Same as L22 History 4884
Credit 3 units. A&S IQ: HUM, SC EN: H

L98 AMCS 645 Introduction to American Culture Studies
An introduction to interdisciplinary approaches to the study of American culture. The class will examine the relationship between cultural criticism and scholarship on American culture, the history of the American Studies and cultural studies movements, the simultaneous turn to "historicist" approaches in literary studies and to "textualist" approaches to historical studies, the moral and interpretive implications of the shift from a modernist to a postmodernist stance in cultural inquiry, and the challenges that multiculturalist and trans-national perspectives pose to the study of a national American culture. Many of the readings will emphasize trends in cultural history, but will also include works in anthropology, art and architectural history, literary history, media studies, political and social theory, and religious studies.
Credit 3 units.

American Culture Studies, Graduate Certificate

Certificate Candidacy

To earn a graduate certificate at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. Graduate certificates are not standalone programs and are only available to current students in applicable graduate programs. Thus, graduate certificates are conferred at the same time as the student's primary graduate program.

Program Requirements

- **Total Units Required: 15**
- **Grade requirement: B or higher**
- **Certificate Length: 3-6 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Required Courses

The Graduate Certificate in American Culture Studies is awarded to students who complete the PhD in an Arts & Sciences department and who satisfy the following requirements:

- Complete 15 credits of course work, structured as follows and in consultation/cooperation with the student's home department:
  - The core seminar AMCS 645 Introduction to American Culture Studies (3 credits).
  - Two multidisciplinary courses (6 credits) on American topics (500/5000 level or higher) designed in explicitly multidisciplinary terms. Courses that satisfy this requirement will be determined in consultation with the director of graduate studies (DGS).
  - Two extradepartmental courses (6 credits) on American topics (500/5000 level or higher) based in fields that complement course work in the home department, to be determined in consultation with the director of graduate studies.
- Routine consultation with the AMCS director of graduate studies in addition to consultation with the student's principal PhD advisor.
- Completion of a PhD dissertation in the home department with the AMCS faculty advisor often serving as one of the "outside" readers on the oral defense committee and the dissertation defense committee.
- Maintenance of good standing within the AMCS program through regular participation in program functions and events.
  - Americanist Forums. Attendance at the monthly colloquium series is expected with exceptions considered related to residency, leaves, fieldwork, and dissertation research.

Students pursuing the Graduate Certificate in AMCS have the opportunity to teach a course in AMCS. To be eligible to teach for the AMCS department, students must have completed the certificate and mentored teaching experiences required by their home departments. Interested students should contact the AMCS DGS to learn about the process for proposing a course. Course planning should begin well in advance; we recommend that students begin talking with the AMCS DGS and their PhD advisor at least one year prior to the semester in which they hope to teach.

For more information about program activities and requirements, please visit our Graduate Studies webpage.

Contact:	Noelani Kelly, Graduate Program Administrator
Phone:	314-935-5216
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Website:	http://amcs.wustl.edu

Anthropology

The graduate program in the Department of Anthropology at Washington University is a PhD program designed to educate and develop scholars and researchers who study the human condition through time and across cultures. Our graduates apply these skills to

academics, business, government, and nongovernmental jobs and careers. Although candidates may receive an AM degree during the course of their study, the department does not offer a standalone master's degree. The anthropology department has a strong tradition of graduate student satisfaction and close mentoring by faculty advisors. In addition, graduates of the Washington University anthropology PhD program have a solid history of placement in highly desirable academic and nonacademic positions.

The Department of Anthropology has a strong three-subdiscipline approach, with concentrations in archaeology, sociocultural anthropology, and biological anthropology. Applicants are required to choose a concentration from among the three subdisciplines when applying. Program strengths in archaeology include the origins of agriculture and pastoralism, paleoethnobotany, zooarchaeology, geoarchaeology, landscape archaeology, and environmental archaeology. Sociocultural anthropology foci include politics, pluralism and religion, indigenous political movements, the politics of gender and sexuality, fertility and population, global health and the environment, and medical anthropology. Program strengths in biological anthropology include human and primate evolution, the ecology and conservation of modern primates, human physiology, biological variation in living human populations, quantitative studies of morphology and genetics, and human life history.

Contact Information

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Associate Professor
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PhD, Yale University

Ilaria Pitania
Assistant Professor
PhD, Boston University

Thomas Cody Prang
Assistant Professor
PhD, New York University

Elizabeth A. Quinn
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PhD, Northwestern University

Jill Richardson
Lecturer
PhD, University of Wisconsin-Madison

Scott Ross
Lecturer
PhD, The George Washington University

Crickette Sanz
James W. and Jean L. Davis Professor in Arts & Sciences
PhD, Washington University

David Strait
Professor
PhD, State University of New York–Stony Brook

Helina Woldekiros
Associate Professor
PhD, Washington University

Affiliated Faculty

Kari Allen
PhD, Duke University
(Neuroscience and Biological Anthropology)

Amy Bauernfeind
PhD, The George Washington University
(Neuroscience and Anthropology)

Degree Requirements

- Anthropology, PhD, Archaeology Concentration (p. 59)
- Anthropology, PhD, Biological Anthropology Concentration (p. 63)
- Anthropology, PhD, Sociocultural Anthropology Concentration (p. 67)

Courses

Visit online course listings to view semester offerings for L48 Anthro.

L48 Anthro 501 Seminar: Research Methods in Cultural Anthropology
This course is a graduate-level seminar, open to students across the social sciences, that provides hands-on training in a variety of methods used for collecting qualitative data in a systematic manner. Much of the course is devoted to developing interviewing skills that researchers can use in participant observation, semi-structured interviewing, person-centered interviewing, life histories, cultural domain analysis, and social network analysis. Classroom assignments are tailored to individual needs so that graduate students develop skills in practical and meaningful ways that apply directly to their research agendas. Enrollment is open to graduate students only.
Credit 3 units.

L48 Anthro 5011 Methods: Proposal Writing
An introduction of issues and methods in the design of social science research, including field work, beginning with discussion of the philosophy of social science. Methods of falsification or validation of claims to knowledge in traditional anthropological contexts; readings include Kuhn and Campbell. Attention to the design of scientifically rigorous qualitative and quantitative research. Each student applies these concepts by designing an original proposal that meets both intellectual criteria and the requirements of funding agencies. Prerequisite: Graduate standing.
Credit 3 units.

L48 Anthro 502 Human Anatomy
Study of the human body primarily by dissection; extensive use of X-rays and CT scans. Emphasis on functional and clinical aspects of anatomy. Prerequisite: This course is restricted to first year medical students. Same as L48 Anthro 502 and M05 AnatNeuro 501A.
Same as L41 Biol 501
Credit 6 units.

L48 Anthro 5033 Nomadic Strategies and Extreme Ecologies
This course will explore the archaeology and anthropology of nomadic pastoral societies in light of their ecological, political, and cultural strategies and adaptation to extreme environments (deserts, mountains, the Arctic). The aim of this course is to understand both the early development of pastoral ways of life and how nomads have had an essential role in the formation and transfer of culture, language, and power from prehistoric time to the current era.
Same as L48 Anthro 3053
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA, IS EN: S

L48 Anthro 5053 Theoretical Approaches in Archaeology
This class is an in-depth examination of archaeological theory, including the development of modern archaeological thinking, relations with other fields and disciplines, and the aims and goals of modern archaeology.
Credit 3 units.

L48 Anthro 5054 Research Strategies
This course will assist second and third year graduate archaeology students with designing appropriate and effective strategies for addressing their respective research problems, and developing them into successful required papers and proposals.
Credit 3 units.

L48 Anthro 507 Seminar: Human Biology
In this graduate seminar on human biology, we will look at major themes and big ideas in human biology and human reproductive ecology. This will include looking at human growth and development, biological variation, and adaptation to unusual and challenging ecologies (e.g., high altitude). We will read a variety of texts on human evolution, human reproductive ecology of males and females, childhood development, and the history of research in human biology. The course will also look at the ways in which human biology is a key part of biocultural anthropology and how insights into human biology and variation can contribute to our understandings of human evolution in a biocultural perspective.
Credit 3 units.

L48 Anthro 5072 Issues In Human Evolution
Issues and current controversies in the study of human evolution
Credit 3 units.

L48 Anthro 5073 Modern Human Origins and Diversity
The evolution of modern Homo sapiens and evolutionary perspectives of modern human variation and diversity. Prerequisite: Permission of instructor.
Credit 3 units.

L48 Anthro 5074 Seminar: Paleoanthropology
Focus upon assessing interpretations of the human fossil record. Prerequisite: Graduate standing or permission of instructor.
Credit 3 units.

L48 Anthro 508 Selected Topics in Physical Anthropology
Topics will be selected from current controversies or research in the fields of human or primate biology. Prerequisite: permission of instructor.
Credit 3 units.

L48 Anthro 5082 Research Methods in the Study of Wild Chimpanzees
This course is designed to provide advanced undergraduate students and graduate students with a comprehensive introduction to the research methods involved in studying wild chimpanzees. We will begin with a brief review of the history of chimpanzee field research and its significant contributions to understanding human evolution. Weekly topics will cover areas important in primate behavior and ecology, including social structure, kinship, feeding ecology, habitat characteristics, ranging, communication, and culture. Lectures will provide the general theoretical framework for each weekly topic, and students will be involved in discussing current research findings. Readings will primarily consist of primary research articles or review articles which have been selected to represent modern multi-disciplinary approaches in the study of wild apes. Special emphasis will also be placed on introducing students to new methodological approaches that have advanced studies of wild chimpanzees. Prerequisite: Introductory course in primate behavior or permission of the instructor.
Credit 3 units.

L48 Anthro 5083 Major Topics Seminar in Physical Anthropology
This graduate reading seminar will provide students with a review of key literature and major issues in biological anthropology. Topics will include race, primate and fossil hominin tool use, adaptationism, the origin of language, evolution of the brain, variation among primates in diet, locomotion and social organization, modern human origins, and the human-chimp split, among others.
Credit 3 units.

L48 Anthro 5091 Advanced Studies in Ancient Maya Civilization
This course focuses on the integration of archaeological, epigraphic and iconographic data now relevant to the investigation of Pre-Columbian Maya civilization and the writing of ancient history of the Classic period. Students will be introduced to the intellectual history of the decipherment and the methodologies now being developed to correlate these distinct sources of information about the Maya past. The Olmec civilization and the civilization of Teotihuacan in the Valley of Mexico will be considered as they relate to the rise and development of the Maya civilization. The ancient Maya were the only Pre-Columbian civilization to leave us a written record that we can use to understand their politics, religion, and history. This course about Maya ancient history and Maya glyphic texts, combined with the images of Maya life from their many forms of art, will provide us with substantial information during this course. The combination of glyphic texts, art, and archaeology now can provide a uniquely detailed reconstruction of ancient history in a New World civilization. Prerequisite: Permission of instructor or graduate standing.
Credit 3 units.

L48 Anthro 5100 Topics in Anthropology: Conspiracies, Cults, and Moral Panics
This course offers a critical perspective on the field of humanitarianism-the humanitarian ethos or desire to help those in need as well as the humanitarian norms and practices that guide such interventions. What does it mean to help others, and why (and when) do people choose to do so? When is helping others a moral imperative? Why are some lives saved while others are left to suffer? The course introduces the historical, legal, and political foundations of humanitarian response and investigates into the practices, contexts, and effects of humanitarian intervention. Course content will critically examine humanitarian interventions amid medical, environmental, and conflict contexts and inquire into humanitarian temporalities, spaces, politics, ethics, and care.
Same as L48 Anthro 4100
Credit 3 units. A&S IQ: LCD, SSC Arch: SSC Art: SSC EN: S

L48 Anthro 5102 Ecology of Adaptation
In this course, we will discuss and explore biological adaptation. Discussions will include the history of the study of adaptation and seminal works that have shaped our understanding of this phenomenon, as well as current approaches to studying and identifying adaptation in living and extinct species. Examples will be drawn from all aspects of biology, including genetic morphological, and behavioral studies. Finally, we will apply current understanding and investigation of adaptation toward the evolution of our own species in order to better understand the evolutionary pressures shaping our lineage.
Credit 3 units.

L48 Anthro 5104 Topics in Anthropology: Tech and Health: Minds, Bodies, Societies
A course covering topics in one of the three subdisciplines of anthropology
Same as L48 Anthro 4104
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L48 Anthro 5122 Affect, Emotion, and Feeling: Anthropology of the Evocative
This course reviews recent attempts in the social sciences to demarcate and define the scope and objects of the "affective" turn in cultural theory and, more broadly, to carve out a distinctly interdisciplinary space for the understanding of affect, emotions, feelings, bodies, and the dynamism of sociocultural "matter". This course is open to graduate level students only. Anthropologists and other social theorists from Durkheim onward have considered the role of affect in questions of bodies, sensation, emotion, and social change. In recent years, the "affective turn" in the humanities and humanistic social sciences has brought renewed attention to these dynamics. For some, affect is contrasted with emotion; it is potential or capacity, not set cultural meaning. For others, affect is contrasted with structure or form; it is bodily sensation or intensity--dynamic, energetic, mobile. And for others still, affect might enable us to grasp how it feels to inhabit a life world, a particular atmosphere, texture, sensuality, or the feel of things. This course explores the genealogy and range of theories of affect, emotion, and feeling, considering anthropology's distinctive contributions to and critiques of their study. We will discuss ways that centralizing affect, emotion, and feeling might disrupt dichotomies of structure/agency, opening up modes of analysis and enabling us to explore forms of life that exceed human subjects and socialities. Readings will tack between more theoretical essays and ethnographic representations of affect, sensuality, mobility, and emotion.
Credit 3 units.

L48 Anthro 5124 Argumentation Through Ethnography
Ethnography is the traditional mainstay of anthropological academic writing. Through ethnography, anthropologists do more than simply describe a culture or a group of people; rather, they organize and present their field materials in particular ways in order to make intellectual, theoretical, and sometimes even political arguments. This seminar will explore the different ways anthropologists have used ethnography to make intellectual claims and frame theoretical or practical arguments. The aim of the course is to help students develop critical reading skills for engaging ethnographic materials as well as to explore the ways in which ethnography, when done well, can be a persuasive and engaging means of academic argumentation. This course is intended as a sequel to Anthro 472. Prerequisite: Anthro 472 or permission of instructor.
Same as L48 Anthro 4123
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L48 Anthro 5143 National Narratives
This seminar examines the cultural, psychological, and political dimensions of narratives used by nations and other groups to form collective identities. After reviewing research from the humanities and social sciences, concrete cases of national narratives will be examined. In addition to mastering the conceptual framework for the course, students will develop this framework in one or more case studies of their own in a presentation and term paper.
Credit 3 units.

L48 Anthro 5149 Caring for Country: Hunter Gatherer Ecologies
What makes humans special? Is it our use of tools? Language? Culture? Humanity has been defined on the basis of its uniquely well-developed capacities for using technology, language, and culturally encoded knowledge and belief systems. In this course, we will explore a new hypothesis of human exceptionalism: a fundamental tendency to cultivate and care for lands. Our genius for reshaping ecosystems and incorporating other species into our societies is intimately linked to our technological and communicative skills. We have used these skills to migrate into and reshape every Earthly environment. We will explore the ethnographies, oral and written histories, and archaeologies, of so-called hunter-gatherers around the world, learning about the ways they shaped and tended their homelands using ecological knowledge systems. In this era of human induced environmental change - from global warming, to mass extinction, to genetic engineering - it is critically important that we look to our species' true ecological history for the wisdom that will help us meet these challenges.
Same as L48 Anthro 3149
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA, ETH, IS EN: S

L48 Anthro 5152 Pluralism, Politics, and Religion
A graduate seminar for students in social sciences, history or philosophy, focusing on issues of multiculturalism, ethnic and religious pluralism, and governance of ethnic and religious diversity in European, Asian, and North American societies. Course is open to graduate students in all disciplines and is part of an exchange program with Societies, Religions, Laicites Laboratory in Paris. Independent research is expected; nature of research will vary by discipline but can include ethnographic, historical, or theoretical work, to be evaluated by instructor in consultation with appropriate departmental supervisors. Instructor's permission is required.
Credit 3 units.

L48 Anthro 5163 Archaeology of China: Food and People
China is a country with a large population, diverse landscapes, and unique food. This course will explore the origins of Chinese food in the context of the formation of Chinese societies. During the last two decades, the archaeology of China has become a fast moving subject with advances in methods, theories and changes of key perceptions. In this context, the beginning and spread of food production in China has become one of the key questions in current archaeology. We will focus on the process of domestication of plants and animals in various regions of China during the Holocene. We will explore how those processes relate to other sectors of the Old World, such as those of South and Southwest Asia. This course will pursue answers to the following questions: Why the Chinese ways of living and eating are different from those in the West? How production and consumption in China were shaped by food globalization in prehistory?
Same as L48 Anthro 3163
Credit 3 units. A&S IQ: LCD, SSC Arch: SSC Art: SSC BU: IS EN: S

L48 Anthro 518 Seminar: The Teaching of Anthropology
Teaching techniques: special problems in teaching of anthropological subject matter; guidance and training for student teachers of anthropology. Prerequisite: permission of instructor.
Credit variable, maximum 3 units.

L48 Anthro 5180 Domestication: The Evolution of Our Multispecies Family
This course explores the evolution of the plants, animals, and microbes in human-mediated ecosystems. We call these evolutionary relationships domestication and they are at the heart of humanity's successful adaptation to nearly every ecosystem on Earth. From our millennia-deep friendship with gregarious wolves, to corn's continental conquests, to 'the industrial microbiome,' this course will ask how

other species have evolved in response to human societies, and how societies have been shaped by these relationships. We will primarily draw on concepts and data from anthropology and evolutionary biology to understand the process of domestication.
Same as L48 Anthro 3180
Credit 3 units. A&S IQ: LCD, SSC Arch: SSC Art: SSC BU: BA EN: S

L48 Anthro 519 Introduction to Ethnomusicology
This seminar will provide an introduction to the discipline of ethnomusicology through an examination of the historical literature and a review of recent scholarship. In keeping with the field's multidisciplinary orientation, we will observe ethnomusicology as a part of wider trends in intellectual inquiry. As such, our discussions of major issues in ethnomusicology will be informed by consideration of related fields, including anthropology, historical musicology, literary theory, folklore, and cultural studies. Seminar members will have the opportunity to explore in depth those issues that are most germane to their own research interests while gaining a broader understanding of ethnomusicology as an academic discipline.
Same as L27 Music 509
Credit 3 units.

L48 Anthro 5191 Primate Cognition
This course will investigate historical and current views regarding the cognitive capacities of non-human primates, and the extent to which these abilities are shared with humans. Topics for this class will include: social cognition, problem-solving, tool use, culture, communication, theory of mind, deception, self-recognition, imitation, and numerical cognition. The classes will involve discussion and critical evaluation of theory and methods in this challenging and exciting area of primate cognitive research.
Same as L48 Anthro 4191
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L48 Anthro 5192 Music Ethnography and Fieldwork Methodologies

Same as L27 Music 5091
Credit 3 units.

L48 Anthro 5202 Professionalization for Anthropologists
This course is for graduate students in anthropology or extraordinary undergraduates who are planning on applying to graduate school for anthropology (with permission of instructor). The purpose of this course is to develop and practice professional skills, including but not limited to: 1. Writing peer-reviewed journal articles 2. Writing grant proposals 3. Conducting peer-reviews and editing 4. Creating a conference presentation or poster 5. Writing a popular science story or press release 6. Creating a course syllabus 7. Creating a dossier of common academic job market documents: cover letter, research statement, teaching statement, diversity statement OR a resume and cover letter for a nonacademic job Throughout the semester, we will read examples of different kinds of professional writing and discuss the process involved in developing each. Students will select particular forms to work on based on their current needs and career goals. The skills that we cover will be adjusted according to the current needs and career goals of enrolled students, which will be assessed during the first week of class.
Credit 3 units.

L48 Anthro 5203 Anthropological Genetics
This course will examine the principles of evolutionary genetics as applied to complex characters such as morphology, behavior, life history, and disease. Mathematical models of quantitative inheritance and evolution will be discussed. Special topics include kin selection, sexual dimorphism and conservation genetics. Prerequisite: Anthro 150A or introductory biology.
Same as L48 Anthro 4202
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L48 Anthro 521 Seminar: Writing Anthropological Reports and Essays
For students planning to write doctoral theses. Three class hours a week.
Credit 3 units.

L48 Anthro 5211 Ethnobotany
Interrelationships between plants and people, especially in past societies. Recovery and analysis of plant remains from archaeological sites; interpreting subsistence and vegetation changes; medicinal, ritual, and technological uses of plants; plant domestication and agricultural intensification. Modern efforts to understand and preserve threatened traditional ethnobotanical practices. Prerequisite: Anth 190BP or an introductory botany course, or permission of instructor.
Same as L48 Anthro 4211
Credit 3 units. A&S IQ: SSC, WI Arch: SSC Art: SSC EN: S

L48 Anthro 5215 Anthropology of Food
The rising interest in food research crosscuts various academic disciplines. This seminar focuses on aspects of food of particular interest in anthropology. The first 2/3 of the course is reading intensive and discussion-intensive. Each student will write short review/response papers for major readings. For the final third, we will still be reading and discussing, but the reading load will be lighter (and we will have a field trip) as students devote more time to their research paper. The research paper will be a major effort on a topic discussed with and approved by the professor. In most cases it will have to deal with cultural and historical aspects of a food, set of foods, form of consumption or aspect of food production. Papers will be critiqued, assigned a provisional grade, revised and resubmitted.
Same as L48 Anthro 4215
Credit 3 units. A&S IQ: LCD, SSC Arch: SSC Art: SSC EN: S

L48 Anthro 5241 The Plundered Past: Archaeology's Challenges in the Modern World
The public imagination thrills at the fantastic adventures of Indiana Jones and Laura Croft, Tomb Raider; but the reality of modern archaeology is more complex, ethically challenging and interesting than a simple treasure hunt. In the U.S. and Canada, our science museums and museums of anthropology still display artifacts that are regarded as sacred and culturally definitive by Indian nations, although such holdings are now subject to negotiation and repatriation. Art museums in Europe and the U.S. are still stocked with looted ancient masterpieces that are revered as vital heritage by the nations from which they were stolen. We display looted art alongside a much smaller number of legitimately excavated artifacts of masterpiece quality, so it is no surprise that our popular images of archaeologists as avid and undiscerning collectors raise little concern. But modern archaeologists are not extractors of art or even of scientific information, from places as passive and inert as the museums' objects ultimately occupy. Archaeologists work with living people inhabiting societies and states that care deeply about their pasts and the relics of it. They are active agents engaged with many other people in the production of knowledge about the past. In our rapidly shrinking world, educated sensitivity to the many ancient cultural legacies that shape the values

of modern global society is more than a moral imperative; it is a basic form of collaboration in the common project of survival. Archaeologists are ethically charged to advance that project through education about the complex contemporary arena of artifacts, sites, and information they occupy.
Credit 3 units.

L48 Anthro 525 Advanced Reading
Credit variable, maximum 6 units.

L48 Anthro 5264 The Myth of Race
This course describes the history of the myth of race and racism from the Spanish Inquisition to modern times. Since race is not a biological term but a cultural term, it is important for students to understand the origins and connections of ideas of race and racism from its beginnings in western thought to its current usage. The historical and literature connections can be seen though out the writings and behavior of the Spanish Inquisition, to the Renaissance, though colonization and slavery, to the reconstruction, to the late nineteenth century, to the early twentieth century, to modern times. In fact, the early history of anthropology can be traced through racist history.
Same as L48 Anthro 4264
Credit 3 units. A&S IQ: SSC, SD Arch: SSC Art: SSC EN: S

L48 Anthro 5283 Seminar: Agricultural Development in North America: East and West
Comparison of the agricultural development in the U.S. Southwest and the Eastern Woodlands. Prerequisite: Graduate standing or permission of instructor.
Credit 3 units.

L48 Anthro 5305 Seminar: Selected Topics: Public Scholarship and Multidisciplinary Approaches in Archaeology
An advanced seminar open only to career archaeologists.
Credit 3 units.

L48 Anthro 5312 Norms, Networks, and Repertoires: The Anthropology of Institutions
We live our lives in social institutions: schools, courts, offices, hospitals, churches, and so forth, each one shaped by norms or rules, in which people form networks and draw on their repertoires for social action. Anthropologists and sociologists study institutions through ethnography, the close study of everyday interactions, albeit also incorporating approaches from politics and economics, and largely shaped by the traditions of social pragmatism. We explore the theoretical and empirical dimensions of an ethnographic and pragmatist approach through readings of Goffman, Foucault, and Bourdieu, and of more recent analyses of schools, courtrooms, immigration police, science laboratories, art, and other institutions.
Credit 3 units.

L48 Anthro 5362 Primate Phylogeny
This graduate seminar explores the theory and methods behind phylogenetic reconstruction of primate evolutionary history. Includes hands-on experience with skeletal material, character analysis, use of parsimony or other computer algorithms. Prerequisite: Anthro 5361 or permission of instructor.
Credit 3 units.

L48 Anthro 5366 Europe's New Diversities
Since the late 1980s, three major upheavals have transformed European senses of identity. The demise of the Soviet Union has forced citizens of new "post-socialist' nations to forge new senses of belonging and new strategies of survival. The rise of a new public presence of Islam and the growth of children of Muslim immigrants to adulthood have challenged notions that Europe is a secular or post-Christian space. Finally, the heightened authority of European institutions has challenged the nation-state from above, and the granting of new forms of subnational autonomy to regions and peoples has challenged it from below. The new Europe is increasingly constituted by way of regional identifications, transnational movement(s), and umbrella European legal and political organizations; these new realities occasion new rhetorics of secularism, nationalism, and ethnic loyalties. We examine these forms of diversity, movement, and debate by way of new works in anthropology, sociology and political science.
Same as L48 Anthro 4366
Credit 3 units. A&S IQ: LCD, SSC Arch: SSC Art: SSC BU: IS EN: S

L48 Anthro 5401 Quantitative Methods in Anthropology
This course provides an introduction to quantitative methods in anthropology. Standard analytical procedures are introduced through the lens of linear modeling using the R programming language. No prior experience in R is required. The topics covered include measurement theory, data description, hypothesis testing and the multiple comparison problem, correlation and regression, analysis of variance, clustering, power, non-parametric methods, and multivariate methods such as principal component and linear discriminant analysis.
Credit 3 units.

L48 Anthro 542 Fundamentals of Archaeology
Archaeology plays a critical and unique role in understanding the human past. Through study of the methods and theories of archaeology, and a survey of important firsts in the human past, this course introduces students to the way archaeologists use material culture to reconstruct and understand human behavior. Chronologically ordered case studies from around the globe are used to look at social, ecological, and cultural issues facing humans from the earliest times to the present. Students gain practice reconstructing the past through hands-on participation in two 1-hour labs focusing on lithics and animal bones. By the end of the course, students are expected to be able to think critically about how the past is presented, and why, and the importance of the past as it relates to the present and future.
Same as L48 Anthro 190B
Credit 3 units. A&S IQ: LCD, SSC Arch: SSC Art: SSC BU: BA EN: S

L48 Anthro 5434 Behavioral Research at the St. Louis Zoo
Students conduct research at the St. Louis Zoo. Training in designing of projects and analysis and interpretation of data. May be repeated for credit. Prerequisite: permission of instructor.
Same as L48 Anthro 434
Credit 3 units. A&S IQ: NSM, WI Arch: NSM Art: NSM BU: BA

L48 Anthro 5472 Social Theory and Anthropology
A seminar on social theory and its ethnographic implications. Course combines major works of modern social theory, including Marx, Weber, and Durkheim, with current work by contemporary anthropologists, such as Clifford Geertz, Eric Wolf, Marshall Sahlins, and Fredrik Barth, and ethnographers from related disciplines, such as Pierre Bourdieu and Paul Willis. Prerequisite: Previous anthropology coursework or permission of instructor.
Same as L48 Anthro 472
Credit 3 units. A&S IQ: SSC, SC, SD Arch: SSC Art: SSC EN: S

L48 Anthro 549 Field Research
Field work under supervision.
Credit variable, maximum 12 units.

L48 Anthro 550 Dissertation Research
Credit variable, maximum 9 units.

L48 Anthro 5501 Decolonizing Anthropology
Through books like Linda Tuhiwai Smith's book Decolonizing Methodology, tribal IRB's, and open letters, Indigenous people and tribal governments make clear how they want scientists to conduct research with their communities. How does anthropology reckon with its past ties with colonialism? How do we responsibly use scholarship from the past while working toward decolonization and anti-racism? This class will compare work by Indigenous people and people of color calling for decolonization and anti-racism, studies done using decolonizing methodologies, and widely read works of anthropology throughout the discipline's history. For example, we will read an excerpt from an anthropology textbook assigned at WashU in 2000 about an "Eskimo" and compare it to Native Alaskan scholar Heather Gordon's participatory research with Native Alaskans. During the last part of the class, we will learn about the roots of global inequality to highlight the structural conditions.
Same as L48 Anthro 4501
Credit 3 units. A&S IQ: LCD, SSC EN: S

L48 Anthro 5517 Anthropology and Development
What is 'development'? Economic progress for all? A slow and gradual 'improvement' in the human condition? Helping people with 'projects'? Westernization? Modernization? The sorting out of bodies that are useful and can be put to work from those less useful bodies that must be contained, imprisoned, or killed? The militarized accumulation of capital? The commodification of labor? The exhaustion of nature? In this advanced seminar we will consider how anthropologists - as writers, analysts, and theorists - have engaged the theories, meanings, practices, and consequences of (sometimes externally directed) economic and political change. We focus on issues of the contemporary moment: oil; urban poverty and inequality (sex work, migration, water, debt, and cash transfer programs); and cultures of militarism. The course is designed to provide a graduate-level introduction to theory and ethnography based on intensive reading, discussion, critique, and writing, with revision. It is open to advanced undergraduates and fulfills writing-intensive (WI) requirements, as well as capstone requirements for some majors.
Same as L48 Anthro 4517
Credit 3 units. A&S IQ: LCD, SSC, SC, SD, WI Arch: SSC Art: SSC BU: ETH EN: S

L48 Anthro 5596 Biomarkers: Measuring Population Health, Reproductive, and Social Endocrinology
How do we study contemporary human biology and population level health? How do we investigate individual differences in health within a larger population? In this course, we will specifically address these questions by looking at how anthropologists, nutritionists, and public health workers investigate individual and population level health. This will be done through the study of biomarkers collected from individuals. In this class, we will discuss the theory behind the use of biomarkers, the underlying biology and physiology of the human body reflected in these data, and the methods used in collection and analyses of biomarkers. Finally, we will discuss how biomarkers can be integrated into studies of population and individual level health.
Same as L48 Anthro 4596
Credit 3 units. A&S IQ: NSM Art: NSM

L48 Anthro 560 Ethnobiology Journal Club
Students in this journal club will meet weekly with ethnobotanists, ethnozoologists, and ecologists from various St. Louis institutions (including Washington University, UM-St. Louis, St. Louis University, and the Missouri Botanical Garden) to discuss recent publications and ongoing research. Enrolled students will attend the journal club every week, and once per semester, will choose a paper and lead the discussion.
Credit 1 unit.

L48 Anthro 5621 Anthropology of Human Birth
This course will examine the interaction between human biology and culture in relation to childbirth. Emphasis will be placed on understanding the cultural challenges posed by the physiology of human reproduction, the ways various cultures have attempted to meet those challenges, and the resultant consequences that this has had for women's lives. The course will draw on material from human anatomy and embryology, paleoanthropology, clinical obstetrics, public health, social anthropology, the history of medicine, and contemporary bioethics.
Same as L48 Anthro 3621
Credit 3 units. A&S IQ: LCD, SSC Arch: SSC Art: SSC BU: ETH EN: S

L48 Anthro 5655 New Advances in Archaeology
Archaeological research is moving at an increasingly rapid pace, with advances in archaeological methods and theory propelling new interpretations and understandings of archaeological findings. This course we will focus on contemporary developments in archaeology, with an emphasis on current trends in theory, method, and discovery. The objectives of the course are to place emerging trends in archaeological research in a historical context, to understand new methods, and to explore how various theoretical approaches influence the conduct of archaeological research around the globe.
Same as L48 Anthro 4655
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L48 Anthro 5711 Further Readings in Social Theory
This course is a graduate seminar dedicated to theoretical issues central to socio-cultural anthropology and the social sciences more generally. There are three basic goals to Anth 5711. First, we will read and discuss a number of texts related to more current issues than what is covered in Anth 472. These include topics such as transnationalism, diaspora, and globalization. Second, we will address theoretical questions relatively absent from the Anth 472 course. These include: semiotics, narrative, anthropology of the senses, design, and debates around subjectivity/objectivity. Finally, we will read a set of texts on the complexity of "identity work" and the interconnectedness of social categories such as race, class, gender, sexuality, and ethnicity.
Credit 3 units.

L48 Anthro 5712 Seminar: Advanced Social Theory
This course covers advanced readings and topics in social theory and explores the contemporary application and development of social theory in cultural anthropology, the interpretive social sciences, and the humanities. Engaging key theories and thinkers, we examine their relevance for understanding the complexities of power, culture, and society in today's global world, as well as medicine, citizenship and inequality, the body and experience, among others. This course is designed for graduate students, with advanced undergraduate students admitted by permission of the instructor.
Credit 3 units.

L48 Anthro 573 Introduction to GIS for Anthropologists
Use of GIS is rapidly becoming standard practice in anthropological research. This course will introduce students to the basic theories and techniques of GIS. Topics will include the application of GIS in archaeologial survey and ethnographic research, as well as marketing, transportation, demographics, and urban and regional planning. This course will enable students to become familiar not only with GIS software such as ArcGIS, but also the methodologies and tools used to collect and analyze spatial data. Students will gain expertise engaging with data situated across a number spatial scales, from households, communities and cities to landscapes, nation-states, and global phenomena. Students will need to work on their own laptops, but no software purchases are necessary.
Same as L48 Anthro 373
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L48 Anthro 574 Social Landscapes in Global View
From the beginning of the human campaign, societies have socialized the spaces and places where they live. This socialization comes in many forms, including the generation of sacred natural places (e.g., Mt. Fuji) to the construction of planned urban settings where culture is writ large in overt and subtle contexts. Over the past two decades or so, anthropologists, archaeologists, and geographers have developed a wide body of research concerning these socially constructed and perceived settings -- commonly known as "landscapes". This course takes a tour through time and across the globe to trace the formation of diverse social landscapes, starting in prehistoric times and ending in modern times. We will cover various urban landscapes, rural landscapes, nomadic landscapes (and others) and the intersection of the natural environment, the built environments, and the symbolism that weaves them together. Chronologically, we will range from 3000 BCE to 2009 CE and we will cover all the continents. This course will also trace the intellectual history of the study of landscape as a social phenomenon, and will investigate the current methods used to recover and describe social landscapes around the world and through time. Join in situating your own social map alongside the most famous and the most obscure landscapes of the world and trace the global currents of your social landscape!
Same as L48 Anthro 374
Credit 3 units. A&S IQ: LCD, SSC Arch: SSC Art: SSC BU: BA, IS EN: S
UColl: CD

L48 Anthro 5741 Survey Research Methods
Survey research is ubiquitous in all areas of social science (including the sociology of law). The purpose of this seminar is to provide an introduction to designing, conducting, and analyzing surveys, as well as consuming the survey research of others. The major components of the seminar are: (1) Conceptualizing survey research problems; (2) Research design (including ethics); (3) Sampling; (4) Measurement and questionnaire design; (5) Experiments and vignettes in survey research; (6) Logistics and data collection; (7) Analyzing and reporting survey data. Though much of the substantive reading for the seminar will be based on research conducted in the United States, considerable emphasis will be devoted to problems of cross-cultural and cross-national survey research. The seminar is open to graduate students from all departments, including Psychology, Anthropology, Economics, Law, and Business.
Same as L32 Pol Sci 5741
Credit 3 units.

L48 Anthro 581 Theorizing the Body
This seminar explores a wide range of readings on "the body" as a site of theoretical analysis in social scientific and humanistic inquiry. Issues to consider include: How do we think about the body as simultaneously material (flesh and bone) and constructed in and through social and political discourse? How do we think about the relationship between these contigent bodies and subjective experiences of "self" in various contexts? The course focuses upon the different ways in which these questions have been posed and engaged, and the implications of these formulations for the theorizing of human experience. The seminar is intended to give students a firm grounding in historical and contemporary theorizing on the body, and to facilitate a critical, engagement with the emerging literature on embodiment.
Credit 3 units.

L48 Anthro 5942 American Indians and American Empire
This course critically explores the past and present struggles of Native Americans against white settler colonialism. We trace connections between U.S. domestic policy and imperialist ideologies, politics, and violent war from the United States to the Philippines to Latin America and the Middle East. By reading work by Native American and non-Native scholars, writers, and activists, we will consider how issues of race, class, gender and sexuality, violence, policing and militarism, nature, education, language, and sovereignty are intertwined with coloniality, forms of anti-colonial resistance, and the making of decolonized futures. Readings will be interdisciplinary, drawing on anthropology, history, politics, and literature. Students will develop research projects through case studies of their choosing.
Same as L48 Anthro 3942
Credit 3 units. A&S IQ: LCD, SSC Art: SSC BU: BA, IS EN: S

Anthropology, PhD, Archaeology Concentration

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 60**
- **Degree Length: 6 years**
  - Students are expected to complete the degree within six years (12 semesters).
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Anthropology assures funding for up to 12 semesters for full-time students in good academic standing.

Universal Departmental Requirements

The following is an abbreviated list of requirements that apply to all concentrations of the PhD in Anthropology. Each concentration also has its own additional guidelines and requirements. A more comprehensive description of the requirements (including additional requirements for each of the three concentrations: archaeology, biological anthropology, and sociocultural anthropology) can be found in the Graduate Student Handbook (PDF). All students in the PhD program are expected to satisfy the academic performance requirements of the Office of Graduate Studies, Arts & Sciences, which can be found in the General Requirements (p. 33) section of this *Bulletin*. Similarly, all concentration requirements are in addition to those set out here for the department as a whole.

Degree Length and Course Units

Students are expected to complete the degree in six years. All students must complete a minimum of 60 units of graduate-level course work for the PhD, but they must not exceed 72 units of credit. A typical semester course load for the first year of study is 12 units. The semester course load for the second and third years is typically 9 units. After 60 units have been completed, students will work with their advisors to identify the appropriate registration options to maintain full-time status.

Master's Degree

The department does not admit students for a stand alone master's degree; completion of the MA degree is a required step in the process of earning the PhD

Students are expected to receive their MA degree by the end of their second year or fourth semester of full-time study.

The universal requirements for the MA in Anthropology are as follows:

- **Theory requirement.** All students are required to take Anthro 5472 Social Theory and Anthropology during their first year. Under special circumstances, this requirement may be delayed or waived by petitioning the departmental faculty. This request should be initiated through the student's advisor.
- **Two subdisciplinary course requirements.** Graduate students earning a PhD in Anthropology are expected to have familiarity across the subdisciplines of anthropology. To this end, all MA students must complete at least one course taught by a faculty member in the anthropology department in each of the two concentrations other than their own. Anthro 5472 Social Theory and Anthropology may satisfy the sociocultural requirement. Courses taken in other concentrations should strengthen the student's understanding of the subfield, complement their research, and ideally, enhance their ability to teach across subfields. Students with good cause to substitute prior extensive course work in the subdiscipline — especially in the context of a master's degree from another university — for one or both of the other subdisciplinary requirements may petition the relevant subdisciplinary faculty to do so.
- **Courses with six faculty.** All graduate students are required to have had courses with at least six different departmental faculty members. Team-taught courses may count for both faculty members.
- **Credit units.** The Department of Anthropology requires 36 credit units for the award of an MA degree without a thesis.
- **Petition for the award of the master's degree.** Once a student has completed all requirements for the MA degree, the student and their advisor submit a petition to the chair. The chair circulates the petition to the entire faculty and reports the successful completion of requirements to the Office of Graduate Studies, Arts & Sciences.

Doctoral Candidacy

Although the Department of Anthropology only accepts students who wish to pursue the PhD, students are not officially admitted to candidacy for the PhD immediately upon entry into the program. Admittance to candidacy for the PhD program requires the successful completion of the requirements of the MA degree as well as of the requirements listed below. Continuation for the PhD requires that the student be advanced to doctoral candidacy. The successful defense of the doctoral proposal and admission to doctoral candidacy are expected by the end of the third year.

- **Credit units.** Students must have completed 48 units before filing the petition to advance to candidacy.
- **Forming the Doctoral Research Advisory Committee (RAC).** Students are encouraged to work with a variety of faculty while shaping their dissertation proposal. Prior to scheduling their dissertation proposal defense (Qualifying Exam) during their third year, students must formally assemble a Doctoral RAC in consultation with their advisor. This committee must consist of a minimum of three full-time tenured or tenure-track members of the Anthropology faculty who must approve the dissertation proposal defense (Qualifying Exam) and also sign the RAC Form and — along with the department chair — the Notice of Title, Scope, and Procedure of Dissertation. This committee typically forms the basis of the Dissertation Defense Committee.
- **Student-specific requirements for doctoral candidacy.** Prior to admission to candidacy, students may be asked by their committees to fulfill additional requirements that are directly relevant to their doctoral dissertation research. These requirements may include a foreign language or specialized training outside of the anthropology department in areas such as statistics, computer programming, or laboratory techniques. Students will be formally notified by their advisor of such additional requirements.
- **Qualifying Exam.** All students must defend a doctoral proposal prior to admission to PhD candidacy. PhD proposal defenses should be carried out by December 15 of the student's third year and must be carried out no later than the end of the third year. Proposals must be defended before the RAC.
- **Petition for admission to doctoral candidacy.** After a student's doctoral proposal has been successfully defended and after all other requirements set by the Office of Graduate Studies, Arts & Sciences; the Department of Anthropology; the subdiscipline; and the student's committee have been met, the student and their

advisor should submit a petition to the chair for advancement to candidacy. The chair will then inform the entire faculty and report the successful advancement to the Office of Graduate Studies, Arts & Sciences.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

The completion of the Qualifying Exam in the Anthropology is the successful defense of the dissertation proposal.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts &

Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Concentration Requirements

In addition to the degree requirements outlined in the Universal Departmental Requirements for the PhD degree, students specializing in Archaeology have other requirements and deadlines to satisfy and guidelines to follow, as described below. The Archaeology faculty reserves the right to allow exceptions to any of the below rules in special cases.

Master's Degree Requirements for Archaeology

First-Year Mentoring Meeting

All students are required to meet with the Archaeology faculty by the end of the first year. All students must prepare and submit a detailed mentoring plan that lays out anticipated courses and the field or lab training necessary for the successful completion of years two and three. This document must be submitted two weeks in advance of the scheduled first-year meeting with the archaeology faculty.

Required Thesis or Research Paper

At the AM level, students must prepare and successfully defend either an AM thesis or an AM-level research paper (second-year paper) by the end of the fourth semester of academic residence. A defensible draft should be submitted by the first Monday after Spring Break.

The AM thesis or AM research paper demonstrates the student's ability to identify a problem and select an appropriate research strategy as well as to present the results in a professional manner. A final file copy of the AM paper or thesis must be submitted by the deadlines and in the format specified by the Office of Graduate Studies, Arts & Sciences, and the department before the archaeology staff can recommend granting the AM degree.

Requirements for Advancement to PhD Candidacy in Archaeology

Items 1 through 5 below must be completed before the student's committee and the department can recommend to the Office of Graduate Studies, Arts & Sciences, that the student advance to PhD candidacy.

1. **Required Course:** The student must complete Anthro 5053 Theoretical Approaches in Archaeology.
2. **Diverse Training:** The student must complete courses with at least four different Department of Archaeology faculty members to cover a range of theoretical skills and laboratory specializations.
3. **Second-Year Mentoring Meeting:** The student is required to have a mentoring meeting no later than the end of the second year of study. This meeting will usually coincide with the second-year paper/AM defense. The purpose of this meeting is to review the student's progress and to update the mentoring plan submitted during the first year.
4. **Third-Year Mentoring Meeting:** The student is required to have a mentoring meeting no later than the end of the third year of study. This meeting will usually coincide with the dissertation proposal defense. The purpose of this meeting is to review the student's progress and to update the mentoring plan submitted during the first year and revised during the second year.
5. **Dissertation Proposal:** The student must successfully defend a dissertation proposal before a faculty committee consisting of the faculty advisor and at least two other permanent members of the anthropology faculty. It is expected that this will be accomplished by the fifth semester and no later than the sixth semester in residence. The dissertation proposal ordinarily will be in the form of an appropriate research/dissertation improvement grant proposal prepared for submission to the National Science Foundation, the National Endowment for the Humanities, the Wenner-Gren Foundation, or another external funding agency. The student should consult with their faculty advisors at the start of the third year about the format of the proposal.

Post-Candidacy Requirements

1. **Fieldwork Write-Up Outline:** Within 60 days after the final field season, a detailed outline of the dissertation must be provided to the student's Research Advisory Committee (Doctoral Committee).
2. **Post-Fieldwork Meetings:** The student must meet with their dissertation committee every year. *Scheduling annual meetings with the candidate's committee is the responsibility of the candidate*.

Please consult the Graduate Student Handbook (PDF) for more information regarding specific requirements for each concentration.

Master's Degree Along the Way/ In Lieu of a PhD

Normally, the Department of Anthropology does not offer a standalone master's degree. However, if a student fails to maintain satisfactory progress toward the completion of the PhD, they may withdraw from the PhD program with a master's degree in lieu of a PhD if all requirements for the AM have been met.

Anthropology, PhD, Biological Anthropology Concentration

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 60**
- **Degree Length: 6 years**
  - Students are expected to complete the degree within six years (12 semesters).
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Anthropology assures funding for up to 12 semesters for full-time students in good academic standing.

Universal Departmental Requirements

The following is an abbreviated list of requirements that apply to all concentrations of the PhD in Anthropology. Each concentration also has its own additional guidelines and requirements. A more comprehensive description of the requirements (including additional requirements for each of the three concentrations: archaeology, biological anthropology, and sociocultural anthropology) can be found in the Graduate Student Handbook (PDF). All students in the PhD program are expected to satisfy the academic performance requirements of the Office of Graduate Studies, Arts & Sciences, which can be found in the General Requirements (p. 33) section of this *Bulletin*. Similarly, all concentration requirements are in addition to those set out here for the department as a whole.

Degree Length and Course Units

Students are expected to complete the degree in six years. All students must complete a minimum of 60 units of graduate-level course work for the PhD, but they must not exceed 72 units of credit. A typical semester course load for the first year of study is 12 units. The semester course load for the second and third years is typically 9 units. After 60 units have been completed, students will work with their advisors to identify the appropriate registration options to maintain full-time status.

Master's Degree

The department does not admit students for a stand alone master's degree; completion of the MA degree is a required step in the process of earning the PhD

Students are expected to receive their MA degree by the end of their second year or fourth semester of full-time study.

The universal requirements for the MA in Anthropology are as follows:

- **Theory requirement.** All students are required to take Anthro 5472 Social Theory and Anthropology during their first year. Under special circumstances, this requirement may be delayed or waived by petitioning the departmental faculty. This request should be initiated through the student's advisor.
- **Two subdisciplinary course requirements.** Graduate students earning a PhD in Anthropology are expected to have familiarity across the subdisciplines of anthropology. To this end, all MA students must complete at least one course taught by a faculty member in the anthropology department in each of the two concentrations other than their own. Anthro 5472 Social Theory and Anthropology may satisfy the sociocultural requirement. Courses taken in other concentrations should strengthen the student's understanding of the subfield, complement their research, and ideally, enhance their ability to teach across subfields. Students with good cause to substitute prior extensive course work in the subdiscipline — especially in the context of a master's degree from another university — for one or both of the other subdisciplinary requirements may petition the relevant subdisciplinary faculty to do so.
- **Courses with six faculty.** All graduate students are required to have had courses with at least six different departmental faculty members. Team-taught courses may count for both faculty members.
- **Credit units.** The Department of Anthropology requires 36 credit units for the award of an MA degree without a thesis.
- **Petition for the award of the master's degree.** Once a student has completed all requirements for the MA degree, the student and their advisor submit a petition to the chair. The chair circulates the petition to the entire faculty and reports the successful completion of requirements to the Office of Graduate Studies, Arts & Sciences.

Doctoral Candidacy

Although the Department of Anthropology only accepts students who wish to pursue the PhD, students are not officially admitted to candidacy for the PhD immediately upon entry into the program. Admittance to candidacy for the PhD program requires the successful

completion of the requirements of the MA degree as well as of the requirements listed below. Continuation for the PhD requires that the student be advanced to doctoral candidacy. The successful defense of the doctoral proposal and admission to doctoral candidacy are expected by the end of the third year.

- **Credit units.** Students must have completed 48 units before filing the petition to advance to candidacy.
- **Forming the Doctoral Research Advisory Committee (RAC).** Students are encouraged to work with a variety of faculty while shaping their dissertation proposal. Prior to scheduling their dissertation proposal defense (Qualifying Exam) during their third year, students must formally assemble a Doctoral RAC in consultation with their advisor. This committee must consist of a minimum of three full-time tenured or tenure-track members of the Anthropology faculty who must approve the dissertation proposal defense (Qualifying Exam) and also sign the RAC Form and — along with the department chair — the Notice of Title, Scope, and Procedure of Dissertation. This committee typically forms the basis of the Dissertation Defense Committee.
- **Student-specific requirements for doctoral candidacy.** Prior to admission to candidacy, students may be asked by their committees to fulfill additional requirements that are directly relevant to their doctoral dissertation research. These requirements may include a foreign language or specialized training outside of the anthropology department in areas such as statistics, computer programming, or laboratory techniques. Students will be formally notified by their advisor of such additional requirements.
- **Qualifying Exam.** All students must defend a doctoral proposal prior to admission to PhD candidacy. PhD proposal defenses should be carried out by December 15 of the student's third year and must be carried out no later than the end of the third year. Proposals must be defended before the RAC.
- **Petition for admission to doctoral candidacy.** After a student's doctoral proposal has been successfully defended and after all other requirements set by the Office of Graduate Studies, Arts & Sciences; the Department of Anthropology; the subdiscipline; and the student's committee have been met, the student and their advisor should submit a petition to the chair for advancement to candidacy. The chair will then inform the entire faculty and report the successful advancement to the Office of Graduate Studies, Arts & Sciences.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

The completion of the Qualifying Exam in the Anthropology is the successful defense of the dissertation proposal.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Concentration Requirements

In addition to the degree requirements outlined in the Universal Departmental Requirements for the PhD degree, students specializing in Biological Anthropology have other requirements and deadlines to satisfy and guidelines to follow, as described below. The Biological Anthropology faculty reserves the right to allow exceptions to any of the below rules in special cases.

Master's Degree Requirements for Biological Anthropology

First-Year Mentoring Meeting

All students are required to meet with the full Biological Anthropology faculty at the end of the first year (second semester) to present and discuss previous and planned course work, progress on developing their research ideas, summer plans, any completed research projects or research presentations, and any other professional/academic activities.

Portfolio

Students will prepare a portfolio that includes a research prospectus, an evaluation of academic progress, a self-evaluation, an evaluation by their faculty advisor, samples of their written work from courses taken or other relevant academic writing, and a CV to be reviewed by the full Biological Anthropology faculty by end of the third semester (second year). For the student to remain in good standing, the portfolio must be approved by the Biological Anthropology faculty. The student will be notified of portfolio approval or revisions in writing at the time of their second-year annual review letter.

Committee

With the advice of the faculty advisor, the student is expected to have formed a doctoral research advisory committee consisting of three Anthropology faculty members (an external committee member may be substituted for an Anthropology faculty member if approved by the Biological Anthropology faculty) prior to the end of the second semester of the second year (fourth semester). The faculty welcomes co-advising and encourages students to utilize research opportunities and resources from different faculty based on projects and faculty expertise.

Reading Course and Paper

During the second year, the student will take an independent reading course (Anthro 525 Advanced Reading) with their faculty advisor or a designated alternative faculty mentor covering the background materials relevant to the planned doctoral dissertation. This year-long reading course will result in a written paper, which may serve as a first draft for the background section of the doctoral dissertation proposal. The paper needs to be approved by the student's doctoral committee by the end of the second semester of the second year (fourth semester) or the start of the fifth semester, with faculty approval provided in writing.

Methods

Students must demonstrate basic competence in one or more methods (statistical analysis, comparative methods, field data collection, laboratory techniques) used in Biological Anthropological research, as specified by their committee. Faculty will provide written approval of methodological course work in the second-year review letter.

Second-Year Mentoring Meeting

Students are required to meet with the Biological Anthropology faculty at the end of the second year (fourth semester) to present and discuss their progress in the program, including plans for the dissertation proposal, plans to apply for external funding, any completed research projects or research presentations, and any other professional/academic activities.

Requirements for Advancement to PhD Candidacy in Biological Anthropology

Items 1 through 4 below must be completed before the student's committee and the department can recommend to the Office of Graduate Studies, Arts & Sciences, that the student advance to PhD candidacy.

1. **Requirements:** The student must complete the requirements for the AM as described above, including 36 units of course work, the completion of the first- and second-year reviews, and the submission of the portfolio and the second-year paper.
2. **Third-Year Mentoring Meeting:** The student is required to have a mentoring meeting no later than the end of the third year of study. This meeting usually will coincide with the dissertation proposal defense. The purpose of this meeting is to review the student's progress and to update the mentoring plan submitted during the first year and revised during the second year.
3. **Dissertation Proposal:** The student must defend their dissertation proposal to their doctoral committee by the end of the fifth semester (third year). Advancement to PhD candidacy will be given upon formal acceptance of a written research proposal and an oral defense of that proposal before the doctoral research advisory committee. The research proposal will be written in the form of a National Science Foundation doctoral dissertation improvement grant (NSF DDIG). Students who fail to successfully defend their dissertation proposal by the end of the fifth semester will be placed on probation during the sixth semester (third year).
4. **External Funding:** After the successful defense of the dissertation proposal, the student should submit their NSF DDIG grant proposal — as well as any other grant proposals deemed appropriate by the dissertation research advisory committee — at the first available opportunity. These may include (but are not limited to) the Fulbright Program, the Leakey Foundation, and the Wenner-Gren Foundation. It is generally recommended (but not required) that students who do not receive funding during the first submission should utilize all opportunities to resubmit revised grants; opportunities will vary by granting agency.

Post-Candidacy Requirements

1. **Fieldwork Write-Up Outline:** Within 60 days after the final field season, a detailed outline of the dissertation must be provided to the student's Research Advisory Committee (Doctoral Committee).
2. **Post-Fieldwork Meetings:** The student must meet with their dissertation committee every year. *Scheduling annual meetings with the candidate's committee is the responsibility of the candidate*.

Deadlines and Time Frames for Submission of Hard-Copy Drafts for PhD Dissertations

A printed copy of the dissertation draft must be submitted a minimum of one month in advance of the defense during the academic term (either the fall or spring semester). A doctoral dissertation must demonstrate the student's ability to make a scholarly contribution in the discipline and to handle theoretical issues. It must conform to the directives of the department and to the regulations of the Office of Graduate Studies, Arts & Sciences. Dissertation defense guidelines require an external reviewer (i.e., from outside of the Department of Anthropology) on the dissertation committee. Faculty in Neuroscience and Anatomy are, as of 2023, considered external committee members.

The internal members of the dissertation committee (i.e., from within the Department of Anthropology) are required to review the dissertation draft and to certify to the Office of Graduate Studies, Arts & Sciences, that it is "ready to come to defense" before it is distributed to an external reviewer. Internal departmental committee members must have two weeks to read and review the dissertation draft to reach the decision of whether to certify the document as being "ready to come to defense." The external reviewer must also receive the dissertation draft at least one month before the dissertation defense.

After certification by internal members of the dissertation committee that the document is "ready to come to defense," the student will provide draft copies to the external reviewers and submit the requisite forms and materials to the Director of Graduate Studies and the Academic Coordinator, who will schedule the defense with the Office of Graduate Studies, Arts & Sciences. The minimum total elapsed time to secure a defense date is one month: two weeks as required for internal departmental review, plus 15 more days as required by the Office of Graduate Studies, Arts & Sciences.

Guidelines for Oral Defenses

At the beginning of an oral defense of a research proposal, an AM thesis or paper, or a PhD dissertation, the student should provide a short oral synopsis of the research, the length of which will vary with the document coming to defense. Such a synopsis should include the following:

- A short resume of the problem, including a description of how and why the student selected the problem
- A discussion of data collection methods
- A summary of the analytical techniques employed
- A short recap of the results of the research
- A case for the significance of the research

For a research proposal defense, all the above topics except results should be addressed. The oral defense of the doctoral dissertation will consist of the following:

1. A formal presentation to the department and the university community (at which the committee will be present)
2. A question session by the whole audience
3. A closed session for the candidate and committee
4. An executive session of the dissertation research advisory committee.

Please consult the Graduate Student Handbook (PDF) for more information regarding specific requirements for each concentration.

Master's Degree Along the Way/ In Lieu of a PhD

Normally, the Department of Anthropology does not offer a standalone master's degree. However, if a student fails to maintain satisfactory progress toward the completion of the PhD, they may withdraw from the PhD program with a master's degree in lieu of a PhD if all requirements for the AM have been met.

Anthropology, PhD, Sociocultural Anthropology Concentration

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 60**
- **Degree Length: 6 years**
  - Students are expected to complete the degree within six years (12 semesters).
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Anthropology assures funding for up to 12 semesters for full-time students in good academic standing.

Universal Departmental Requirements

The following is an abbreviated list of requirements that apply to all concentrations of the PhD in Anthropology. Each concentration also has its own additional guidelines and requirements. A more comprehensive description of the requirements (including additional requirements for each of the three concentrations: archaeology, biological anthropology, and sociocultural anthropology) can be found in the Graduate Student Handbook (PDF). All students in the PhD program are expected to satisfy the academic performance requirements of the Office of Graduate Studies, Arts & Sciences, which can be found in the General Requirements (p. 33) section of this *Bulletin*. Similarly, all concentration requirements are in addition to those set out here for the department as a whole.

Degree Length and Course Units

Students are expected to complete the degree in six years. All students must complete a minimum of 60 units of graduate-level course work for the PhD, but they must not exceed 72 units of credit. A typical semester course load for the first year of study is 12 units. The semester course load for the second and third years is typically 9 units. After 60 units have been completed, students will work with their advisors to identify the appropriate registration options to maintain full-time status.

Master's Degree

The department does not admit students for a stand alone master's degree; completion of the MA degree is a required step in the process of earning the PhD

Students are expected to receive their MA degree by the end of their second year or fourth semester of full-time study.

The universal requirements for the MA in Anthropology are as follows:

- **Theory requirement.** All students are required to take Anthro 5472 Social Theory and Anthropology during their first year. Under special circumstances, this requirement may be delayed or waived by petitioning the departmental faculty. This request should be initiated through the student's advisor.

- **Two subdisciplinary course requirements.** Graduate students earning a PhD in Anthropology are expected to have familiarity across the subdisciplines of anthropology. To this end, all MA students must complete at least one course taught by a faculty member in the anthropology department in each of the two concentrations other than their own. Anthro 5472 Social Theory and Anthropology may satisfy the sociocultural requirement. Courses taken in other concentrations should strengthen the student's understanding of the subfield, complement their research, and ideally, enhance their ability to teach across subfields. Students with good cause to substitute prior extensive course work in the subdiscipline — especially in the context of a master's degree from another university — for one or both of the other subdisciplinary requirements may petition the relevant subdisciplinary faculty to do so.
- **Courses with six faculty.** All graduate students are required to have had courses with at least six different departmental faculty members. Team-taught courses may count for both faculty members.
- **Credit units.** The Department of Anthropology requires 36 credit units for the award of an MA degree without a thesis.
- **Petition for the award of the master's degree.** Once a student has completed all requirements for the MA degree, the student and their advisor submit a petition to the chair. The chair circulates the petition to the entire faculty and reports the successful completion of requirements to the Office of Graduate Studies, Arts & Sciences.

Doctoral Candidacy

Although the Department of Anthropology only accepts students who wish to pursue the PhD, students are not officially admitted to candidacy for the PhD immediately upon entry into the program. Admittance to candidacy for the PhD program requires the successful completion of the requirements of the MA degree as well as of the requirements listed below. Continuation for the PhD requires that the student be advanced to doctoral candidacy. The successful defense of the doctoral proposal and admission to doctoral candidacy are expected by the end of the third year.

- **Credit units.** Students must have completed 48 units before filing the petition to advance to candidacy.
- **Forming the Doctoral Research Advisory Committee (RAC).** Students are encouraged to work with a variety of faculty while shaping their dissertation proposal. Prior to scheduling their dissertation proposal defense (Qualifying Exam) during their third year, students must formally assemble a Doctoral RAC in consultation with their advisor. This committee must consist of a minimum of three full-time tenured or tenure-track members of the Anthropology faculty who must approve the dissertation proposal defense (Qualifying Exam) and also sign the RAC Form and — along with the department chair — the Notice of Title, Scope, and Procedure of Dissertation. This committee typically forms the basis of the Dissertation Defense Committee.
- **Student-specific requirements for doctoral candidacy.** Prior to admission to candidacy, students may be asked by their committees to fulfill additional requirements that are directly relevant to their doctoral dissertation research. These requirements may include a foreign language or specialized training outside of the anthropology department in areas such as statistics, computer programming, or laboratory techniques. Students will be formally notified by their advisor of such additional requirements.
- **Qualifying Exam.** All students must defend a doctoral proposal prior to admission to PhD candidacy. PhD proposal defenses should be carried out by December 15 of the student's third year and must be carried out no later than the end of the third year. Proposals must be defended before the RAC.
- **Petition for admission to doctoral candidacy.** After a student's doctoral proposal has been successfully defended and after all other requirements set by the Office of Graduate Studies, Arts & Sciences; the Department of Anthropology; the subdiscipline; and the student's committee have been met, the student and their advisor should submit a petition to the chair for advancement to candidacy. The chair will then inform the entire faculty and report the successful advancement to the Office of Graduate Studies, Arts & Sciences.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

The completion of the Qualifying Exam in the Anthropology is the successful defense of the dissertation proposal.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Concentration Requirements

Master's Degree Requirements for Sociocultural Anthropology

First-Year Mentoring Meeting

All students are required to meet with the Sociocultural Anthropology faculty by the end of the first year. All students must prepare and submit a detailed mentoring plan that lays out anticipated courses and the field or lab training necessary for the successful completion of years two and three. This document must be submitted two weeks in advance of the scheduled first-year meeting with the Sociocultural Anthropology faculty.

Required Course Work

Students must complete at least two of the following three Anthropology courses:

- Anthro 5124 Argumentation Through Ethnography
- Anthro 5712 Seminar: Advanced Social Theory
- Anthro 501 Seminar: Research Methods in Cultural Anthropology

Second-Year Paper

During the third semester, the student will write a second-year paper. Section topics and readings are to be worked out with committee members before the end of the second semester, and the paper must be submitted before December 15. At the beginning of the fourth semester, the committee and the student meet to discuss the work and provide constructive critique. (In cases of unsatisfactory progress, the department will adhere to Office of Graduate Studies, Arts & Sciences, guidelines on academic standing and probation). A final draft of the paper is submitted by March 15.

Requirements for Advancement to PhD Candidacy in Sociocultural Anthropology

Items 1 through 4 below must be completed before the student's committee and the department can recommend to the Office of Graduate Studies, Arts & Sciences, that the student advance to PhD candidacy.

1. **Required Courses:** The student must complete the following required courses in Sociocultural Anthropology: Anthro 5124 Argumentation Through Ethnography ; Anthro 501 Seminar: Research Methods in Cultural Anthropology; and Anthro 5011 Methods: Proposal Writing.
2. **Second-Year Mentoring Meeting:** The student is required to have a mentoring meeting no later than the end of the second year of study. This meeting will usually coincide with the second-year paper/AM defense. The purpose of this meeting is to review the student's progress and to update the mentoring plan submitted during the first year.
3. **Third-Year Mentoring Meeting:** The student is required to have a mentoring meeting no later than the end of the third year of study. This meeting will usually coincide with the dissertation proposal defense. The purpose of this meeting is to review progress and to update the mentoring plan submitted during the first year and revised during the second year.
4. **Doctoral Proposal and Hearing:** The student is required to complete and receive approval of a doctoral proposal in the form of one of the major external grant proposals (e.g., the National Science Foundation, the Wenner-Gren Foundation, or the Social Science Research Council). Students should consult with their faculty advisors at the start of the third year about the format of the proposal. By the end of the fifth semester, the student should have held a proposal hearing before a faculty committee consisting of the faculty advisor and at least two other permanent members of the anthropology faculty.

Post-Candidacy Requirements

1. **Fieldwork Write-Up Outline:** Within 60 days after the final field season, a detailed outline of the dissertation must be provided to the student's Research Advisory Committee (Doctoral Committee).
2. **Post-Fieldwork Meetings:** The student must meet with their dissertation committee every year. *Scheduling annual meetings with the candidate's committee is the responsibility of the candidate*.

Please consult the Graduate Student Handbook (PDF) for more information regarding specific requirements for each concentration.

Master's Degree Along the Way/ In Lieu of a PhD

Normally, the Department of Anthropology does not offer a standalone master's degree. However, if a student fails to maintain satisfactory progress toward the completion of the PhD, they may withdraw from the PhD program with a master's degree in lieu of a PhD if all requirements for the AM have been met.

Art History and Archaeology

The Department of Art History and Archaeology offers the degrees of **Master of Arts** (AM) and **Doctor of Philosophy** (PhD). Particular areas of strength include ancient art, European art of the Renaissance and early modern periods, Asian art, and modern and contemporary art of Europe and the Americas. The size of our graduate program ensures that our students receive an exceptional level of advising and mentoring. Every student has a faculty advisor, and the research of PhD students is supervised by a Research Advisory Committee (RAC) made up of a core group of three members of the faculty. As part of their professional preparation, PhD students gain teaching experience within the department or in other programs either as a Mentored Teaching Experience (MTE) or as instructors of record.

Our faculty prepares students to acquire skills in empirical and theoretical methods in art history; museum, archival and site research; visual and textual analysis; and descriptive and analytic writing. Students also take advantage of curatorial or research internships at the university's Kemper Art Museum, the Saint Louis Art Museum, and other local institutions as well as art museums outside the region. The department supports students' professional development and research projects through funded field trips to major art centers and financial subvention of travel for research and presentation of conference papers. Such education and support prepares our students for a variety of professional opportunities at the highest level.

Students with a PhD from the department pursue a diverse array of career paths, including teaching appointments at colleges and universities; positions as curators, registrars, and educators in art museums; jobs in university administration; and jobs with auction houses, arts publications and art dealers. Students with the AM degree from the department have pursued doctoral studies at Washington University or in other PhD programs; they have also taken a variety of positions in museum curation and education, arts journalism, art libraries, art advising, and commercial art galleries.

Phone:	314-935-5270
Website:	https://arthistory.wustl.edu/

Faculty

Chair

William E. Wallace
Barbara Murphy Bryant Distinguished Professor of Art History
PhD, Columbia University

Director of Graduate Studies

Nathaniel Jones
Associate Professor
PhD, Yale University

Director of Undergraduate Studies

Kristina Kleutghen
David W. Mesker Associate Professor
PhD, Harvard University

Department Faculty

Nicola Aravecchia
Assistant Professor
PhD, University of Minnesota

Elizabeth C. Childs
Etta and Mark Steinberg Professor of Art History
PhD, Columbia University

David Freidel
Professor Emeritus of Archaeology, Department of Anthropology
PhD, Harvard University

Esther Gabel
Lecturer
PhD, University of Cambridge

John Klein
Professor
PhD, Columbia University

Angela Miller
Professor
PhD, Yale University

Susan Rotroff
Jarvis Thurston & Mona Van Duyn Professor Emerita
PhD, Princeton University

Ila Sheren
Associate Professor
PhD, Massachusetts Institute of Technology

Claudia Swan
Mark Steinberg Weil Professor in Art History & Archaeology
PhD, Columbia University

Sarantis Symeonoglou
Professor Emeritus
PhD, Columbia University

Affiliated Faculty

Rebecca Messbarger
Professor of Italian; History; and Women, Gender and Sexuality Studies
PhD, University of Chicago

Eric Mumford
Rebecca and John Voyles Professor of Architecture
PhD, Princeton University

Affiliated Directors and Curators, Mildred Lane Kemper Art Museum, Washington University

Sabine Eckmann
Director and Chief Curator
PhD, University of Erlangen–Nürnberg

Meredith Malone
Curator
PhD, University of Pennsylvania

Dana Ostrander
Assistant Curator
PhD, University of Illinois Urbana-Champaign

Affiliated Curators, Saint Louis Art Museum

Nichole Bridges
PhD, University of Wisconsin–Madison

David Conradsen
MA, University of Delaware

Philip Hu
MA, Institute of Fine Arts, New York University

Simon Kelly
PhD, University of Oxford

Clare Kobasa
PhD, Columbia University

Eric Lutz
PhD, University of California, Santa Barbara

Judith Mann
PhD, Washington University in St. Louis

Alexander Brier Marr
PhD, University of Rochester

Amy Torbert
PhD, University of Delaware

Melissa Venator
PhD, Rice University

Melissa Wolfe
PhD, Ohio State University

Affiliated Directors and Curators, Pulitzer Arts Foundation

Cara Starke
Director
MA, Williams College

Tamara Schenkenberg
Curator
PhD, University of Wisconsin–Madison

Stephanie Weissberg
Curator
MA, New York University

Degree Requirements

- Art History and Archaeology, AM (p. 78)
- Art History and Archaeology, PhD (p. 79)

Courses

Visit online course listings to view semester offerings for L01 Art-Arch.

L01 Art-Arch 5000 Topics in Art History: Rethinking Matisse
Prereqs: L01 113, L01 215; one 300-level course in Art History preferred; or permission of instructor.
Same as L01 Art-Arch 4000
Credit 3 units. A&S IQ: HUM Art: AH EN: H

L01 Art-Arch 5001 Writing Intensive Topics: The Age of Augustus: Ancient Rome from Republic to Empire
TBD
Same as L01 Art-Arch 3001
Credit 3 units. A&S IQ: HUM, LCD, WI Arch: HUM Art: AH, GFAH, HUM BU: HUM, IS EN: H

L01 Art-Arch 505 Graduate Internship in the St. Louis Art Community
Graduate students will work on advanced research projects under the joint supervision of a curator at the Saint Louis Art Museum or the Mildred Lane Kemper Art Museum and a Washington University faculty member. Prior agreement on a research project and internship duties required. Permission of instructor required.
Credit variable, maximum 3 units.

L01 Art-Arch 510 Graduate Seminar: Methods in Art History
The purpose of this seminar is to introduce graduate students to some of the most important methodological approaches to the study of works of art. Students will acquire an enhanced understanding of these methods in historical terms as well as insight into how such methods can be applied in the research questions posed by art historians today. The course may include guest presentations by a range of faculty in the department. Prerequisite: Graduate standing in Art History and Archaeology.
Credit 3 units.

L01 Art-Arch 513 The Digital Art Historian
Within the humanities, the perceptions exists that art history lags behind other disciplines when it comes to technology adoption. And while the "digital humanities" are now widely embraced, the definition of the field remains mutable and even contested. Is it practical, theoretical, or a combination of approaches and methodologies? This course operates under the premise that what constitutes digital art history is less about rigid interpretations and practices, and more about creating a technologically astute and nimble professional capable of "learning to learn" technologies as they emerge; determining when and how a technology may be useful in research, instruction, and other professional work; and understanding how to effectively apply technology in a broad range of contexts. "The Digital Art Historian" will emphasize experiential learning though the use of digital tools and analysis of a range of digital projects, grounded in a rubric of critical reflection. By the end of the course, students will have a significantly more thorough understanding of how to be an art historian in an increasingly digital world. Meets for 8 sessions, typically held every other week. Prereq: Graduate standing in Art History and Archaeology Dept.
Credit 1 unit.

L01 Art-Arch 5212 Art and Archaeology of Cleopatra's Egypt
This course is an introduction to the art and archaeology of Egypt from its conquest by Alexander the Great (332 BCE) to the early fourth century CE. It will examine the rich and multi-faceted history and artistic legacy of Egypt under the Ptolemies and their last queen Cleopatra, followed by the Roman conquest under Emperor Augustus up to the flourishing of Egyptian Christianity. Students will become familiar with a wide range of ancient sources, including documentary and literary texts, coins, architecture, paintings and sculpture. Prerequisites: Intro to Western Art (L01 113) or Intro to Modern Art (L01 215), or permission of instructor.
Same as L01 Art-Arch 3212
Credit 3 units. A&S IQ: HUM Arch: HUM Art: AH, GFAH, HUM BU: IS EN: H

L01 Art-Arch 5230 The Reception of Egypt in the Graeco-Roman World
Ancient Greeks and Romans found Egypt to be an exceptionally enthralling world, in terms not only of its physical features but also of its people, monuments, and traditions. This course will explore how different views of Egypt emerged in the Graeco-Roman world; it will also investigate the possible reasons for the remarkable popularity and allure of Egypt and things Egyptian as reflected in the writings of Greek and Roman authors as well as in the art and architecture of the Mediterranean world in Classical antiquity. In this seminar, we will read primary literary sources (in translation) that focus on the reception of ancient Egypt and, more specifically, its history, religion, and customs. Several of these sources also offer a privileged viewpoint to investigate how the perception of notable Egyptian figures -- chiefly Cleopatra -- was shaped by Rome to suit a specific agenda. In addition to the written sources, we will look at the artistic and archaeological evidence that best showcases the impact of Egypt's legacy on Graeco-Roman traditions. The readings assigned for each class will also provide a broad sample of secondary sources, consisting of some of the most significant scholarship on the image of Egypt in Classical antiquity.
Same as L08 Classics 4230
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: IS EN: H

L01 Art-Arch 5235 Rome in Egypt: The Archaeology of an Oasis City
This seminar will focus on the results of the archaeological fieldwork carried out at Trimithis / Amheida, a Graeco-Roman city in Egypt's Western Desert. It will investigate the available documentary and archaeological evidence, including a wealthy house with paintings inspired by Classical themes, a public bath built in the Roman tradition,

a rhetorical schoolroom, pyramid-shaped Roman tombs, remains of a temple, and one of the earliest churches discovered in Egypt so far. We will explore how this evidence compares with that from neighboring sites in Egypt's Western Desert as well as in the Nile Valley. The goal is to develop an appreciation and understanding of Romano-Egyptian architecture, Classical and late antique art in Egypt, and Egypt's religious, social, and cultural history. Students will also have the opportunity to familiarize themselves with notions of archaeological methods and practice, as adopted in the context of an Egyptian excavation project. Prerequisites: One course at the 100- or 200-level in Art History, Classics, or Archaeology recommended
Same as L01 Art-Arch 4235
Credit 3 units. A&S IQ: HUM Arch: HUM Art: AH, HUM BU: IS EN: H

L01 Art-Arch 526 Archaeology of Roman Slavery
Slavery was a fundamental part of the ancient Roman world. In this course, we will survey various ways in which the institution of slavery played a critical role in shaping Roman society. Through an exploration of social, economic, legal, and cultural aspects of Roman slavery, we will pose questions of what it means to be a slave society, how the ubiquity of forced labor impacted the lives of ancient Romans, and the extent to which we can recover the experiences and subjectivities of enslaved people. Throughout the course, we will confront the interpretive problems posed by biased and/or scarce evidence and by assumptions we may carry as the inheritors of modern slaveries. A recurring theme we will explore is the extent to which evidence of slavery and the material traces of enslaved people's lives are visible in the archaeological record. At the end of the term, we will contextualize Roman slavery by comparing it with modern examples and by considering the legacy of ancient slavery in modern visual culture and representations of enslaved people. Prerequisites: Any 100- or 200-level course in art history or archaeology; or permission of instructor.
Same as L01 Art-Arch 326
Credit 3 units. A&S IQ: HUM Arch: HUM Art: AH, HUM BU: IS EN: H

L01 Art-Arch 5330 Greek and Roman Painting
This course provides a survey of the major achievements of ancient Greek and Roman painting, broadly understood and encompassing wall painting, panel painting, painted pottery, and mosaic. We will study monuments ranging over a millennium in time and located throughout the ancient Mediterranean. Particular attention will be paid to the social, political, and religious aspects of ancient Greco-Roman painting and to questions of innovation in artistic practice. Special emphasis will be placed on students' cultivation of the tools of art-historical analysis and of the presentation of that analysis in written form. Prerequisite: Intro to Western Art (L01 113) or Intro to Modern Art (L01 215) or permission of instructor.
Same as L01 Art-Arch 3330
Credit 3 units. A&S IQ: HUM Art: AH, CPSC, GFAH, HUM BU: HUM, IS EN: H

L01 Art-Arch 5361 Art of Early Italian Renaissance
This course is a survey of Italian Renaissance art, from its origins to the end of the 15th century. It includes an examination of artists such as Giotto, Masaccio, Donatello, Botticelli, and Leonardo da Vinci. Prerequisite: L01 113.
Same as L01 Art-Arch 361
Credit 3 units. A&S IQ: HUM Art: AH, GFAH, HUM BU: HUM EN: H

L01 Art-Arch 5412 Japanese Art
Surveying the arts of Japan from prehistory to present, this course focuses especially on early modern, modern, and contemporary art. Emphasizing painting, sculpture, architecture, and print culture, the course will also explore the tea ceremony, fashion, calligraphy, garden design, and ceramics. Major course themes include collectors and collecting, relationships between artists and patrons, the role of political and military culture or art, contact with China, artistic responses to the West, and the effects of gender and social status on art.
Same as L01 Art-Arch 3412
Credit 3 units. A&S IQ: HUM, LCD Art: AH, GFAH BU: HUM, IS EN: H

L01 Art-Arch 5415 Early Chinese Art: From Human Sacrifice to the Silk Road
How does ancient and medieval Chinese art inspire contemporary artists? This course examines Chinese art, architecture, and material culture from the prehistoric period through the end of the medieval Tang dynasty to demonstrate how the past continues to affect contemporary Chinese art and the art of its future. Topics covered include Neolithic ceramics and jades, the early bronzecasting tradition, the Terracotta Army and its predecessors, early brush arts and Buddhist sites, and the varied exotica of the Silk Road. Each class teaches early and contemporary works side by side to demonstrate how artists today continue to look to the past as they create the art of the future. Prerequisite: One course in Art History at the 100 or 200 level or permission of instructor.
Same as L01 Art-Arch 3415
Credit 3 units. A&S IQ: HUM, LCD Art: AH, GFAH, HUM BU: HUM, IS EN: H

L01 Art-Arch 5422 Art of the Islamic World
This course surveys the art and architecture of societies in which Muslims were dominant or in which they formed significant minorities from the seventh through the 20th centuries. It examines the form and function of architecture and works of art as well as the social, historical, and cultural contexts; patterns of use; and evolving meanings attributed to art by the users. The course follows a chronological order, and selected visual materials are treated along chosen themes. Themes include the creation of a distinctive visual culture in the emerging Islamic polity; the development of urban institutions; key architectural types such as the mosque, madrasa, caravanserai, palace, and mausoleum; art objects and the art of the illustrated book; cultural interconnections along trade and pilgrimage routes; and Westernization and modernization in art and architecture.
Same as L01 Art-Arch 3422
Credit 3 units. A&S IQ: HUM, LCD Art: AH, GFAH, HUM BU: IS EN: H UColl: CD

L01 Art-Arch 5426 Modern & Contemporary Chinese Art
This course will explore the ways in which Chinese artists of the 19th, 20th, and 21st centuries have defined modernity and tradition against the complex background of China's history. By examining art works in different media along with other documentary materials, we will also engage with theoretical issues in art history, such as modernity, cultural politics, and government control of art.
Same as L01 Art-Arch 3426
Credit 3 units. A&S IQ: HUM, LCD Art: AH, GFAH, HUM BU: HUM, IS EN: H

L01 Art-Arch 5444 The Forbidden City
Home to 24 emperors of the Ming and Qing dynasties (1368-1911), the Forbidden City today occupies the heart of Beijing and comprises the largest ensembles of premodern architecture in China. This seminar examines the origins of the palace; its construction in the early Ming; the coded symbolisms of its plan and decoration; the rituals of court; and the lives of its denizens, from emperors (including Pu Yi, the "last emperor") to concubines and from Jesuit missionaries to eunuchs. The course also considers the 20th-century identity of the site as a public museum and a backdrop to major political events, as well as its role in the urban design and contemporary art of 21st-century Beijing. Prerequisites: L01 113 or L01 215, or permission of instructor. One 300-level course in Art History preferred.
Same as L01 Art-Arch 444

Credit 3 units. A&S IQ: HUM, LCD Art: AH, GFAH, HUM BU: HUM, IS EN: H

L01 Art-Arch 5482 Topics in Japanese Prints: The Floating World of Japanese Prints

The relationship between Japanese printmaking and popular culture from 1600 to 1900. Woodblock and copperplate printmaking techniques, key masters, kabuki drama, pleasure quarters, fiction, travel, modernization will be explored. Prerequisite: L01 111, Intro to Asian Art, or background in printmaking or Japanese culture.
Same as L01 Art-Arch 3482
Credit 3 units. A&S IQ: HUM, LCD Art: AH, GFAH BU: HUM EN: H

L01 Art-Arch 5533 Pilgrimage and the Medieval City

In this course we will explore one of the primary ways people traversed Europe and beyond: pilgrimage: Specifically, this course will explore the material culture of pilgrimage in the context of the urban environment, considering the role of art in guiding, encouraging, and visualizing pilgrimage to and through some of the important religious centers in the medieval Christian world. We will begin in Jerusalem and move outwards to Constantinople as a gateway to holy sites across the Byzantine Empire. We will then move to Paris and London to explore the different ways that pilgrimage could be undertaken, both physically and in the mind's eye. Finally, we will move to the conceptual, considering how the Heavenly Jerusalem was manifested in art and architecture across the medieval world. This course will investigate this subject through engagement with primary sources, object-focused study, and visits to the Saint Louis Art Museum. The overarching goal is to foster strong critical reading and thinking skills, while also developing specialized knowledge in the history of medieval art. Emphasis will lie in critical interpretation and analysis, in engaging in rigorous class discussion, and in writing coherently at a high academic level. Prerequisite: any 100- or 200-level course in art history
Same as L01 Art-Arch 3533
Credit 3 units. A&S IQ: HUM Arch: HUM Art: AH, HUM BU: IS EN: H

L01 Art-Arch 5549 The Art of Mexico: From Aztec to Contemporary

This survey course draws from selected examples of art and architecture to tell the changing story of Mexico. Beginning with the Aztec and ending with contemporary works, this course chronologically traces artistic manifestations of beliefs, politics, and placemaking. Through movements, revolutionary moments, individuals, and trends, the course creates a portrait of Mexico that is multicultural, dynamic, and creative. Course themes include international relationships, diversity, identity, and politics. Prerequisites: L01 113, Intro to Western Art; L01 215, Intro to Modern Art; L45 165; or permission of instructor.
Same as L01 Art-Arch 3549
Credit 3 units. A&S IQ: HUM, LCD Art: AH, GFAH BU: IS EN: H

L01 Art-Arch 5602 Italian Renaissance and Baroque Architecture

This course will survey the development of architecture in Italy from 1400 to 1700. From long-established medieval models, we will explore the reintroduction and reinterpretation of Antiquity from the late 14th century onward. The course will then explore how these foundational Renaissance ideals evolved to become Mannerism and found their ultimate expression in Bernini's Baroque. Following a chronological progression, the course will address the structures and theories of the period through its leading architects: Brunelleschi, Alberti, Michelangelo, Palladio, and Bernini, among others. The course will explore a wide range of architectural types, from the centralized church to private palaces and villas. Further themes to be considered will include the development of the architect as a professional, regional styles and their relationship with antiquity, patterns of patronage, and the interior. Prerequisite: L01 113.
Same as L01 Art-Arch 3602
Credit 3 units. A&S IQ: HUM Arch: HUM Art: AH, GFAH, HUM BU: HUM EN: H

L01 Art-Arch 5616 Lasting Impressions: Early Modern Print Culture

The advent of movable type (the Gutenberg press) in western Europe heralded a new era, and this enabled the dissemination of information in text and image that was fundamental to the Renaissance and early modern culture in all sorts of ways, not least artistic. Alongside the use of the printing press for public ends, the early modern era witnessed some of the most remarkable artistic achievements in relief (woodblock) and intaglio (copper plate) printmaking. This seminar will study a series of charged moments in the production and consumption of printed artefacts, attending to the aesthetic, material, and epistemological significance of printed images between roughly 1480 and 1650. We will focus on the printed works of artists Lucas van Leyden, Albrecht Dürer, Marcantonio Raimondi, Hercules Segers, and Rembrandt as well as the role of printed images in the sciences. A variety of media and techniques-from early stipple engravings to chiaroscuro woodcuts and from Naturselbstdruck to sugar-lift-populate the course, as do theories of impression and the role of prints in transcultural, early modern global encounters. Students in this seminar will be directly involved in research towards an exhibition at the St. Louis Art Museum co-curated by Dr. Swan and Dr. Elizabeth Wyckoff, Curator at SLAM, slated for spring 2024. Class meetings will take place in the Study Room at the museum, where students will have ongoing access to works in the collection and discussions with museum professionals. Prerequisites: One 300-level art history course *and* permission of the instructor
Same as L01 Art-Arch 4616
Credit 3 units. A&S IQ: HUM Art: AH, HUM EN: H

L01 Art-Arch 5620 Venice

A seminar focusing on the art of Venice, in particular on Bellini, Giorgione, and Titian. Special attention to the international reputations of these three artists and to problems of patronage, connoisseurship, and interpretation. PREREQUISITE: ART-ARCH 361 or 362, OR PERMISSION OF THE INSTRUCTOR.
Same as L01 Art-Arch 4625
Credit 3 units. A&S IQ: HUM Art: AH, HUM EN: H

L01 Art-Arch 5624 Michelangelo

An examination of the life and works of Michelangelo. The most important developments in his architecture, painting, and sculpture; with special attention to his assistants, friends, family, and contemporaries. PREREQUISITE: PERMISSION OF INSTRUCTOR.
Same as L01 Art-Arch 4624
Credit 3 units. A&S IQ: HUM Art: AH, GFAH, HUM EN: H

L01 Art-Arch 5627 By Sea and Sand: Modern Art in the Mediterranean

This course surveys the representation of Mediterranean spaces and cultures in the visual arts from the late eighteenth to the mid-twentieth century during which time transformations across economies, governance, society, and technology took place alongside the expansion and subsequent deterioration of French and British colonial rule in the Middle East and North Africa. In this course, the modern Mediterranean will be viewed from multiple vantage points along its shores and through a range of media, including popular culture, visual culture, material culture, and fine art. In addition to obtaining a strong grasp of the artistic phenomena associated with the Mediterranean during the modern era, students will come to understand the region as a place possessing a remarkably diverse and polymorphous identity, and as a place of fracture, confrontation, mutual incomprehension, innovation, and exchange.

Same as L01 Art-Arch 3627
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: AH, HUM EN: H

L01 Art-Arch 5634 Pleasure and Pain: European Fashion as (Art) History

In the words of Louis XIV, "Fashion is the mirror of history. It reflects political, social and economic changes, rather than mere whimsy." This course will survey the history of dress in early modern Europe, using art and material culture to explore the relationship between society and style. Beginning with the Renaissance, we will explore what fashion in (art) history can tell us about gender, sexuality, class, race, and revolution. To incorporate a global perspective (although concentrating primarily on the West), further themes to be considered include the textile trade, commerce and empire, identity politics, and nation-building. From the chopine to the corset, the pannier to the Pompadour pump, we will incorporate surviving examples as we explore the art and history of European fashion from the 15th to the early 19th century. This course is open to students who have previously taken or are currently enrolled in Intro to Western Art. Prerequisite: One course in Art History at the 100 or 200 level.
Same as L01 Art-Arch 3634
Credit 3 units. A&S IQ: HUM Arch: HUM Art: AH, GFAH, HUM BU: BA, HUM, IS EN: H

L01 Art-Arch 5652 Worldly Goods: Early Modern Art, Trade, Knowledge, Possession

The history of the early modern era has in recent decades been reconceived and rewritten as a history of things and goods. Global trade vectors in particular have shaped new histories of the Renaissance and Baroque eras. Material goods -- many of them newly available on a global scale -- shaped aesthetics, scientific investigation, political relations, identity formation, and devotional practices. This seminar studies the circulation of worldly goods between approximately 1500 and 1700, charting encounters around the globe by studying objects and persons in circulation. In orientation, the seminar is European, with a focus on the Dutch Republic in the world. Through secondary source readings and encounters with primary source materials, students will gain an understanding of how early modern objects relate to a newly "global" economy and horizon. Works of art, luxury trade goods, and pirated treasures are the principal sorts of "worldly goods" under consideration. We will consider the movement of individuals and the slave trade in the context of early modern colonialism as well as how the biographies of objects involve shifts in status and value over geographical space and time. Prerequisites: L01 113 and one 300-level course in Art History or permission of instructor.
Same as L01 Art-Arch 4652
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: AH, GFAH, HUM BU: HUM, IS EN: H

L01 Art-Arch 5654 Baroque Art: Materiality and Experience

The materiality of art is evident-and central to how art looks, how it means, and how it endures. This course is intended as an introduction to the materiality of objects and works of art made during the Baroque era (c. 1550-1700) and to concepts for understanding and interpreting them. Works in a variety of materials-ivory, wax, woods, feathers, shells and mother-of-pearl, oil paint, lacquer, metal, fresco, stone, porcelain and earthenware-populate a series of case studies drawn from European, Mesoamerican, and East Asian workshops. In addition to learning about what goes into making these works, students will trace the geographies of materials, and the ways in which materials, format, and durability all affect the viewer's experience. Students will read, analyze, and discuss current research on the makings of art, on theories of the materiality of art, and problems in art conservation-and will participate in close examination of works in local museums and special collections. This course will introduce students to some of the central topics in early modern art history as it is practiced by scholars/historians *and* by archaeologists, museum curators, archivists, and conservators. Students will be introduced to a wide data set of objects and art works, and will learn how to analyze, articulate, discuss, and research aspects of their materiality. Rather than focusing on memorization, this course encourages using concepts from a set of assigned readings to reflect on the objects we discuss together. Students will work in small groups and as a class to advance their own vocabulary for and understanding of early modern materiality and experience. Prerequisites: L01 113, L01 215, or permission of instructor
Same as L01 Art-Arch 3654
Credit 3 units. A&S IQ: HUM Arch: HUM Art: AH, HUM EN: H

L01 Art-Arch 5682 Mirrors of Nature, Dreams of Art: Northern Renaissance Art

This course surveys the visual culture of the Netherlands and Germany from approximately 1400 to 1550: from Burgundian court culture around the time of Jan van Eyck to the fantastic works of Hieronymous Bosch to the international renown of imperial artist Albrecht Durer and later Flemish urban culture as represented by Pieter Brueghel the Elder. Works in a variety of media will be presented in light of broader consideration of the role of art within devotional practice and the Reformation, courtly culture and the cultivation of artistic imagination, and the rise of print and "popular" culture. We will consider the power of images to mediate religous experience; the representation of folly and death; the social position of the artist; and the relevance of naturalism. We will also survey the predominant interpretive models that have been developed to analyze the significance of these works. Prerequisite: One course in Art History at the 100 or 200 level.
Same as L01 Art-Arch 3682
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: GFAH, HUM BU: HUM, IS EN: H

L01 Art-Arch 5683 Global Baroque: Art and World-Making

Europe and along Eurasian contact routes between 1500 and 1700 is a primary focus. The course will open with an examination of the significance of the early modern category of "the exotic" and the role of the exotic or foreign in shaping artistic and collecting practices during a period that tends to be studied with Europe at the center of the world. Throughout the semester, we will explore different modalities of "otherness," and the political stakes of representations of self and other within the context of early modern empire- and nation-building. We will analyze paintings, prints, drawings, sculptural objects, naturalia, featherwork, ceramics, porcelain, and textiles alongside primary sources, early modern history and art history, cultural and material history, the history of science, and maritime and diplomatic history. The course attends to the atrocities of slavery in the early modern world and trace the relationship of enslavement to procuring and appreciation of exotic materials. Lectures will incorporate contemporary art (installations, photography, collage, and painting) that actively engages the modern era. The course involves close study of works of art in local collections, and will include visits to the Saint Louis Art Museum, where students will be introduced to the extraordinary holdings, in particular the Phoebe Dent Weil and Mark S. Weil collection of early modern prints, drawings, and sculpture. Prerequisites: One 100- or 200-level course in Art History; or permission of the instructor
Same as L01 Art-Arch 3683
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: AH, HUM BU: HUM, IS EN: H

L01 Art-Arch 5684 Picturing Race in the Early Modern World

Many social and cultural roots of modern Western European and American conceptions of race and ethnicity lie in the early modern era, when enslavement came integrally to be linked with Blackness and ideas-and representations-of power relied on a hierarchical politics of racialization and othering. Throughout the early modern era, in

Renaissance and Baroque visual art, iterations of racialized identity took hold, in ways and by means this seminar will explore in depth. Through close analysis of paintings, sculptures, architectural and urban design, and the graphic arts, and with frequent reference to chronicles, literature, and legal language of the time, we will trace visual representations of racialized difference throughout the early modern (European) world and to the present. How did early modern European images participate in and help to form a visual culture of race? This seminar will explore fifteenth-, sixteenth- and seventeenth-century European representations of racialized others by artists Albrecht Dürer, Hans Burgkmair, Hieronymus Bosch, Peter Paul Rubens, Rembrandt van Rijn, and others. We will also consider ethnographic imagery, maps, and other forms of representation-as well as responses by contemporary (20th- and 21st-century) artists to the conventions of "race-crafting" laid down in the early modern era. Geographically, the materials we study issue from western Europe and focus on encounters with Western Africa, but the seminar considers European engagement in the American colonies, Melanesia/Indonesia, the Atlantic and Brazil- and with the Islamic world. Prerequisites: One 100-level Art History course or permission of the instructor
Same as L01 Art-Arch 3684
Credit 3 units. A&S IQ: HUM Arch: HUM Art: AH, HUM EN: H

L01 Art-Arch 5720 Hydrogen Jukebox: American Art and Culture, 1945-1960

The rise and 'triumph' of Abstract Expressionism has long dominated the story of American art following World War II. This new seminar will put Abstract Expressionism into context with parallel developments in the arts, photography, and film. Among the topics we will consider: the conversation between émigré artists and American culture during and after the war; the emergence of a 'noir' aesthetic in film and literature; the early work of Jasper Johns and Robert Rauschenberg and the so-called 'aesthetic of indifference' in relation to Ab. Ex.; artistic collaborations at Black Mountain College; New York school photography and photojournalism; and the cultural impact of the A bomb. PREREQUISITES: A 300-LEVEL COURSE ON 20TH CENTURY ART, PHOTOGRAPHY, OR HISTORY, OR PERMISSION OF THE INSTRUCTOR.
Same as L01 Art-Arch 4721
Credit 3 units. A&S IQ: HUM Art: AH, GFAH, HUM BU: HUM EN: H

L01 Art-Arch 5746 California Dreamin': Los Angeles Culture and the Making of the 20th Century

"California Dreamin' delves into the many cultures of Los Angeles, a dynamic global city with its cultural origins in the early 20th century. Over its decades of development and transformation we will explore continuities and new directions. The region has always been an encounter zone: between indigenous cultures, colonizers from Mexico, Pacific rim, and Anglo settlers. How has this cultural richness taken different shapes over the course of the 20th century? LA offers an especially cogent site for understanding how a city with a very specific if layered urban identity has been constituted by and through representation. Over the semester we traverse a range of cultural texts--the arts and architecture, film, literature, and urbanism--where the image of the city has been shaped. The course asks how Los Angeles culture at various points struggled to find new articulations and avenues into the future, against the weight of its own defining histories. A week-long trip to Los Angeles -supported through our dedicated travel fund in AHA-will give students an opportunity to see firsthand how the presentday city and its many sectors find expression in the arts and visual culture, or give evidence of different realities. Prerequisite: Minor or major status in AHA; Any course in 20th c. American arts, literature, or film. Or permission by instructor
Same as L01 Art-Arch 4746
Credit 3 units. A&S IQ: HUM Arch: HUM Art: AH, HUM EN: H

L01 Art-Arch 5763 Bodymorph: Fantasy Worlds of American Visual Culture, Animation, and Product Design

This lecture and discussion-based course engages students in media beyond the fine arts, which shaped in fundamental ways how ordinary Americans experienced life during decades of dynamic change and modernization over the first half of the 20th century. We consider cartooning and animation, film, advertising, product design, department stores and the visual strategies of consumer culture, jazz aesthetics, the skyscraper city, and more. We set these new forms within broad changes in the rhythms of everyday life driven by industrialization and new technologies, as well as how filmmakers, animators, and artists both expressed these new realities, as well as how they turned in response to the handmade, the "primitive," and the embodied. We look at the uneasy exchanges between high art and mass media; and at the open borders between surrealism, advertising, and art. Prerequisites: Any introductory or 300-level course in Art History or American Culture Studies, History, or literature
Same as L01 Art-Arch 3763
Credit 3 units. A&S IQ: HUM Arch: HUM Art: AH, HUM EN: H

L01 Art-Arch 5783 The Modernist Project: Art in Europe and the United States, 1905-1980

This course surveys major tendencies in painting and sculpture, from Fauvism in France and Expressionism in Germany to the beginnings of Postmodernism in photo-based work in the United States. About two thirds of the course will treat European art, and about one third will treat American art. Photography, architecture, and work in other forms will be considered selectively when pertinent to the individual class topics. Within the lecture topics, emphasis is on avant-garde innovation; the tension in modernist art between idealism and critique; reaction by artists to current events; the relationship between art and linguistics, philosophy, literature, economics, and science; the role of geopolitics in art production; the intersections of art and society; the role of mass culture; issues of race and gender in the production and reception of art; and the challenge to the concept of authorship and creativity posed by Postmodernism at the end of this period. Prerequisite: One course in Art History at the 100 or 200 level.
Same as L01 Art-Arch 3783
Credit 3 units. A&S IQ: HUM Art: AH, HUM BU: HUM EN: H

L01 Art-Arch 5785 Photography in America

This course will consider the practice and use of photography in America, from its invention up to the present, and it will offer various ways of thinking about the medium and its relation to society and culture. Students will come to understand the ways photographic practices shape public perceptions of national identity, ethnicity and gender, nature, democratic selves, and a host of other concerns. We will discuss famous practitioners such as Matthew Brady, Jacob Riis, Lewis Hine, Walker Evans, and Robert Frank. We consider not only the social and public uses of the medium (through such episodes as the New Deal/FSA and photojournalism) but also the private explorations of "fine art" photographers and the everyday practices of the snapshot. Prerequisite: One course in Art History at the 100 or 200 level.
Same as L01 Art-Arch 3785
Credit 3 units. A&S IQ: HUM Art: AH, GFAH, HUM BU: HUM EN: H

L01 Art-Arch 5815 Rococo to Revolution: Art in Eighteenth-Century Europe

The Long Eighteenth Century serves as a bridge between two fundamentally different times. The Europe of 1700 was dominated by absolutism and the ancien régime. The Europe of 1800 was in an age of revolution. This course will explore the dramatic shift in artistic representation and individual self-conception that occurred throughout the century to usher in our modern age. Important topics to be considered include: the rise of the Academy; the Enlightenment

and the Encyclopédie; the Grand Tour; Art and Science; and the French Revolution. Focusing on the development of artistic trends, the course will address transformations in painting, sculpture and architecture throughout Europe.
Same as L01 Art-Arch 3815
Credit 3 units. A&S IQ: HUM Art: AH, GFAH, HUM BU: HUM, IS EN: H

L01 Art-Arch 5860 Van Gogh: Creativity, Mythology, and Modern Art
Among the most famous artists of the canon of European modern art is Vincent van Gogh, known for his expressive paintings, his famous letters that chart his tumultuous career, and a short creative life marked by intense work, passionate interests in the modern art and literature of his time, and the challenges of a mental illness. This seminar will examine his art and literature in three sections: the first devoted to studying the art itself throughout his short career; the second devoted to the mythologies surrounding his art and its relationship to such notions as genius and madness; and the third looking at how his art has become a popular commodity, reproduced internationally by methods varying from precise painted replicas to commercially popular goods marked with his most famous paintings. The history and theory of modern commodity culture on a global scale and its intersection with a burgeoning art market for postimpressionist art will be explored in this final section. Prerequisites: L01 113 or L01 215 and one advanced course in art history, or permission of the instructor
Same as L01 Art-Arch 4860
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: AH, GFAH, HUM BU: HUM EN: H

L01 Art-Arch 5875 Rejecting Reason: Dada and Surrealism in Europe and the U.S.
In this multimedia interdisciplinary course, we will consider the history, theory, and practice of Dada and Surrealism, from its Symbolist and Expressionist roots at the end of the 19th century and the beginning of the 20th century through its late expressions in the beat culture and pop art of the 1950s and 1960s. Dada's emergence in Zürich and New York in the midst of World War I set the tone for its stress on irrationality as an oppositional strategy. Surrealist research into the domain of the unconscious continued this extreme challenge to dominant culture but in a revolutionary spirit that proposed new possibilities for personal and collective liberation. The international character of the movements -- with substantial cross-transmission between Europe and the United States -- will be emphasized. Prerequisites: L01 113, Intro to Western Art; L01 215, Intro to Modern Art; or permission of instructor.
Same as L01 Art-Arch 3875
Credit 3 units. A&S IQ: HUM Art: AH, HUM BU: HUM EN: H

L01 Art-Arch 588 Contemporary Art
This course is a survey of global contemporary art from 1970 to the present. Topics include happenings, minimalism, body art, and neo-expressionism as well as their placement in their social and political contexts. Prerequisite: One course in Art History at the 100 or 200 level.
Same as L01 Art-Arch 388
Credit 3 units. A&S IQ: HUM Art: AH, GFAH, HUM BU: HUM, IS EN: H

L01 Art-Arch 5892 Modern Sculpture
This course will survey sculpture in Europe and the United States from about 1800 to the present, with an emphasis on the period from 1890 to 1980. A rapid traverse of Neoclassicism, Realism, and the rage for statuary during the later 19th century will take us to the work of Rodin and to a more systematic exploration of developments in the sculpture of the 20th century. Particular emphasis will also be placed upon the work of Brancusi, Picasso, Matisse, Duchamp, Giacometti, Oppenheim, David Smith, Serra, Morris, Judd, Hesse, and Bourgeois. An important theme running through the course as a whole -- from an age of nationalism and manufacturing to our own time of networks and information -- is the changing definition of sculpture itself within its social and political context. We will also explore various new artistic practices (e.g., video, performance, installations, body art) and interrogate their relationship to sculptural tradition and innovation.
Prerequisite: L01 113, L01 215, or permission of instructor.
Same as L01 Art-Arch 3892
Credit 3 units. A&S IQ: HUM Art: AH, GFAH BU: HUM EN: H

L01 Art-Arch 5914 Beyond Limits: Transgression, Controversy, and Censorship in Modern Art
This course will examine some of the public controversies that surrounded the development of modern art over the last 150 years to probe the question of the social and political functions of transgressive art. After reviewing key theories of the avant-garde, we analyze both the persona of the modern artist (e.g., Van Gogh, Picasso, Pollock) and the place of women artists in the revolutions of modernism (e.g., Cassatt, Hoch, Kahlo). A key issue to address is how modernism tests limits by asking what is (and is not) art (e.g., Duchamp, Brancusi). Some of the most controversial exhibitions in this time frame, from the Salon des Refuses in 1863 to Mirroring Evil in 2002, highlight the challenges raised by modern artists' treatment of the body. Controversies over public funding of contemporary art, debates waged over public art in St. Louis, and the recent episodes of iconoclasm with respect to Confederate monuments and memorials will close the course. Prerequisites: L01 215 and any 300-level course in Art History or permission of instructor.
Same as L01 Art-Arch 4914
Credit 3 units. A&S IQ: HUM Arch: HUM Art: AH, CPSC, GFAH, HUM BU: HUM EN: H

L01 Art-Arch 5918 Modern War in Art
Art and war have always been intertwined, whether in glory or revulsion. But modern art and modern war are qualitatively different from their counterparts in the past in ways that ensured that their relationship would become more problematic and oppositional. The challenge of finding new artistic languages to express the new conditions of mechanized combat led many artists to explore abstraction, fragmentation, absurdity or arbitrariness to convey the energy, impersonality and nihilism of modern war. When the British soldier and poet Wilfred Owen (1893-1918) wrote of the human devastation of World War I as "obscene as cancer, bitter as the cud," he strained for metaphoric language appropriate to its magnitude. We will consider the same challenge to visual artists throughout the modern period. Prerequisites: Intro to Western Art (L01 113) or Intro to Modern Art (L01 215); one 300-level course in Art History preferred; or permission of instructor.
Same as L01 Art-Arch 4918
Credit 3 units. A&S IQ: HUM Arch: HUM Art: AH, GFAH, HUM EN: H

L01 Art-Arch 595 Qualifying Papers for the MA degree
Every student fulfilling the requirements of the MA degree in the Department of Art History and Archaeology will prepare two Qualifying Papers (QP), each 25-30 pages. Together the QPs will constitute the capstone experience of the MA degree, and a demonstration of potential for more advanced graduate work. Prereq: Art History graduate status in good standing.
Credit 3 units.

L01 Art-Arch 5961 Art & Ecology
This course provides an overview of the twentieth-century history and contemporary debates concerning art and ecology. It begins with the nuclear age in the postwar United States and the Pacific, on through the techno-utopian "hippie modernist," Land Art, and early ecological movements of the 1960s. We situate contemporary "eco art" within this longer historical context, as well as climate science and politics. This course takes a case study approach, with one "key" artwork each

class period, around which we will build context and trace relevant connections. Students will be responsible for identifying key artworks and articulating their significance on the exams. We will also locate eco art discourse within our St. Louis context, undertaking a site-specific project during the course of the semester. Undergraduate Prerequisites: one introductory Art History course or permission of the instructor.
Same as L01 Art-Arch 3961
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L01 Art-Arch 5973 New Media, New Technologies
In the summer of 2013, Random International's "Rain Room" was installed at the Museum of Modern Art in New York. Lines to experience the sensation of being rained on without getting wet ranged up to seven hours at times. This merging of new technology with the gallery space proved irresistible, but it also raises questions as to the uses of technology in contemporary art and whether or not this could be much more than a gimmick. As one Yelp reviewer put it, "The Rain Room is definitely an experience. Let's be honest... I'm mostly upset that I didn't get a cool, new Facebook profile pic out of it." This course will consider technological developments in modern and contemporary art -- including photography, video and new media, and digital and Internet art -- as well as forays into new technology that blur the lines between art and science. Prerequisite: L01 113, L01 215, or permission of instructor.
Same as L01 Art-Arch 3973
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L01 Art-Arch 5975 Art and Activism
This course will examine political and social activism in art and visual culture, focusing on the role that visual representation has played in social movements and how artists/activists have employed visual media to challenge and resist dominant visual representations and political formations. We explore key theoretical developments in activist discourse as well as the role of art practices and aesthetic commitments in these developments. This course seeks to represent the development of the relation of art and activism in its broadest intellectual and cultural context within the 20th century and to encourage an appreciation of the complex array of disciplinary perspectives that are implicated in this development. Prerequisite: L01 113, L01 215, or permission of instructor.
Same as L01 Art-Arch 3975
Credit 3 units. A&S IQ: HUM Art: AH, CPSC, HUM BU: HUM EN: H

L01 Art-Arch 5977 Mapping Art, Race, & Community in the US-Mexico Borderlands
This upper-level undergraduate seminar will delve into the history of "border art" as a category, whether in terms of public art, sculpture, installation, new media, or performance, using the U.S.-Mexico border as an extended in-depth case study. Students will collaborate to add to an ongoing mapping project of community engaged art on the border and create multimedia materials to augment or interpret the data as they see fit. As such, this course builds Digital Humanities practices and methodologies throughout the semester. Students in the course will also work to map race and population data along with their chosen artworks. In doing so, the course challenges students to think beyond U.S.-centric concepts of race and ethnicity and explore how the "third space" of the border shapes artistic practices and approaches to community. Prerequisites: One introductory Art History course or permission of the instructor.
Same as L01 Art-Arch 4977
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L01 Art-Arch 670 Dissertation Prospectus
Guided preparation of required dissertation prospectus.
Credit 3 units.

Art History and Archaeology, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin*.

Program Requirements

- **Total Units Required: Minimum 36**
- **Degree Length: 4 Semesters / 2 Years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - **Funding Assurance:** Students in the Masters program are eligible for tuition remission from the School of Arts and Sciences as well as a Masters scholarship issued by the Department of Art History and Archaeology.

Applicants for admission to the graduate program are normally expected to have completed 18 units of undergraduate study in art history. However, the department welcomes applications from students with less background in art history who show strong preparation in such fields as classics, history, philosophy, literature, anthropology, and Asian studies.

Requirements for the Masters degree in Art History and Archaeology are 36 minimum units of graduate-level courses, normally taken as three courses per semester over four semesters, including Art-Arch 510 Graduate Seminar: Methods in Art History and Art-Arch 595 Qualifying Papers for the MA degree, which serves as a capstone course in the fourth semester in which the candidate revises two seminar papers for presentation to the faculty as qualifying papers. In addition, students must demonstrate competency in a foreign language. For students in Asian art, this language should be an Asian language. Students in ancient art may be required to demonstrate reading knowledge in an ancient language. Students must maintain a minimum 3.0 cumulative GPA.

Required Courses

Code	Title	Units
Art-Arch 510	Graduate Seminar: Methods in Art History	3
Art-Arch 595	Qualifying Papers for the MA degree	3
Total Units		**6**

Qualifying Examinations

No comprehensive examinations are required for the degree. Every student fulfilling the requirements of the MA degree in the Department of Art History and Archaeology will prepare two Qualifying Papers (QP). Together the QPs will constitute the capstone experience of the MA degree, and the demonstration of potential for more advanced graduate study. A student fulfilling MA requirements will receive credit for one 3-hour course, Art-Arch 595 Qualifying Papers for the MA degree, in the fourth semester of study.

Phone:	314-935-5270
Website:	https://arthistory.wustl.edu/

Art History and Archaeology, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required:** 21 minimum credits for students who have completed the Masters degree in Art History and Archaeology at Washington University; 39 minimum credits for students who have arrived with an MA in art history. (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 6 Years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - **Funding Assurance:** PhD students in Art History and Archaeology are assured 6 years of tuition remission and the graduate stipend from the School of Arts & Sciences.

Students completing their AM degree at Washington University and continuing as PhD students will have two or three more semesters of course work, normally in the form of three seminars plus the Comprehensive Exam Preparation courses (three courses) and the Dissertation Prospectus course. To be admitted to PhD candidacy, a student must also demonstrate reading proficiency in a second modern foreign language, pass the Comprehensive Exam, and successfully defend the Dissertation Prospectus. Students in ancient art and Asian art may have additional language requirements. Students entering the PhD program with a BA are expected to complete all the requirements for the MA degree before proceeding to the PhD requirements. Students must maintain a minimum 3.0 cumulative GPA.

Thus, by the end of the seventh semester of graduate study at Washington University, students will normally have achieved the following, at a minimum:

- Completed all required courses;
- Demonstrated reading proficiency in no fewer than two modern foreign languages;
- Passed the Comprehensive Exam in the major area;
- Passed the Comprehensive Exam in the minor area (or have exempted this requirement through related course work);
- Determined a three-person Research Advisory Committee for the dissertation; and
- Successfully defended the Dissertation Prospectus.

Once admitted to candidacy students will continue to enroll in LGS 9000 Full Time Graduate Research/Study or LGS 9001 Full Time Graduate Research/Study in absentia until the completion of the degree or end of program length.

Students who join the PhD program in Art History and Archaeology with an approved master's degree from another university will enroll in three semesters of course work, with at least 9 credits of graduate-level courses per semester. In the fourth semester of the program, they will then enroll in 9 credits of L01 650 PhD Comprehensive Exam Preparation, and in the fifth semester in 3 credits of L01 650 PhD Comprehensive Exam Preparation and in LGS 9000 Full Time Graduate Research/Study. These students will, thus, normally complete all of the requirements for PhD candidacy listed above by the end of the fifth semester of graduate study at Washington University.

Each PhD candidate, as evidence of mastery of a specific field of knowledge and capacity for original, scholarly work, must complete a dissertation. The subject, as outlined on the Title, Scope, and Procedure Form, must be approved by a Research Advisory Committee consisting of at least three tenured or tenure-track faculty members. This committee is ordinarily led by the student's major advisor and must be approved by the Office of Graduate Studies. Often, the members of the Research Advisory Committee serve as the foundational members of the dissertation defense committee. Students should refer to the dissertation guide for more information regarding the complete composition of the dissertation defense committee. The Title, Scope, and Procedure Form for the dissertation must be signed by the committee members and by the program Chair, and then submitted to the Office of Graduate Studies, no later than the end of the student's fourth year.

Upon completing the dissertation, students must defend it before a committee of at least five faculty members. Four of the five committee members must be tenured or tenure-track Washington University faculty; one of these four may be a member of the Emeritus faculty. The fifth member must have a doctoral degree and an active research program, whether at Washington University, at another university, in government, or in industry. Additionally, three of the five committee members must come from the student's degree program; at least one of the five must not. After successful defense, students must submit an electronic version of the dissertation online to the Office of Graduate Studies

Required Courses

Code	Title	Units
Art-Arch 510	Graduate Seminar: Methods in Art History	3
Art-Arch 650	PhD Comprehensive Exam Preparation	3
Art-Arch 670	Dissertation Prospectus	3
LGS 600	Mentored Teaching Experience	Six semesters

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

The PhD Comprehensive Exam is intended to test a student's general knowledge as well as mastery of their area or areas of specialization. It is designed as both preparation for and preface to conducting the rigorous, in-depth research necessary for successfully completing a dissertation, and as a means by which students can enter the discourses of professional art history they will encounter in teaching, research, curatorial, and related practices. The comprehensive exam is not intended to be a singular, definitive event in and of itself, but rather a part of a larger process of scholarly and professional development that occurs as students move from coursework to dissertation writing, and it should be structured as an open and collaborative dialogue between students and members of the exam committee. Students will prepare for and sit the comprehensive exam in the semester after the completion of coursework requirements, which will typically be the 6th semester in the program for students completing both AM and PhD degrees at Washington University and the 4th semester for PhD students who have arrived with an MA in art history. Students will be examined by a PhD Comprehensive Exam Committee, normally consisting of two or three faculty members, in a major area and a minor area. The major advisor must be a tenure-stream faculty member from within the department. Students may exempt the minor area exam through related course work. Each student will normally follow one of two formats for the PhD Comprehensive Exam: a written exam to be followed within 2 weeks by an oral defense or an oral exam to be followed by a 2-week written paper in the major area.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

Students must complete six semesters of LGS 6XXX Mentored Teaching Experience. One semester may be replaced with LGS 7020 Mentored Professional Experience.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Phone:	314-935-5270
Website:	https://arthistory.wustl.edu/

Biology

The **Master of Arts in Biology** program helps students to update and deepen their knowledge of the biomedical sciences, prepare for employment in related fields, and advance their professional standing while obtaining a graduate science degree on a part-time basis with some options for evening and online courses.

The program is designed to be adaptable to each individual's unique background and goals, and it provides a flexible curriculum and close individual advising for each student. Students include science and health professionals, teachers, technicians, and individuals in biology-related businesses.

Contact:	Philip Osdoby
Email:	osdoby@wustl.edu

Faculty

Chair

Ram Dixit
Chair of Biology; Professor of Biology
PhD, Cornell University

Co-Chairs

Barbara Kunkel
Professor of Biology; Associate Chair of Undergraduate Education
PhD, Harvard University

Petra A. Levin
George William and Irene Koechig Freiberg Professor of Biology; Associate Chair of Faculty Research and Development
PhD, Harvard University

Kenneth M. Olsen
George William and Irene Koechig Freiberg Professor of Biology; Associate Chair of Climate and Facilities
PhD, Washington University

Director of Graduate Studies

Steven Mennerick
John P. Feighner Professor of Psychiatry
Interim Associate Dean of Graduate Studies, DBBS

Directors of Undergraduate Studies

Douglas L. Chalker
Professor of Biology; Director of Undergraduate Studies
PhD, University of California, Irvine

April Bednarski
Teaching Professor of Biology; Associate Director of Undergraduate Studies
PhD, University of Michigan

Department Faculty

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Senior Lecturer in Biology
PhD, Kansas State University

Yehuda Ben-Shahar
Professor of Biology
PhD, University of Illinois

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Associate Professor of Biology
PhD, University of Illinois

Arpita Bose
Associate Professor of Biology
PhD, University of Illinois

Bruce A. Carlson
Professor of Biology
PhD, Cornell University

Wilhelm Cruz
Teaching Professor of Biology
PhD, St Louis University

Kathy Hafer
Professor of the Practice of Biology

Kate Hanes
Senior Lecturer in Biology
PhD, University of Florida

Keith B. Hengen
Assistant Professor of Biology
PhD, University of Wisconsin-Madison

Erik D. Herzog
Viktor Hamburger Distinguished Professor in Arts & Sciences
PhD, Syracuse University

Feng Sheng Hu
Richard G. Engelsmann Dean of Arts & Sciences; Professor of Biology and of Earth, Environmental, and Planetary Sciences; Lucille P. Markey Distinguished Professor in Arts & Sciences
PhD, University of Washington

Joseph Jez
Spencer T. Olin Professor in Biology; Howard Hughes Medical Institute Professor
PhD, University of Pennsylvania

Tammie Lee Keadle
Lecturer in Biology

Robert G. Kranz
Professor of Biology
PhD, University of Illinois

Mitchell Kundel
Senior Lecturer in Biology
PhD, Yale University

Mary Lambo
Senior Lecturer in Biology
PhD, Brandeis University

Michael Landis
Assistant Professor of Biology
PhD, University of California, Berkele

Allan Larson
Professor of Biology
PhD, University of California, Berkeley

Jonathan B. Losos
William H. Danforth Distinguished Professor
PhD, University of California, Berkeley

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Assistant Professor of Biology
PhD, University of Illinois

Ben N. Mansfeld
Assistant Professor of Biology
PhD, Michigan State University

Jonathan A. Myers
Associate Professor of Biology; Program Director, Ecology & Evolutionary Biology
PhD, Louisiana State University

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Professor of Biology
PhD, Case Western Reserve University

Duygu Özpolat
Assistant Professor of Biology
PhD, Tulane University

Himadri B. Pakrasi
Myron and Sonya Glassberg/Albert and Blanche Greensfelder Distinguished University Professor
PhD, University of Missouri-Columbia

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PhD, Georgia Institute of Technology

Shuiming Qian
Research Assistant Professor

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PhD, Cornell University

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Lecturer in Biology & Coordinator of Undergraduate Research Experiences
PhD, University of Miami

Craig Smith
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PhD, University of Michigan

Paul S.G. Stein
Professor of Biology and Physical Therapy
PhD, Stanford University

Joan E. Strassmann
Charles Rebstock Professor of Biology
PhD, University of Texas at Austin

Richard D. Vierstra
George and Charmaine Mallinckrodt Professor
PhD, Michigan State University

Peter Wyse Jackson
George Engelmann Professor of Botany
PhD, Trinity College Dublin

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Lecturer in Biology
PhD, University of Wisconsin-Madison

Jennifer Wang
Assistant Professor of Biology
PhD, Johns Hopkins University

Hani Zaher
Professor of Biology
PhD, Simon Fraser University

Xuehua Zhong
Professor of Biology; Dean's Distinguished Professorial Scholar
PhD, The Ohio State University

Professors Emeriti

Robert E. Blankenship
PhD, University of California, Berkeley

Ian Duncan
PhD, University of Washington

Sarah C.R. Elgin
PhD, California Institute of Technology

Ursula W. Goodenough
PhD, Harvard University

Tuan-hua David Ho
PhD, Michigan State University

George B. Johnson
PhD, Stanford University

Kathryn G. Miller
PhD, Johns Hopkins University

Ralph S. Quatrano
Spencer T. Olin Professor Emeritus
PhD, Yale University

Peter H. Raven
PhD, University of California, Los Angeles

Nobuo Suga
PhD, Tokyo Metropolitan University

Alan R. Templeton
PhD, University of Michigan

Robert E. Thach
PhD, Harvard University

Degree Requirements

- Biology, AM (p. 98)

Courses

Visit online course listings to view semester offerings for L41 Biol.

L41 Biol 500 Independent Research
Research under the supervision of a faculty mentor. Prerequisites: junior or senior standing and permission of mentor and the department. Credit/No Credit or Audit grade options; credit to be determined in each case, usually 3 units/semester and not to exceed 3 units/semester; may be repeated for credit. Because this course has a large number of sections, some sections are listed and enrolled as Bio 500A. If work is to be submitted for Latin honors, see p. 3 of the Department of Biology Handbook for Majors, Latin Honors Through a Biology Major Program. The handbook can be found online at: https://wustl.app.box.com/s/d63rx5o0kygqtsv899eyhax5v31gvy1a. Arrangements for registration should be completed during the preregistration period through the Bio 500 course website https://pages.wustl.edu/Bio_200-500_independent_research.
Credit variable, maximum 3 units.

L41 Biol 500A Independent Research
Research under the supervision of a faculty mentor. Prerequisites: junior or senior standing and permission of mentor and the department. Credit/No Credit or Audit grade options; credit to be determined in each case, usually 3 units/semester and not to exceed 3 units/semester; may be repeated for credit. 500A is equivalent to Bio 500. If work is to be submitted for Latin honors, see p. 3 of the Department of Biology Handbook for Majors, Latin Honors Through a Biology Major Program. The handbook can be found online at: https://wustl.app.box.com/s/d63rx5o0kygqtsv899eyhax5v31gvy1a. Arrangements for registration should be completed during the preregistration period through the Bio 500 course website: https://pages.wustl.edu/Bio_200-500_independent_research.
Credit variable, maximum 3 units.

L41 Biol 500N Independent Research in Neuroscience
Research in neuroscience under the supervision of a faculty mentor. Prerequisites: junior or senior standing and permission of mentor and the department. Credit/No Credit or Audit grade options; credit to be determined in each case, usually 3 units/semester and not to exceed 3 units/semester; may be repeated for credit. If work is to be submitted for Latin honors, see p. 3 of the Department of Biology Handbook for Majors, Latin Honors Through a Biology Major Program. The handbook can be found online at:

https://wustl.app.box.com/s/d63rx5o0kygqtsv899eyhax5v31gvy1a. Arrangements for registration should be completed during the preregistration period through the Bio 500 course website: https://pages.wustl.edu/Bio_200-500_independent_research.
Credit variable, maximum 3 units.

L41 Biol 500S Summer Independent Research
Summer research under the supervision of a faculty mentor. Prerequisites: junior or senior standing and permission of mentor and the department. Credit to be determined in each case, usually 3 units/summer; may be repeated for credit in different summers. Because this course has a large number of sections, some sections are listed and enrolled as Bio 500T. Credits are received in the fall semester following the summer research. If work is to be submitted for Latin honors, see p. 3 of the Department of Biology Handbook for Majors, Latin Honors Through a Biology Major Program. The handbook can be found online at: https://wustl.app.box.com/s/d63rx5o0kygqtsv899eyhax5v31gvy1a. Arrangements for registration should be completed no later than the end of Summer Session I through the Bio 500 course website: https://pages.wustl.edu/Bio_200-500_independent_research. Credit/No Credit or Audit grade options. Course may not be taken for a letter grade. 1-3 units
Credit variable, maximum 3 units.

L41 Biol 500U Summer Independent Research in Neuroscience
Summer research in neuroscience under the supervision of a faculty mentor. Prerequisites: junior or senior standing and permission of mentor and the department. Credit to be determined in each case, usually 3 units/summer; may be repeated for credit in different summers. Credits are received in the fall semester following the summer research. If work is to be submitted for Latin honors, see p. 3 of the Department of Biology Handbook for Majors, Latin Honors Through a Biology Major Program. The handbook can be found online at: https://wustl.app.box.com/s/d63rx5o0kygqtsv899eyhax5v31gvy1a. Arrangements for registration should be completed no later than the end of Summer Session I through the Bio 500 course website: https://pages.wustl.edu/Bio_200-500_independent_research. Credit/No Credit or Audit grade options. Course may not be taken for a letter grade. 1-3 units
Credit variable, maximum 3 units.

L41 Biol 501 Human Anatomy & Development
Study of the human body primarily by dissection; extensive use of X-rays and CT scans. Emphasis on functional and clinical aspects of anatomy. Prerequisite: This course is restricted to first year medical students. Same as L48 Anthro 502 and M05 AnatNeuro 501A.
Credit 6 units.

L41 Biol 5011 Ethics & Research Science
Exploration of ethical issues which research scientists encounter in their professional activities. Topics will include, but are not limited to: student-mentor relationships, allegations of fraud, collaborators' rights and responsibilities, conflicts of interest, confidentiality, publications. Case study and scenario presentations will provide focus for discussions. Prerequisite, open to graduate students engaged in research. Six 90 minute sessions.
Credit 1 unit.

L41 Biol 5014 Biotech Industry Innovators
Late one Friday afternoon in April 1976, the late venture capitalist Robert Swanson met with biochemist Herb Boyer, PhD, at his UCSF lab. Swanson had requested 10 minutes of Boyer's time; when the meeting ended, three hours later, the foundations had been laid for the formation of Genentech, the first biotechnology company, and the beginnings of the biotechnology industry. This course, The Basics of Bio-Entrepreneurship, investigates issues and choices that inventor/scientists encounter when considering the applications and commercialization of early stage scientific discoveries. This course is intended for anyone interested in working in the medical device, life-, bio-, or pharma-sciences industries as a founder, scientist, entrepreneur, manager, consultant, or investor. It focuses on the decision processes and issues that researchers and their business partners face when considering how a discovery might best be moved from academia to successful commercialization.
Credit 3 units.

L41 Biol 502 General Physiology
This course applies the fundamental physiological mechanisms of cell biology to the functions of the major organ systems of the body, namely, the cardiovascular, renal, respiratory, gastrointestinal, and endocrine systems. The course is intended primarily for first-year medical students. The Physiology and Microscopic Anatomy courses are closely coordinated within the same schedule. Course continues into the spring semester with a different schedule. Prerequisite, Biol 5061 or the equivalent and permission of course director.
Credit 6 units.

L41 Biol 5053 Immunobiology I
Immunobiology I and II are a series of two courses taught by the faculty members of the Immunology Program. These courses cover in depth modern immunology and are based on Janeway's Immunobiology 8th Edition textbook. In Immunobiology I, the topics include: basic concepts in immunology, innate immunity: the first lines of defense, the induce responses of innate immunity, antigen recognition by B-cell and T-cell receptors, the generation of lymphocyte antigen receptors, antigen presentation to T lymphocytes and signaling through immune system receptors. In Immunobiogy II the topics include: the development and survival of lymphocytes, T cell-mediated immunity, the humoral immune response, dynamics of adaptive immunity, the mucosal immune system, failures of host defense mechanisms, allergy and allergic diseases, autoimmunity and transplantation, and manipulation of the immune response. These courses are open to graduate students. Advanced undergraduate students may take these courses upon permission of the coursemaster. Prereq: DBBS students and advanced undergraduates with permission.
Credit 4 units.

L41 Biol 5054 Immunobiology II
Immunobiology I and II are a series of two courses taught by the faculty members of the Immunology Program. These courses cover in depth modern immunology and are based on Janeway's Immunobiology 8th Edition textbook. In Immunobiology I, the topics include: basic concepts in immunology, innate immunity: the first lines of defense, the induce responses of innate immunity, antigen recognition by B-cell and T-cell receptors, the generation of lymphocyte antigen receptors, antigen presentation to T lymphocytes and signaling through immune system receptors. In Immunobiogy II the topics include: the development and survival of lymphocytes, T cell-mediated immunity, the humoral immune response, dynamics of adaptive immunity, the mucosal immune system, failures of host defense mechanisms, allergy and allergic diseases, autoimmunity and transplantation, and manipulation of the immune response. These courses are open to graduate students. Advanced undergraduate students may take these courses upon permission of the coursemaster. Prereq: DBBS students and advanced undergraduates with permission.
Credit 4 units.

L41 Biol 5068 Fundamentals of Molecular Cell Biology
This is a core course for incoming graduate students in Cell and Molecular Biology programs to learn about research and experimental strategies used to dissect molecular mechanisms that underlie cell structure and function, including techniques of protein biochemistry. Enrolling students should have backgrounds in cell biology and biochemistry, such as courses comparable to L41 Biol 334 and L41 Biol 4501. The format is two lectures and one small group discussion section per week. Discussion section focuses on original research articles. Same as M15 5068 and M04 5068.
Credit 4 units.

L41 Biol 5075 Fundamentals of Biostatistics for Graduate Students
This course is designed for first-year DBBS students who have had little to no prior experience in programming or statistics. The course will cover common statistical practices and concepts in the life sciences, such as error bars, summary statistics, probability and distributions, and hypothesis testing. The class will also teach students basic programming skills for statistical computation, enabling them to retrieve and analyze small and large data sets forom online databases and other sources.
Credit 2 units.

L41 Biol 5077 Pharmaceutical Research and Development: Case Studies
The course will provide an overview of the history of pharmaceutical research and development activities, with emphasis upon understanding a blend of the scientific, public health, regulatory and business decisions that have shaped the pharmaceutical industry over the past eight decades. Particular emphasis will be placed on understanding how past trends have raised questions about the sustainability of the enterprise. Although no prerequisites are formally requires, the course will blend basic understanding of scientific and medical terminology with an understanding of the commercial and policy decision-making processes that govern the pharmaceutical and biotechnology enterprises. The course will provide an overview of the history of pharmaceutical research and development activities, with emphasis upon understanding a blend of the scientific, public health, regulatory and business decisions that have shaped the pharmaceutical industry over the past eight decades. Particular emphasis will be placed on understanding how past trends have raised questions about the sustainability of the enterprise. Although no prerequisites are formally requires, the course will blend basic understanding of scientific and medical terminology with an understanding of the commercial and policy decision-making processes that govern the pharmaceutical and biotechnology enterprises.
Credit 2 units.

L41 Biol 5079 The Science, Medicine and Business of Drugs & Vaccines
The course will provide an overview of the history of research and development in the biotechnology and pharmaceutical industries, with emphasis upon understanding a blend of the scientific, public health, regulatory and business decisions that have shaped the pharmaceutical industry over the past eight decades. Particular emphasis will be placed on understanding how past and ongoing trends have raised questions about the sustainability of the enterprise. Although no prerequisites are formally required, the course will blend basic understanding of scientific and medical terminology with an understanding of the commercial and policy decision-making processes that govern the pharmaceutical and biotechnology enterprises.
Credit 2 units.

L41 Biol 5084 Single Molecule Biophysics Journal Club
Molecular motors in the cell harness chemical energy to generate mechanical work in a host of processes including cell motility, DNA replication and repair, cell division, transcriptional regulation, and intracellular transport. The purpose of this course is to discuss recent advances in the field of molecular motors. Special emphasis will be placed on understanding and criticially evaluating single molecule studies. The course will consist of both journal club presentations and small group discussions.
Credit 1 unit.

L41 Biol 5098 Graduate Research Fundamentals
This course introduces first-year Ph.D. students to the foundational skills, knowledge, and habits of mind required of successful independent biological scientists: 1) Social dynamics in the scientific research enterprise 2) Epistemology and ethics of bioresearch methods 3) Development and communication of research questions and results 4) Interdisciplinary scientific thinking. Class sessions and homework introduce these topics; major assignments prompt student to connect them with the broader scope of graduate training in lab rotations, course work, and interdisiplinary scientific seminars. the interactive, student-driven class structure facilitates autodidactic development while integrating small group activities and peer mentoring from advanced DBBS students. Prerequisite: Students must be enrolled in a graduate program through the Division of Biology & Biomedical Sciences.
Credit 0.5 units.

L41 Biol 5123 Experimental Hematopoiesis Journal Club
Journal club in which papers that describe significant advances in the field of experimental hematopoiesis are discussed. Students are expected to present one paper per semester and attend the weekly (1 hour) session. No prerequisites.
Credit 1 unit.

L41 Biol 5128 Cell Biology of Extracellular Matrix Journal Club
This journal club covers a broad range of topics related to extracellular matrix and cell-cell communication, including the fields of biochemistry, molecular biology, cell biology, and developmental biology. Speakers give a brief background to introduce the topic and then focus on one paper from the current literature. Presentations are given by students, faculty, and post-doctorates. Students receive 1 unit of credit for regular participation and for making one presentation.
Credit 1 unit.

L41 Biol 5130 Plant Diveristy and Evolution
This course is an in-depth exploration of the diversity and evolution of vascular plants. The course focuses mainly on flowering plants because of their dominant role on our planet, but lycophytes, ferns, and gymnosperms are studied as well. A phylogeny of vascular plants provides the framework for their evolution and diversification. Related subjects, including phylogenetics, biogeography, herbaria, nomenclature, species concepts, and pollination biology are also presented. The weekly lectures/discussions and (three hour) lab function in tandem and it is the responsibility for the student to integrate information from the lectures with the abundant materials presented in lab. The lecture will take place on main campus at WashU, and the lab sessions will make use the abundant and exceptional living and preserved materials at the Missouri Botanical Garden. The intended audience is advanced undergraduates and graduate students. Prerequisite: Bio 2970 or Permission of Instructor. Small Class. Credit. Same as L41 Biol 4132
Credit 3 units. A&S IQ: NSM

L41 Biol 5137 Ion Channels Journal Club
Weekly presentations of recent papers on mechanisms of ion channel function and membrane excitability, as well as the role of channel defects in human and model diseases, with lively group discussions the norm! Once per semester, each participant will choose a paper and present it to the group.
Credit 1 unit.

L41 Biol 5138 Journal Club for the Molecular Mechanism of Aging
Why do we age? What causes aging? How is our life span determined? This journal club will address such fundamental, but challenging questions of aging and longevity. Recent studies on aging and longevity are now unveiling regulatory mechanisms of the complex biological phenomenon. We'll cover the latest progress in this exciting field and stimulate discussions on a variety of topics including aging-related diseases. One hour of paper presentation or research talk and discussion per every two weeks. Prerequisite: Basic knowledge of molecular biology and genetics of model organisms, such as yeast, C. elegans, Drosophila and mouse. Registered students are expected to have at least one presentation for 1 unit credit.
Credit 1 unit.

L41 Biol 5146 Principles and Applications of Biological Imaging
Principles and Applications of Biological Imaging will introduce the interdisciplinary nature of the imaging sciences and conduct a comprehensive survey of the array of interrelated topics that define biological imaging. The course will cover the basics of the optical, magnetic resonance, CT, SPECT and PET imaging modalities, and microscopy, while focusing on applications of imaging to different disease states, such as oncology, neurology, cardiology and pulmonary diseases. Prereqs. One year each of Biology, Chemistry, Physics and Calculus.
Credit 3 units.

L41 Biol 5147 Contrast Agents for Biological Imaging
Contrast Agents in Biological Imaging will build the chemistry foundations for the design and use of contrast agents in imaging applications such as nuclear medicine, magnetic resonance imaging (MRI) and optical imaging. The course will include lectures on the design of radiopharmaceuticals for gamma scintigraphy and positron emission tomography, MRI contrast agents and agents for optical imaging, including bioluminescence and fluorescence microscopy. Prereqs: one year of general chemistry, one semester of organic chemistry.
Credit 3 units.

L41 Biol 5148 Metabolism Journal Club
The purpose of the Metabolism Journal Club is to introduce the graduate students to advanced topics spanning the biochemistry, cell biology and genetics of cellular and whole body metabolism. Under the guidance of the course directors (Drs. Ory and Schaffer), students will select recent topical articles for discussion in the weekly journal club. Students will be expected to provide a succinct introduction to the topic and lead discussion of the data presented in the journal article. Students will be evaluated on the basis of their presentation and their participation in the seminar throughout the semester. Prerequisites: Successful completion of Fundamentals of Molecular Cell Biology (Bio 5068) and Nucleic Acids and Protein Biosynthesis (Bio 548).
Credit 1 unit.

L41 Biol 5150 Environmental Medicine
Environmental Medicine explores the interactions between the environment and human health, focusing on the role of the environment in causing or mediating disease. Environmental hazards are examined in terms of toxicology, epidemiology, exposure assessment, risk assessment, individual susceptibility, adaptation/maladaptation, and the total load concept. Students enrolled in the 500-level must also complete a term paper and oral presentation. Prerequisites: General Biology I or permission of instructor.
Credit 3 units.

L41 Biol 5151 RNA Biology Journal Club
The purpose of the RNA Biology Journal Club is to introduce the graduate students to advanced topics spanning the bioinformatics, biochemistry, cell biology and genetics of RNA biology. Under the guidance of the course directors (Drs. Ory and Schaffer), students will select recent topical articles for discussion in the weekly journal club. Students will be expected to provide a succinct introduction to the topic and lead discussion of the data presented in the journal article. Students will be evaluated on the basis of their presentation and their participation in the seminar throughout the semester. Prerequisites: Successful completion of Fundamentals of Molecular Cell Biology (Bio 5068) and Nucleic Acids and Protein Biosynthesis (Bio 548).
Credit 1 unit.

L41 Biol 5152 RAD Journal Club (Regeneration, Aging, and Development)
Focuses on developing a dialog around current topics in developmental and regenerative biology at the molecular, cellular and systems levels.
Credit 1 unit.

L41 Biol 5171 Medical Immunology
An introduction to basic concepts in immunology and immunopathology. Lectures focus on antigen-antibody interactions, immunoglobulin structure and genetics, the cellular basis of the immune response and immune regulation, T cell effector mechanisms, the inflammatory response, complement, the positive and negative roles of hypersensitivity, and immune deficiency. Prerequisite, some background in biochemistry and genetics helpful. Restricted to medical students only except in unusual circumstances, with permission of coursemaster. Offered during the first half of the second medical semester. Three-four lecture hours a week, two 2-hour lab periods, four 1-hour clinical discussion groups.
Credit variable, maximum 3 units.

L41 Biol 5181 Population Genetics
An introduction to the basic principles of population and ecological genetics. Mechanisms of microevolutionary processes; integrated ecological and genetic approach to study the adaptive nature of the evolutionary process. Prerequisite: Bio 2970.
Same as L41 Biol 4181
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L41 Biol 5190 Community Ecology
Community ecology is an interdisciplinary field that bridges concepts in biodiversity science, biogeography, evolution and conservation. This course provides an introduction to the study of pattern and process in ecological communities with an emphasis on theoretical, statistical and experimental approaches. Topics include: ecological and evolutionary processes that create and maintain patterns of biodiversity; biodiversity and ecosystem function; island biogeography, metacommunity dynamics, niche and neutral theory; species interactions (competition, predation, food webs), species coexistence and environmental change. The class format includes lectures, discussions, and computer labs focused on analysis, modeling and presentation of ecological data using the statistical program R. Prereq: Bio 2970 required, Bio 381 recommended, or permission of instructor. (Biology Major Area C)
Same as L41 Biol 419
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L41 Biol 5191 Pathobiology of Human Disease States
Three human disease states will be discussed in detail. Topics will include background clinical and epidemiological information, followed by a detailed examination of the molecular and cellular events that underlie the disease state. Examples of pertinent topics include Alzheimer's disease, AIDS, leukemia, cystic fibrosis, sickle cell anemia, diabetes, etc. Prerequisite: Must be a Markey Pathway student.
Credit 2 units.

L41 Biol 5192 Cancer Biology Journal Club
This journal club covers current papers in molecular oncology, cancer genetics and contemporary molecular biology. Presentations will be given by students, post-docs and faculty, then discussed.
Credit 1 unit.

L41 Biol 5195 Disease Ecology
Disease ecology is an interdisciplinary field that bridges concepts from fields including population ecology, community ecology, landscape ecology, and evolutionary biology. This course provides an introduction to the study of infectious diseases with an emphasis on theoretical, experimental, and quantitative approaches. The course will integrate studies of infectious diseases from across disciplines including human epidemiology, veterinary medicine, wildlife epidemiology, plant pathology, parasitology, and ecology. Principles of Biology II (Bio 2970) required, Introduction to Ecology (Bio 381) recommended, or permission of instructor.
Same as L41 Biol 4195
Credit 4 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L41 Biol 5196 Special Emphasis Pathway in Cancer Biology
This course is designed to present pre- and postdoctoral trainees with an organized educational format to explore major contemporary topics in cancer biology. The elective will provide an integrated view of cancer research including basic science, translational science, and clinical investigation. Approximately 60 minutes will be devoted to a didactic presentation by a faculty member with interaction by the participants. The remaining 30 minutes will be used to discuss a pivotal research paper from this field, preselected by the faculty member. Outside reading (30-60 min/week) will be required.
Credit 2 units.

L41 Biol 5201 Membrane Protein Biophysics Journal Club
Cells are encapsulated by lipid bilayers providing a physical barrier for the passage of charged molecules and ions in and out of the cell. the proteins that reside within this layer of oil are called membrane proteins, and they act as the molecular gatekeepers, controlling the passage of ions, nutrients, waste products and signaling elements, across cell membranes. This journal club focuses on examining key literature in the field that investigates how membrane proteins fold, adopt certain structures, and how they function inside of the strange envrionment of the lipid membrane. The papers will be selected from biophysical studies that combine new and notable research with key historical work, for a broad perspective of the science being conducted in this complex and emerging field. Special emphasis will be placed on emerging topics, such as regulation of protein function by lipid composition, membrane protein synthesis and folding, cutting-edge developments in membrane biophysics. The course will consist of both journal club presentations, as well as small group discussions in the form of "chalk-talks."
Credit 1 unit.

L41 Biol 5217 Special Topics in Microbial Pathogenesis
Primarily for graduate and MSTP students, this course involves oral presentation and discussion of current research articles on pathogenic microorganisms (bacteria, viruses, parasites, and fungi). Discussion will include design of specific aims for research proposals. Emphasis will be on literature that addresses the cellular and molecular basis of host-pathogen interactions. Students are expected to prepare all articles covered and to participate actively in each discussion. Prerequisite: advanced elective course "Molecular Microbiology and Pathogenesis" or permission of instructors. Class meets twice per week for 1.5 hours each.
Credit 2 units.

L41 Biol 5224 Molecular, Cell and Organ Systems
This course will introduce Ph.D. and MSTP students to fundamental problems in cell and molecular biology at the systems level. The course is divided into 5 themes: 1) microbial systems; 2) organ development and repair; 3) cardiovascular system and disease; 4) tumor & host systems; and 5) metabolic systems and disease. Topics within each theme highlight current research concepts, questions, approaches and findings at the molecular, cellular and physiological levels. Students will write an original research grant proposal on a topic of their choosing in one of the 5 themes. Students will critique proposals anonymously in an NIH-like study section. Prereqs; Fundamentals of Molecular Cell Biology and Nucleic Acids and Protein Synthesis.
Credit 3 units.

L41 Biol 5235 Genetics Journal Club
This journal club will be focused on the Genetics department seminar series. Students will present one or a few recent papers by the seminar speaker scheduled for that week. Students will provide a brief written evaluation (on a form that will be provided) of their peers' presentations, and the faculty advisors will meet with each student after the presentation to provide feedback.
Credit 1 unit.

L41 Biol 5241 Immunology
Basic molecular and cellular aspects of the vertebrate immune system with emphasis upon the interrelationships of non-specific and specific host defense against disease, the nature of immunological specificity and its underlying molecular biology. Includes complement systems, immunochemistry, the nature of cellular activation and effector generation, immunodeficiency, tolerance, tissue transplantation, hypersensitivity, immune regulation and specific diseases illustrative of the successes and failures of the immune system. Case studies will be presented by the students on an array of immune system disease. Prerequisites: Bio 2970 and Chem 262. Interested Juniors in their second semester are particularly encouraged to register for this course.
Same as L41 Biol 424
Credit 4 units. A&S IQ: NSM Arch: NSM Art: NSM

L41 Biol 5244 Advances in Immunology
One of life's greatest challenges is how do we best survive in a world that is constantly challenging us to survive the many and varied types of infections that would threaten our survival. The main way in which we survive is the immune system that we possess. As a consequence, this course covers basic molecular and cellular aspects of the vertebrate immune system emphasizing specific and nonspecific host defense against disease. In so doing, we will discuss the nature of immunological specificity, and its underlying molecular genetics. We also cover how our immune system responds to foreign invaders by describing the nature of cell activation, the results of such activation in the form of both cellular activities and the impact of factors released by these cells. Finally, we will consider the role that the immune response plays in tolerance. autoimmunity, allergic reactions, transplantation reactions, immunodeficiency, and how it responds to cancer. In so

doing, you will have a better understanding as to how we respond to the world in which we live. Prerequisites: it is recommended, but not required, that you have some knowledge of: Biochemistry, Cell Biology, Molecular Biology/Nucleic Acids, Microbiology/Virology, Pathology/Pathobiology.
Credit 3 units.

L41 Biol 5246 Coding and Statistical Thinking in the Neurosciences
Students will larn common programming constructs and how to visualize and analyze data. Coding will be integrated into a statistics curriculum introducing summary statistics, probability distributions, simulation and hypothesis testing, and power analysis for experimental design.
Credit 1 unit.

L41 Biol 5255 Experimental Skeletal Biology Journal Club
The journal club, which meets weekly, focuses on cellular and molecular biology of the skeleton. Emphasis is placed on gaining insights into normal skeletal homeostasis as well as systemic disorders of bone. Papers presented for review are selected from the most competitive journals. Participants are encouraged to "think outside of the box" and discuss novel molecular discoveries that may impact bone cell function. Prerequisite, permission of instructor.
Credit 1 unit.

L41 Biol 5265 The Science of Cats
This capstone-style course will give students the opportunity to apply what they've learned in topics as diverse as speciation, molecular evolution, community ecology and animal behavior to investigate and analyze questions concerning the biology of a species near and dear to the hearts of many, Felis catus, the domestic cat. Over the last several decades, scientists have studied cats in the same way they have studied lizards, birds, flies and many other species. This cat research allows questions of broad scientific interest to be addressed using cutting-edge methods, including (but not limited to): what is a species? How do new species arise? How do we determine when, where and from what species the cat evolved? How do we determine if a trait (e.g., response to catnip) evolved as an adaptation driven by natural selection? How do we determine the impact of an invasive species on local ecosystems? How does domestication occur and is the cat actually domesticated? Is the behavior of domestic cats a legacy of their evolutionary past or does it represent adaptation to living with humans? What role, if any, can genetic engineering play in decreasing feral cat populations and developing new breeds of cats with desirable traits.
Same as L41 Biol 4271
Credit 3 units. A&S IQ: NSM

L41 Biol 5272 Advanced Topics in Immunology
This course uses a journal club format to discuss contemporary issues in the cell and molecular biology of the immune system. Discussions focus on the use of current approaches to analyze the cellular and molecular basis of immunity. Topics include mechanisms of antigenic specificity, diversity, cell communication, differentiation, activation, and effector activity. Prerequisite, Bio 5051 and permission of instructor.
Credit 2 units.

L41 Biol 5282 Chromatin Structure and Gene Expression
This special topics course will use "Epigenetics" ed. By Allis, Jenuwein, Reinberg, and Caparros (2007, Cold Spring Harbor Laboratory Press) as the organizing text. Each week a faculty member will provide a background lecture on an important topic or model system, and a student will present and lead discussion of a paper from the current scientific literature related to the previous week's background lecture. Topics to be considered will include background on chromatin structure, histone modifications and histone variants; epigenetic regulation in yeast, other fungi, ciliates, flies, mammals and plants; dosage compensation in different systems; DNA methylation and imprinting in mammals; stem cells, nuclear transplantation and reprogramming; and the epigenetics of cancer and other human diseases (some variation in topics in different years). Students enrolled in the course will be required to present one paper and to come prepared to each session, with a question for discussion. Prerequisite, BIO 548 Nucleic Acids and Protein Biosynthesis.
Credit 2 units.

L41 Biol 5284 Current Research in Chromatin, Epigenetics and Nuclear Organization
This journal club considers papers from the current literature on chromatin structure and function, with an emphasis on regulation of transcription, epigenetics and genomics. Presentations are given by students, postdocs and faculty, with discussion by all. Students enrolled for credit are expected to attend regularly, and to present a minimum of one paper during the term, with consultation and critique from the faculty.
Credit 1 unit.

L41 Biol 5285 Current Topics in Human and Mammalian Genetics
This course aims to provide both biologists and those with mathematical backgrounds with a basis in mammalian genetics. The course will include the following modules: Nucleic acid biochemistry; Gene and chromosome organization; Introduction to Human Genetics; Mutations and DNA repair; Cancer Genetics; Genomic methodologies; Biochemical genetics; Murine Genetics; Epigenetics; Neurodegenerative diseases; Mitochondrial disorders; Pharmacogenetics; Introduction to human population genetics; Applications of modern human genetics; Introduction to web-based informatics tools for molecular genetics. One of the required courses in the Quantitative Human Statistical Genetics graduate program.
Credit 3 units.

L41 Biol 5288 Special Topics in Molecular Genetics
A special topics course with lectures and discussion on the molecular basis of cancer including cell cycle regulation, tumor suppressor genes, tumor invasion, angiogenesis, immune evasion, resistance to apoptosis, signaling, imaging, gene expression, chromosomal translocations, and viral oncology.
Credit 2 units.

L41 Biol 5303 Protein NMR Journal Club
This journal club covers the recent literature on protein NMR with a focus on using NMR to study protein function, NMR dynamics, and novel methods that expand the range of systems accessible to solution NMR studies. Students, postdocs and faculty discuss a recent paper and present background information on the relevant technical aspects of NMR. Students receive 1 credit for participation and presenting one paper.
Credit 1 unit.

L41 Biol 5304 Introduction to Biomedical Data Science I
This course is designed primarily for individuals who wish to learn the research tools and approaches required for biomedical informatics-based research and who have little or no computational experience using command line shells, programming, and databases.
Credit 4 units.

L41 Biol 5310 Biology of Aging
This course provides concepts and examples of the biology of aging. We discuss current literature with emphasis on theoretical causes of aging and the practical implications of these theories. Major topics include the biochemical processes of aging, cell cycle senescence, age-related organ dysfunction, interventions to alter the aging process, and medical illnesses associated with aging (e.g., Alzheimer's disease, the dementias). We also study animal and human models for extending longevity, and current approaches for dealing with the aging process are included. Prerequisites: Biol 2960 and Biol 2970 or equivalent; Chem 105 and Chem 106 or equivalent are recommended.
Same as L41 Biol 4310
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L41 Biol 5311 Dynamics in Mesoscopic Molecular Systems
This course will provide a background in the theory of the dynamics of mesoscopic systems and introduction to methods for measuring the dynamics of these systems. It will include measurement methods, some of which are in common use and others that have only recently been introduced. This course would be useful for biophysics students and others that are interested in molecular processes and mechanisms in small systems such as cells. Prerequisites, Physical Chemistry.
Credit 3 units.

L41 Biol 5312 Macromolecular Interactions
This course will cover equilibria, kinetics and mechanisms of macromolecular interactions from a quantitative perspective. Thermodynamics, multiple binding equilibria (binding polynomials), linkage phenomena, cooperativity, allostery, macromolecular assembly, analysis of binding isotherms, enzyme catalysis and mechanism, steady-state and pre-steady-state kinetics, kinetic simulation, and isotope effects. Prerequisite, physical chemistry, biochemistry, calculus, and organic chemistry. 3 class hours per week.
Credit 3 units.

L41 Biol 5318 DNA Repair
This course is an advanced graduate course that explores all aspects of DNA damage and the cellular responses to DNA damage. It is designed for graduate students who have a working knowledge of Chemistry, Molecular Biology and Cellular Biology, and for interested postdocs and researchers. Specific topics that will be covered are: The chemical basis of DNA damage, specific DNA repair mechanisms, cell cycle responses to damage, translesion DNA replication and mutagenesis, and human diseases related to defects in DNA damage response. The course consists of a lecture module, open to all, and a discussion module for registered students. In addition, several invited speakers in the field of DNA repair will give seminars and meet with registered students for discussion. Students will present and discuss research papers. Grades will be given based on student presentation and participation. Prerequisite; Permission of instructor.
Credit 2 units.

L41 Biol 5319 Molecular Foundations of Medicine
This course will cover fundamental aspects of biochemistry and cell biology from a medical perspective. The course begins with a treatment of protein structure and the function of proteins in the cytoskeleton and cell motility. The principles of enzyme kinetics and regulation are then discussed and basic pathways for the synthesis and metabolism of carbohydrates and lipids are introduced. This leads in to a discussion of membrane structure and the function cellular organelles in biological processes including energy production, protein degradation and protein trafficking. Prerequisite: Two semesters of organic chemistry. Coursemaster approval is required. Please note: This course is given on the medical school schedule and so it begins 8 days before the grad school schedule.
Credit 3 units.

L41 Biol 5327 Optical Spectroscopy: Theory and Applications
Spectroscopic methods to be covered include fluorescence, both ensemble and single molecule, and absorption (circular dichroism); fluorescence correlation spectroscopy will also be discussed. The quantum chemistry /physics behind these methods will be reviewed. Prerequisite: Consent of instructor.
Credit 2 units.

L41 Biol 5328 Structural Biology Journal Club
Multi-laboratory research colloquia for DBBS graduate students focused on structural biology and complementary biophysical techniques. Course credit requires student presentation for credit.
Credit 1 unit.

L41 Biol 5335 Linkage Theory and Experiment
The course will cover basic concepts of linkage and their application to the analysis of protein function and interactions. The course is meant to expose students in Biochemistry to the conceptual framework behind current approaches to the study of protein function and interactions, using a very simple mathematical treatment (no knowledge of calculus required) and the discussion of specific biological systems. Topics to be covered include: 1. Linkage cycles; 2. Allostery and cooperativity; 3. Site-specific linkage; 4. Epitope mapping using Ala-scanning mutagenesis; 5. Double-mutant cycles; and 6. Rational protein engineering. Prerequisite: Basic knowledge of protein structure and function.
Credit variable, maximum 1.5 units.

L41 Biol 5336 Computational Biophysics Journal Club
This course covers a combination of classic and recent publications on computational methods for studying biomolecules. Students participating for credit will be required to present at least once.
Credit 1 unit.

L41 Biol 5344 Epigenetics
Introductory course in epigenetics - the layer of chemical information that sits on top of the genome - that switch genes 'on' or 'off'. Will introduce how the epigenome, in collaboration with the genome, controls versatile biological processes and cell fates. Will also cover the latest advances of how humans can control their own epigenetic destiny by lifestyle, diet, and other environmental factors. Learning Objectives: Recognize and summarize the difference between genetics and epigenetics, Apply the basic knowledge of epigenetic mechanism and illustrate how their misregulations cause abnormal development and diseases, Critically review and discuss epigenetic literature, Design epigenetic experiments and interpret the results of those experiments, Graduate student specific: Demonstrate the ability to clearly communicate epigenetic research in both oral and written formats. Prerequisite: Biology 2960 and Biology 2970 (or consent of instructor) (Biology Major Area A)
Same as L41 Biol 4344
Credit 3 units. A&S IQ: NSM Art: NSM

L41 Biol 5352 Developmental Biology
Analysis of a selected set of key processes in development, such as pattern formation, cell-cell signaling, morphogenesis, etc. The focus is on molecular approaches applied to important model systems, but framed in classical concepts. The discussion section provides instruction in presenting a journal club and writing a research proposal. Prerequisites, Molecular Cell Biology (Bio 5068) and Nucleic Acids (548).
Credit 3 units.

L41 Biol 5357 Chemistry and Physics of Biomolecules
This course covers three major types of biomolecular structures: proteins, nucleic acids, and membranes. Basic structural chemistry is presented as well as the biophysical techniques used to probe each type of structure. Selected topics covered include protein folding, protein design, X-ray crystallography, NMR spectroscopy, nucleic acid bending and supercoiling, nucleic acid:protein interactions, RNA folding, membrane organization, fluidity, permeability and transport, and membrane channels. The weekly discussion section will cover problem sets and present current research papers. This is one of the required courses for the biochemistry and for the molecular biophysics graduate programs. Prior course work in biochemistry and physical chemistry is recommended but not required.
Credit 3 units.

L41 Biol 5358 Biochemical and Biophysical Investigations of Infectious Diseases Journal Club
Biochemical and biophysical approaches continue to advance as powerful approaches to the understanding of human disease processes. This journal club covers recent papers in which these approaches address aspects of infectious diseases or inflammation. Students who enroll for credit will be expected to participate in weekly presentations and to present one to two papers along with accompanying background information. Prerequisites:Graduate standing in DBBS; prior introductory course work in biochemistry, physical chemistry, or Chemistry and Physics of Biomolecules (Biol 5357). Course work in microbiology or immunology is not required.
Credit 1 unit.

L41 Biol 5360 Neural Basis of Behavior
This course provides an overview of how the nervous system works from a biological perspective. We will begin by studying how nerve cells function, focusing on how they transmit signals and communicate with one another through specialized connections called synapses. We will further examine the anatomy of the nervous system to discover how nerve cells are organized into circuits and how these circuits develop. We will investigate how the specialized properties of our nerve cells allow us to interact with our environment through an in-depth study of our motor and sensory systems. In our 500 level course, we will apply our learning objectives to a scientific research presentation using peer reviewed literature.
Credit 3 units.

L41 Biol 5392 Molecular Microbiology & Pathogenesis
Course is devoted to studying microorganisms, particularly those that cause disease, with an emphasis on the molecular interactions between pathogens and hosts. First third of the course focuses on virology, second third on bacteriology and the last third on eukaryotic pathogens. Prereq, first semester core curriculum for Programs in Cell and Molecular Biology.
Credit 3 units.

L41 Biol 5393 Molecular Virology Journal Club
Journal club covering a broad range of topics in virology with an emphasis on pathogenesis or molecular biology of medically important viruses. A minimum of one student presentation with faculty critique. Prerequisite: Permission of instructor.
Credit 0.5 units.

L41 Biol 5397 Current Literature in Microbiology
Presentations by students on a broad range of topics of current interest in microbiology. The course will emphasize presentations and discussion skills. Credit requires attendance and participation at all sessions and one presentation. Prerequisites: L41 Biology and Biomedical Science Microbiology (349) and laboratory (3491).
Credit 1 unit.

L41 Biol 5401 Introduction to Bioinformatics I
This year-long course for first-year BIDS PhD students introduces a broad spectrum of biomedical informatics theories and methods that support and enable translational research and, ultimately, precision health care. The course is organized into modules spanning levels of inquiry from biomolecules to patients to populations. For each module, a relevant set of biomedical informatics frameworks will be introduced and then demonstrated via experiential learning involving the analysis of a variety of biological, clinical, and population-level data sets.
Credit 4 units.

L41 Biol 5403 Introduction to Biomedical Data Science I
This course provides a hands-on introduction to fundamental principles of informatics and data analysis tools and methods. It is designed primarily for individuals who wish to learn the research tools and approaches required for biomedical informatics-based research and who have little or no computational experience using command line shells, programming, and databases.
Credit 4 units.

L41 Biol 5412 Tropical and Molecular Parasitology
Graduate level seminar course focusing on current scientific literature in molecular parasitology. The journal club will meet biweekly during the Fall and Spring semesters. Students will attend both semesters in order to receive one credit. The seminar series will run jointly with a research conference in Tropical and Molecular Parasitology. Outside speakers will be invited for the seminar series to emphasize important developments in tropical medicine and molecular parasitology. In advance of the invited speakers, topics will focus on their previous research publications. Prerequisites, BIO 5392 Molecular Microbiology & Pathogenesis.
Credit 0.5 units.

L41 Biol 5417 Hematology Division Journal Club: Current Topics in Biochemistry, Cellular, and Molecular Biology
This journal club covers a broad range of topics of current interest, including the fields of biochemistry, molecular biology, cell biology, developmental biology, and immunology. Speakers usually give a brief background to introduce the topic and then focus on one-two papers from the current literature. Presentations are given by graduate students, post-doctorates, and faculty. Each attendee presents two-three times per year. Participants are expected to attend all the sessions. This journal club was founded in 1966.
Credit 1 unit.

L41 Biol 5420 Membrane Protein Biophysics Journal Club
Cells are encapsulated by lipid bilayers providing a physical barrier for the passage of charged molecules and ions in and out of the cell. the proteins that reside within this layer of oil are called membrane proteins, and they act as the molecular gatekeepers, controlling the passage of ions, nutrients, waste products and signaling elements, across cell membranes. This journal club focuses on examining key literature in the field that investigates how membrane proteins fold, adopt certain structures, and how they function inside of the strange environment of the lipid membrane. the papers will be selected from biophysical studies that combine new and notable research with key historical work, for a broad perspective of the science being conducted in this complex and emerging field. Special emphasis will be placed on emerging topics, such as regulation of protein function by lipid composition, membrane protein synthesis and folding, and cutting-edge developments in membrane biophysics. The course will consist of both journal club presentations, as well as small group discussions in the form of "chalk-talks."

Credit 1 unit.

L41 Biol 5425 Immunology of Infectious Diseases Journal Club
The goal of this Journal Club (JC) is to provide 2nd year students in MMMP program a platform to discuss new and emerging concepts on mechanisms by which host immune responses mediate protection against infectious diseases. This exercise will also enable the student who attend the fundamental Immunology course to apply their knowledge to understand the basis for immunology of infectious diseases. The format will include faculty who will select cutting-edge papers and head the discussion during the JC session.
Credit 1 unit.

L41 Biol 5426 ID Gateway: Translational and Public Health Aspects of Basic Infectious Disease Research
This course provides an opportunity for students, postdoctoral fellows, infectious disease fellows and faculty to explore issues at the interface between patient care, public health and basic research in the area of microbial pathogenesis. Prerequisites, Application and L41 Bio 5392 or M30 526, or permission of instructor.
Credit 2 units.

L41 Biol 5445 DNA Metabolism Journal Club
Presentation of current research papers in DNA replication, DNA repair, and DNA recombination, with an emphasis on basic biochemical and biophysical approaches.
Credit 1 unit.

L41 Biol 5456 Advanced Crystallography
The advanced course in Protein Crystallography will address all aspects of modern protein crystallography including fundamentals of crystallography, the derivation of the structure factor and electron density equation, symmetry and space groups, direct methods, isomorphous replacement, molecular replacement, data collection, and crystal growing theory and techniques. Prerequisite, Physical Chemistry & Bio 5325 Protein Structure and Function. Two class hours per week.
Credit 2 units.

L41 Biol 5466 Current Topics in Biochemistry
Special topics course offered every other week involving the discussion of research papers covering a broad range of topics in the field of biochemistry. Papers selected from the primary literature will be presented and discussed by students with guidance from the instructor. Emphasis will be placed on papers that illustrate the application of chemical approaches to important biological processes. Designed primarily for first- and second-year graduate students in the Biochemistry Ph.D. program. Prerequisites: coursemaster permission.
Credit 0.5 units.

L41 Biol 5469 Biochemistry, Biophysics, and Structural Biology Seminar
Student presentation of Biochemistry, Biophysics or Structural Biology topic. Second Year Students present from literature; senior students give formal research seminar. Attendance required of all BBSB Graduate Students. Prerequisites: BBSB Graduate Student.
Credit 0.5 units.

L41 Biol 548 Nucleic Acids & Protein Biosynthesis
Fundamental aspects of the structure, biosynthesis, and function of nucleic acids and the biosynthesis of proteins. Emphasis on mechanisms involved in the biosynthetic processes and the regulation thereof. Lecture course supplemented with student discussions of research papers. Prerequisites: Biol 3371, Biol 451, Chem 481 or equivalent, or permission of instructor.
Credit 3 units.

L41 Biol 5483 Human Genetic Analysis
Basic Genetic concepts: meiosis, inheritance, Hardy-Weinberg Equilibrium, Linkage, segregation analysis; Linkage analysis: definition, crossing over, map functions, phase, LOD scores, penetrance, phenocopies, liability classes, multi-point analysis, non-parametric analysis (sibpairs and pedigrees), quantitative trait analysis, determination of power for mendelian and complex trait analysis; Linkage Disequilibrium analyses: allelic association (case control designs and family bases studies), QQ and Manhattan plots, whole genome association analysis; population stratification; Quantitative Trait Analysis: measured genotypes and variance components. Hands-on computer lab experience doing parametric linkage analysis with the program LINKAGE, model free linkage analyses with Genehunter and Merlin, power computations with SLINK, quantitative trait anaylses with SOLAR, LD computations with Haploview and WGAViewer, and family-based and case-control association anaylses with PLINK and SAS. The methods and exercises are coordinated with the lectures and students are expected to understand underlying assumptions and limitations and the basic calculations performed by these computer programs. Auditors will not have access to the computer lab sessions. Prerequisite: M21-515 Fundamentals of Genetic Epidemiology. For details, to register and to receive the required permission of the Coursemaster contact the MSIBS Program Manager (biostat-msibs@email.wustl.edu or telephone 362-1384).
Credit 3 units.

L41 Biol 5484 Genetics and Development of C. elegans Journal Club
Students will present a research paper (or present their current thesis research) and the appropriate background material.
Credit 1 unit.

L41 Biol 5487 Genetics and Genomics of Disease
The course will cover the use of genomic and genetic information in the diagnosis and treatment of disease, with an emphasis on current practice and existing gaps to be filled to achieve precision medicine. Areas of discussion include: bioinformatics methods; assessment of pathogenicity; use and curation of disease variant databases; discovery of incidental findings; genomics applications in Mendelian disease, complex traits, cancer, pharmacogenomics, and infectious disease; design of clinical trials with genetic data; ethical and policy issues. Prerequisites: Genomics (Bio 5488), Advanced Genetics (Bio 5491), or Fundamentals of Mammalian Genetics (Bio 5285) or equivalent (permission from instructor)
Credit 2 units.

L41 Biol 5488 Genomics
This course is designed for beginning students who want to become familiar with the basic concepts and applications of genomics. The course covers a wide range of topics including how genomes are mapped and sequenced as well as the latest computational and experimental techniques for predicting genes, splice sites, and promoter elements. High throughput techniques for ascribing function to DNA, RNA, and protein sequences including microarrays, mass spectrometry, interspecies genome comparisons and genome-wide knock-out collections will also be discussed. Finally, the use of genomic techniques and resources for studies of human disease will

be discussed. A heavy emphasis will be put on students acquiring the basic skills needed to navigate databases that archive sequence data, expression data and other types of genome-wide data. Through problem sets the students will learn to manipulate and analyze the large data sets that accompany genomic analyses by writing simple computer scripts. While students will become sophisticated users of computational tools and databases, programming and the theory behind it are covered elsewhere, in Michael Brent's class, Bio 5495 Computational Molecular Biology. Because of limited space in our teaching lab, enrollment for lab credit will be limited to 24 students. Priority will be given to students in the DBBS program. Others interested in the course may enroll for the lectures only. If you have previous experience in computer programming, we ask that you do not enroll for the laboratory credit. Prerequisites, Molecular Cell Biology (Bio 5068), Nucleic Acids (Bio 548) or by permission of instructor. Lecture 3 units of credit; lab 1 additional unit, space limited.
Credit variable, maximum 4 units.

L41 Biol 5489 Human Genetics Journal Club
In this biweekly journal club on Human Genetics we will present and discuss current cutting edge papers in human and mammalian molecular genetics. Students learn presentation skills, how to critique a paper and how to interact with a very active and critical audience. Prerequisites; Any person interested in the current state of the art in Human Genetics may attend this course. It is a requirement that all students wishing to earn credit in this course must present a 1.5 hour journal club talk and must regularly attend and participate in the journal club throughout the year.
Credit 0.5 units.

L41 Biol 5491 Advanced Genetics
Fundamental aspects of organismal genetics with emphasis on experimental studies that have contributed to the molecular analysis of complex biological problems. Examples drawn from bacteria, yeast, nematodes, fruit flies and mammalian systems. Prerequisite, graduate standing or permission of instructor.
Credit 3 units.

L41 Biol 5495 Computational Molecular Biology
This course is a survey of algorithms and mathematical methods in biological sequence analysis (with a strong emphasis on probabilistic methods) and systems biology. Sequence analysis topics include introduction to probability, probabilistic inference in missing data problems, hidden Markov models (HMMs), profile HMMs, sequence alignment, and identification of transcription-factor binding sites. Systems biology topics include the discovery of gene regulatory networks, quantitative modeling of gene regulatory networks, synthetic biology, and (in some years) quantitative modeling of metabolism. Prerequisite: CSE 131 or CSE 501N.
Credit 3 units. EN: BME T, TU

L41 Biol 5496 Seminar in Computational Molecular Biology
Students present current research papers and the appropriate background material in the field of Computational Biology. **Arts and Sciences students must take this course for credit; Engineering students must take this course Pass/Fail.**
Credit 1 unit.

L41 Biol 5499 Cancer Informatics Journal Club
This journal club will explore current topics in cancer informatics. Current literature will be reviewed for advanced cancer genome analysis methods, statistics, algorithms, tools, databases, and other informatics resources.
Credit 1 unit.

L41 Biol 550 Medical Genetics
A significant portion of the first-year course in basic medical genetics devoted to human and clinical genetics, with emphasis on how genomic information will transform the practice of medicine. Topics covered include population genetics; molecular basis of mutations; human functional genomics; mouse models of human disease; pharmacogenomics; metabolic defects. Lectures, small group discussions, patient information session. Prereq, an introductory genetics course and permission of the instructor.
Credit 2 units.

L41 Biol 5501 The Biology and Pathology of the Visual System
The purpose of the course is to provide a fascinating view of vertebrate eye development, anatomy, physiology and pathology. Topics to be covered include the molecules that control eye formation, ocular stem cells, the physiology of transparency, hereditary ocular diseases, phototransduction, the neurobiology of the retina and central visual pathways, age-related eye diseases, and many others. The course is open to all second year graduates students and above. Ophthalmology residents and postdocs with an interest in vision are strongly encouraged to attend.
Credit 3 units.

L41 Biol 5502 Molecular Aspects of Vision
Seminar on useful research strategies used to elucidate the molecular basis of light detection including the biochemical, biophysical and electrophysiological events. Discussions of the molecular basis of inherited ocular cancer, color blindness and retinitis pigmentosis included. Prerequisite, 3 units of biochemistry.
Credit 3 units.

L41 Biol 5504 Algorithms for Biosequence Comparison
This course surveys algorithms for comparing and organizing discrete sequential data, especially nucleic acid and protein sequences. Emphasis is on tools to support search in massive biosequence databases and to perform fundamental comparison tasks such as DNA short-read alignment. Prerequisite: CSE 347 or permission of instructor. These techniques are also of interest for more general string processing and for building and mining textual databases. Algorithms are presented rigorously, including proofs of correctness and running time where feasible. Topics include classical string matching, suffix array string indices, space-efficient string indices, rapid inexact matching by filtering (including BLAST and related tools), and alignment-free algorithms. Students complete written assignments and implement advanced comparison algorithms to address problems in bioinformatics. This course does not require a biology background. Prerequisites: CSE 347 or instructor permission Revised: 2019-02-21 Same as E81 CSE 584A
Credit 3 units. EN: BME T, TU

L41 Biol 5505 Independent Study in Fundamentals of Molecular and Microbial Genetics
This literature-based course will introduce students to seminal and current studies in molecular and microbial genetics. Students will read and present a minimum of 12 landmark papers that helped shape our understanding of molecular and microbial genetics. Emphasis will be placed on students' ability to comprehend and explain these studies via chalk talks. All presentations will be given by students. Prerequisites: L41 5491 Advanced Genetics and permission from instructor.
Credit 2 units.

L41 Biol 5507 Genome Engineering Methods and Applications
This course will cover the basic principles of genome engineering with emphasis on Cas9/CRISPR technology. It will consist of discussion sessions in which students will present assigned manuscripts followed by a general discussion of the topic directed by the instructor. The course will cover the mechanisms of genome editing using host DNA repair systems, the function of Cas9, and how Cas9 can be harnessed to introduce defined mutations into almost any genome. The use of Cas9 to activate or repress genes, alter chromatin modifications, and the application of these Cas9 systems to conducting genome-scale screens in mammalian cells as well as its use in studying cell fate will be highlighted. Finally, we will study how Cas9 methodologies can be used to introduce disease-associated variants into pluripotent stem cells (e.g. iPSCs) that can be differentiated into disease-relevant cell for use in functional genomic studies.
Credit 1 unit.

L41 Biol 5508 ITVS Advanced Techniques
The Advanced Methods in Vision Science course provides ITVS students the opportunity to learn about advanced methods utilized in studies of the visual systems from the experts who perform the studies. These methods emerged from different disciplines (molecular biology, imaging, electrophysiology, machine learning), but provide critical details for understanding how the visual systems focuses and processes light stimuli. The course has two components. 1) A series of 90-minute structured discussions of advanced methods via foundational papers and recent applications of these methods. 2) A choice of two hands-on experiences with these methods in the instructor laboratories. We open the discussion section of the course to all students, postdocs, and faculty members (in this order) but cap the class size at 12 participants to facilitate interactions. Hands-on experiences are restricted to ITVS students. For hands-on experiences, each ITVS student chooses two techniques and spends a day in the laboratory of the respective instructor to gain practical experience with the experiments and analysis pipelines and discuss pitfalls and applications of the methods in detail. Through these components, the Advanced Methods in Vision Science course tries to accomplish three goals: 1) enable students to critically assess the literature through an understanding of strengths and limitations of advanced methods, 2) help students plan experiments involving these methods, and 3) facilitate collaborations with experts in the field that could enhance the science of the ITVS students.
Credit 3 units.

L41 Biol 5509 ITVS Project Building
The overall goal is to have intense guidance to construct a grant/fellowship application. Students should expect to have a near completed F30/F31 application by the end of this course Students will study previous F30/F31 applications and sit on a mock panel to review real world grants from their peers. They will use this experience to understand the reviewers perspective when writing fellowships and grants in the future. Students will draft all portions of a research proposal with feedback from their peers, the course instructor and faculty mentors.
Credit 1 unit.

L41 Biol 5512 Diseases of Membrane Transport & Excitability
Classes will consider the molecular basis of the disease as well as animal models and current clinical studies. Addressing studies from the level of basic biophysical and molecular properties of the underlying ion channels/transporters, to the cellular deflects, to organ and animal outcomes and therapies., which will encourage and force sutdents to develop their ability to integrate understanding at multiple levels. Students will be introduced to emerging ideas in clinical diagnosis, management and treatment, when appropriate, clinical specialists will allow student participants to directly observe and participate in the clinical experiences. Prerequisites, Bio 5068 Fundamentals of Molecular Cell Biology.
Credit 2 units.

L41 Biol 554 Neural Sciences
An integrated course dealing with the structure, function and development of the nervous system. The course will be offered in the Spring of the first year Medical School calendar. Prerequisite: Biol 3411 or Biol 501 and approval of the instructor.
Credit 5 units.

L41 Biol 5565 Oral Presentation of Scientific Data
Practical course on how to prepare and present scientific data to an audience. Prerequisite: First year neuroscience program courses. Meets once a week for 90 minutes.
Credit 1 unit.

L41 Biol 5571 Cellular Neurobiology
This course will present a fully integrated overview of nerve cell structure, function and development at the molecular and cellular level. Broad topics to be covered include gene structure and regulation in the nervous system, quantitative analysis of voltage- and chemically-gated ion channels, presynaptic and postsynaptic mechanisms of chemical neurotransmission, sensory transduction, neurogenesis and migration, axon guidance and synapse formation. Two lectures plus one hour of discussion per week for 14 weeks. There will be three exams, as well as homework problems and summaries of discussion papers. Prerequisites: graduate standing or permission of the instructor.
Credit 6 units.

L41 Biol 5572 Regenerative and Stem Cell Biology
Regeneration is a very complex, post-embryonic developmental phenomenon, where organisms replace lost body parts and organs upon injury. However, we still know very little about why some animals are so successful at regenerating whole bodies and organs, while other animals (like humans) have limited or no capacity to do so. This course covers regeneration and stem cell biology across different levels of biological organization (e.g. cell, organ, limb regeneration.) and across the animal phylogeny.
Credit 3 units.

L41 Biol 5577 Synapses Journal Club
Synaptic function and malleability are fundamental to nervous sytem function and disease. This is an advanced seminar in the development, structure, and function of the synapse in health and disease. It is a natural extension of topics covered in Bio 5571. It may be primarily of interest to students in the Neurosciences Program, but also to students in MCB, Development, Biochemistry, Computational Biology, and Molecular Biophysics. Generally a topic for the semester helps focus the group; past topics have included Synapses and Disease, Neurotransmitter Transporters, Glutamate Receptors, Dendrites, GABA receptors. Participants (students, postdocs, and faculty) alternate responsibility for leading critical discussion of a current paper. Active participation offers the opportunity for students to hone their critical thinking and presentation skills. Students enrolling for credit will be expected to attend each week, to lead discussion once per semester and to provide written critiques (1-2 pages each) of two papers. Prerequisites, Graduate standing in DBBS; Bio 5571 preferred.
Credit 1 unit.

L41 Biol 5582 Macroevolution
An advanced introduction to the study of macroevolutionary patterns and processes with emphasis on the systematic methodology employed. Topics: theories of classification, phylogenetic reconstruction, testing of historical hypotheses, hierarchy theory, adaptation, extinction, speciation, developmental mechanisms of organismal evolution, biogeography. Prerequisite: permission of instructor.
Same as L41 Biol 4182
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L41 Biol 560A Special Topics in Nuclear Chemistry: Radiochemistry for the Life Sciences
This course will provide an introduction to nuclear science (e.g. radioactive decay, nuclear stability, interactions of radiation with matter) and followed by an overview of how radiochemistry is used in the life sciences. Lectures on radiolabeling chemistry with radionuclides used in medical imaging (single photon emission computed tomography (SPECT) and positron emission tomography (PET) and their applications will be presented. In addition, lectures on radiochemistry with tritium (H-3) and C-14 will also be included. Additional applications include environmental radiochemistry as applied to nuclear waste disposal and biofuels.
Same as L07 Chem 536
Credit 2 units.

L41 Biol 5617 Development Biology PhD Program Seminar
In response to student feedback for additional training in Developmental Biology obtained from surveys and group meetings, we propose a new seminar course in Developmental Biology. This once a week course will introduce student in the Developmental, Regenerative, and Stem Cell Biology PhD Program both to the classical embryological experiments that deined key concepts in developmental biology, such as cellular fields, equivalence groups, cytoplasmic determinants, and the more modern experiments that uncovered the genetic and molecular basis of these processes. In general, the classes will be individual sessions on professional development, such as scientific presentation, how to navigate graduate school, etc.
Credit 1 unit.

L41 Biol 5619 Advanced Cognitive, Computational, and Systems Neuroscience
This course will develop critical thinking and analysis skills with regard to topics in Cognitive, Computational and Systems Neuroscience. Course format will be a series of modules composed of intensive, faculty-led case studies on interdisciplinary topics at the intersection of psychology, computation and neuroscience. The goal will be to highlight the benefits of integrative, interdisciplinary approaches, by delving into a small set of topics from a variety of perspectives, rather than providing a survey-level introduction to a broader set of topic areas. Modules will involve a combination of lectures and student-led discussion groups, with students further expected to complete a multi-disciplinary integrative final review paper. Case-study topics will vary somewhat from year to year, but are likely to include some of the following: temporal coding as a mechanism for information processing, coordinate transformations in sensory-motor integration, mechanisms of cognitive control, motor control strategies including application to neural prosthetics, and memory systems in health and disease.
Same as L33 Psych 519
Credit 3 units.

L41 Biol 5621 Computational Statistical Genetics
This course covers the theory and application of both classical and advanced algorithms for statistical modeling in genetics. Students learn how to derive, design and implement their own statistical genetics models through computer labs by writing their own software program from the basic model equations up to analyze one of four major term project datasets. Didactic lectures cover a wide range of important topics including: Maximum Likelihood theory, Frequentist vs. Bayesian approaches, Information Theory, Model Selection techniques, analysis methods for pedigrees vs. unrelated individuals, rare vs. common variant approaches, the E-M Algorithm, mixed model approaches, MCMC methods, Hidden Markov Models, Coalescent Theory, Haplotyping Algorithms, Epigenetic Analysis methods, Genetic Imputation Algorithms, Graphical Models, Decision Trees and Random Forests, Permutation/Randomization Tests, classification and Data Mining Algorithms, Population Stratification and Admixture Mapping Methods, Multiple comparisons corrections, and Power and Monte-Carlo simulation experiments. Same as M21-621
Credit 3 units.

L41 Biol 5622 Cognitive, Computational, and Systems Neuroscience Project Building
The goal of this course is to help students in the CCSN Pathway develop the critical thinking skills necessary to develop and implement high quality, interdisciplinary research projects. Throughout the course of the semester, each student will develop a research plan in their chosen area of interest. The plan will be developed in consultation with at least two faculty members (from at least two different subdisciplines within the pathway) as well as the other students and faculty participating in the course. The culmination of this course will be for each student to produce an NIH-style grant proposal on the research project of their choosing. For most students, this will serve either as their thesis proposal or a solid precursor to the thesis proposal. The course will be designed to help facilitate the development of such a research plan through didactic work, class presentations, class discussion, and constructive feedback on written work. The course will begin with a review of written examples of outstanding research proposals, primarily in the form of grant submissions similar to those that the students are expected to develop (i.e., NRSA style proposals, R03 proposals). Review of these proposals will serve as a stimulus to promote discussion about the critical elements of good research proposals and designs in different areas. Each student will be expected to give three presentations throughout the semester that will provide opportunities to receive constructive feedback on the development and implementation of research aims. The first presentation (towards the beginning of the semester) will involve presentation of the student's general topic of interest and preliminary formulation of research questions. Feedback will emphasize ways to focus and develop the research hypotheses into well-formulated questions and experiments. The second presentation will involve a more detailed presentation of specific research questions (along the lines of NIH-style Specific Aims) and an initial outline of research methods. The final presentation will involve a fuller presentation of research questions and proposed methods. Feedback, didactic work, and group discussion throughout the semester will include guidance on critical components of the development of a research plan, including how to perform literature searches, formulate testable hypotheses, write critical literature summaries, and design experiments and analyses. The course will meet once a week, with faculty members from different tracks within the Pathway present at each meeting. This will allow students to receive feedback from several perspectives. Prerequisite: Member of CCSN Pathway, permission of instructor.
Credit 3 units.

L41 Biol 5624 Bioinformatics for Genomics I
This course is designed to follow Applied Bioinformatics for Genomics I, in the fall semester. The fall semester course is not required as a prerequisite. Students who need fundamental skills for computational genomics can access the fall semester lectures online. This course is for those who want to 1) expand fundamentals skills for computational genomics, 2) use this information to improve and expedite their research and 3) improve their knowledge by hearing from experts in specific technologies and practices. The course meets once a week throughout the Spring semester, covering a variety of best practices methods, technology, and knowledge in focused short lectures coupled with hands-on exercises.
Credit 1 unit.

L41 Biol 5625 Applied Bioinformatics for Genomics II
This course is designed to follow Applied Bioinformatics for Genomics I, in the fall semester. The fall semester course is not required as a prerequisite. Students who need fundamental skills for computational genomics can access the fall semester lectures online. This course is for those who want to 1) expand fundamentals skills for computational genomics, 2) use this information to improve and expedite their research and 3) improve their knowledge by hearing from experts in specific technologies and practices. The course meets once a week throughout the Spring semester, covering a variety of best practices methods, technology, and knowledge in focused short lectures coupled with hands-on exercises.
Credit 1 unit.

L41 Biol 5646 First-Year Fundamentals
This course will provide a two-part introduction to neuroscience research fundamentals. Namely, it will introduce elementary statistical analysis for neuroscience research as well as grant writing to support neuroscience-related research. Enrollment is limited to first-year neuroscience students.
Credit 0.5 units.

L41 Biol 5648 Coding and Statistical Thinking in the Neurosciences
Students are introduced to scientific programming in Python. Students will learn common programming constructs and how to visualize and analyze data. Coding will be integrated into a statistics curriculum introducing summary statistics, probability distributions, simulation and hypothesis testing, and power analysis for experimental design.
Credit 3 units.

L41 Biol 5651 Neural Systems
The course will consist of lectures and discussions of the sensory, motor and integrative systems of the brain and spinal cord, together with a weekly lab. The lectures will present aspects of most neural systems, and will be given by faculty members who have specific expertise on each topic. The discussions will include faculty led group discussions and papers presented and discussed by students. The labs will include human brain dissections, examination of histological slides, physiological recordings, behavioral methods, computational modeling, and functional neural imaging.
Credit 4 units.

L41 Biol 5657 Biological Neural Computation
This course will consider the computations performed by the biological nervous system with a particular focus on neural circuits and population-level encoding/decoding. Topics include, Hodgkin-Huxley equations, phase-plane analysis, reduction of Hodgkin-Huxley equations, models of neural circuits, plasticity and learning, and pattern recognition & machine learning algorithms for analyzing neural data. Note: Graduate students in psychology or neuroscience who are in the Cognitive, Computational, and Systems Neuroscience curriculum pathway may register in L41 5657 for three credits. For non-BME majors, conceptual understanding, and selection/application of right neural data analysis technique will be stressed. Hence homework assignments/examinations for the two sections will be different, however all students are required to participate in a semester long independent project as part of the course. Calculus, Differential Equations, Basic Probability and Linear Algebra Undergraduates need permission of the instructor. L41 5657 prerequisites: Permission from the instructor
Same as E62 BME 572
Credit 3 units. EN: TU

L41 Biol 5663 Neurobiology of Disease
This is an advanced graduate course on the pathology of nervous system disorders. This course is primarily intended to acquaint Neuroscience graduate students with a spectrum of neurological diseases, and to consider how advanced neuroscientific approaches may be applied to promoting recovery in the brain. Topics will be presented by Washington University faculty members and include: neurooncology, stroke, retinal disease, perinatal brain injury, neurodegenerative disorders, neuroinflammation, epilepsy, and psychiatric disorders. The class will meet for 2 hours each week. Each session will be led by a faculty guest with expertise in a specific neurological or psychiatric disease. In the first hour, the speaker will discuss clinical manifestations and pathophysiology. Where possible, the clinical presentation will be supplemented with a patient demonstration or videotape. After a 30 minute break for pizza and soda, the second hour will follow a journal club format. Two or three students will review current papers assigned by the speaker or course director. This course is offered in alternate years. Prerequisite: Introductory neuroscience course at the graduate or medical school level.
Credit 2 units.

L41 Biol 5665 The Science of Behavior
The primary function of nervous systems is to control behavior. Understanding the links between brain and behavior requires an understanding of cognition-the computations performed by the brain, as well as the algorithms underlying those computations and the physical substrates that implement those algorithms. The goal of this course is to introduce students to the tools, concepts, and techniques for the experimental study of cognition and behavior in humans and nonhuman animals. We will focus on cognitive capacities that are well-developed in humans and can be compared with those of other species, to develop an understanding of how evolution shapes cognition and behavior. Students who complete this course will be able to ask questions and form hypotheses about the computations and algorithms underlying cognition and behavior, and to design experiments that test these hypotheses. PREREQ: Graduate standing or permission of the instructor
Same as L33 Psych 5665
Credit 3 units.

L41 Biol 5678 Clocksclub
Clocksclub focuses on recent advances in the study of biological timing including sleep and circadian rhythms. Participants discuss new publications and data on the molecules, cells and circuits underlying daily rhythms and their synchronization to the local environment. Students registered for this journal club will lead a discussion once during the semester. Prerequisites: BIO 2970 or permission of instructor.
Credit 1 unit.

L41 Biol 5702 Current Approaches in Plant and Microbial Research

This course is designed to introduce graduate students and upper-division undergraduates to contemporary approaches and paradigms in plant and microbial biology. The course includes lectures, in-class discussions of primary literature and hands-on exploration of computational genomic and phylogenetic tools. Evaluations include short papers, quizzes, and oral presentations. Over the semester, each student works on conceptualizing and writing a short NIH-format research proposal. Particular emphasis is given to the articulation of specific aims and the design of experiments to test these aims, using the approaches taught in class. Students provide feedback to their classmates on their oral presentations and on their specific aims in a review panel. Prereq: Bio 2970 or permission of the instructor.
Credit 4 units.

L41 Biol 5703 Experimental Design and Analysis in Biological Research

In-depth exploration of landmark and current papers in genetics, molecular and cell biology, with an emphasis on prokaryotes and eukaryotic microbes. Class discussions will center on such key discoveries as the chemical nature of genetic material, the genetic code, oxygen producing light-spectrum, cell-cell signaling, transcriptional regulation, the random nature of mutation, and cell cycle regulation. Emphasis will be placed on what makes a good question or hypothesis, expedient ways to address scientific problems, and creative thinking. The last third of the course will consist of student-run seminars on selected topics to increase proficiency in the synthesis of new material and public presentation skills.
Credit 2 units.

L41 Biol 5715 Basic Cancer Biology

More than two thirds of all people know someone who has cancer. This course provides students with a more extensive understanding of what cancer is and how it affects the human body. We will discuss the history of cancer research, the many different types of human cancers, and basic chemotherapeutics. The topics will be presented in a basic scientific nature, with an emphasis on gaining a broad understanding of the subjects. Prerequisite: Biol 2960 or equivalent. Not available to students who have credit for Biol 144 or Biol 1440.
Same as L41 Biol 4715
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L41 Biol 5723 Seminar in Plant and Microbial Bioscience

This course emphasizing presentation skill and critical analysis counts towards the PMB Graduate Program's journal club course requirement. Students will be responsible for dividing and presenting 30 current research publications selected by the course masters. In addition to assembling brief PowerPoint presentations providing background and significance for their assigned articles, students are expected to provide classmates with a 1 page primer and short list of relevant references
Credit 2 units.

L41 Biol 5772 Behavioral Ecology

This course examines animal behavior from an evolutionary perspective and explores the relationships between animal behavior, ecology, and evolution. Topics include mating systems, sexual selection, parental care, kin selection, and cooperation. There is a strong active - learning component. Prerequisite: Bio 2970 or permission of instructor.
Same as L41 Biol 472
Credit 4 units. A&S IQ: NSM Arch: NSM Art: NSM

L41 Biol 580 Seminar in Population Biology

This weekly seminar, covering different topics each semester, should be taken by graduate students in the program. Prerequisite: graduate standing or permission of the instructors.
Credit variable, maximum 3 units.

L41 Biol 5801 Biochemistry & Molecular Biophysics Seminar Journal Club

This will be a journal club-based seminar course mirroring the topics covered by Biochemistry and Molecular Biophysics (BMB) seminar speakers during the concurrent semester. Students will present a paper published by one of the BMB seminar speakers one-week ahead of that speaker's seminar. This will allow students and faculty to become more familiar with the research programs of BMB invited speakers, likely stimulating discussion within the Q&A period after the seminar, as well as during informal meet-the-speaker lunch sessions. Students will be evaluated on their journal club presentation, attendance and class participation.
Credit 1 unit.

L41 Biol 584 Climate Change Reading Group

The Climate Change Reading Group is made up of multi-disciplinary faculty and students from multiple institutions in St Louis: WUSTL, UMSL, SLU, Missouri Botanical Garden, Danforth Center, and more. Many of us in different labs, departments, and institutions around STL are actively investigating aspects and effects of climate change; this reading group provides a venue for interacting with others in the community. Subject matter within the context of Climate Change will be chosen each week by a different presenter. Students can join this reading group for 1 credit if they agree to read all papers, actively participate in discussions, find and present one high quality scientific paper on climate change in the field of their choice and moderate the discussion of this paper. The students will be evaluated on their participation, their understanding of the issues, and their presentation. Prerequisites: Contact the course coordinator.
Credit 1 unit.

L41 Biol 585 Seminar in Floristic Taxonomy

This weekly seminar provides an introduction to/overview of Plants, each semester progressively covering orders and families in a sequence derived from the Angiosperm Phylogeny Website (http://www.mobot.org/MOBOT/Research/APweb/welcome.html); in Spring 2015, the seminar will cover several crown orders of the monocots, including grasses and relatives. Weekly presentations include a summary of all relevant information (molecular, chemical, anatomical, embryological, morphological, ecological, geographical, historical/paleontological, etc.) about the plant group under consideration, review of the classification/phylogeny of the group, examination of fresh and/or preserved specimens, and discussion of relationships, human uses, and other relevant aspects of the biology of that group. Credit will be contingent on one (or two) seminar presentation(s) per student, regular attendance and active participation in group discussions.
Credit 1 unit.

L41 Biol 5862 Seminar on Professional Development for Graduate Students in Ecology, Evolution & Population Biology

This is a weekly discussion seminar course in which advanced graduate students and postdocs in STEM will discuss the practices of scientific teaching and basic professional development skills. Topics covered will include scientific teaching, active learning, assessment driven instruction, creation inclusive classrooms, preparing for job interviews, preparing grant proposals, and balancing family and work. There will be several panel discussions with invited speakers on a range of potential career options to STEM PhDs. Students will prepare or revise

their professional portfolio materials over the course of the semester. The course is open to all DBBS graduate students and is required for GAANN fellows. Prerequisite: Graduate student status in the DBBS or permission of instructor.
Credit 1 unit.

L41 Biol 5866 Communicating Science: Writing for Multiple Audiences
This course introduces strategies for writing effectively and communicating scientific research to a variety of audiences. Students will learn to reduce jargon, explain scientific concepts in common language, write clearly and concisely, and use sentence structure to maximum efficiency. Written assignments emphasize the significance and innovation in scientific research that appeal to broad audiences, including: the general public, students, policy makers, grant reviewers, and journal editors. This course meets biweekly and consists of lectures and small group sessions. You must enroll in both the lecture session (section 1) and a small group (section A, B, C, or D).
Credit 1 unit.

L41 Biol 5867 Career Planning for Biological Scientists
This course will guide you through nationally recognized and evidence-based career exploration curricula. It is intended for DBBS Ph.D. students and bioscience postdocs who want to jump-start career planning and professional skills needed for a broad range of scientific careers. Topics include self-assessment, career exploration, and goal-setting for long-term success. You will work on a team to research the scientific career path of your choice. Each team will study the specific required knowledge, skills, and attributes of their career interest or employment sector. As part of this research project, you will complete a simulated job exercise and network with alumni or local leaders in your chosen field, gaining valuable real-world insights and creating essential professional connections.
Credit 1 unit.

L41 Biol 590 Research
Credit to be arranged.
Credit variable, maximum 12 units.

L41 Biol 5901 Biomolecular Condensates Journal Club
Biomolecular condensates are non-stoichiometric assemblies of protein and nucleic acids that provide a means for cellular spatiotemporal organization. Over the last decade, a growing appreciation has emerged than many such condensates (which include nucleoli, stress granules, paraspeckles, or even transcriptional assemblies) may form in part via liquid-liquid phase separation, although this does not preclude other assembly mechanisms. A challenge for those new to this field reflects the need to apply ideas from condensed matter physics, biochemistry, physical chemistry, and cell biology. In this journal club we will focus on developing an understanding of the core concepts surrounding biomolecular condensates and phase transitions in biology by reading a mixture of cutting edge and more 'classic' (i.e. mid 2010s) literature.
Credit 1 unit.

L41 Biol 5902 Introduction to the Scholarship of Teaching and Learning
In this course, advanced graduate students and postdocs in STEM will 1) learn the fundamentals of the Scholarship of Teaching and Learning (SoTL)-which is the practice of developing, reflecting on, and evaluating teaching methods to improve student learning, 2) Develop a working knowledge of SoTL, which draws on research in education, STEM education, and cognitive science, 3) Understand how SoTL can lead to the dissemination of new knowledge to a broad audience of educators through publication and presentations., and 4) Develop the central elements of a SoTL project. These elements include articulating questions about classroom teaching that can be addressed in a SoTL research project; developing working hypotheses in response to the questions; designing an evaluative plan, including specific research methods, the type of data to be collected, and how the data will be analyzed in relation to the hypotheses; identifying and understanding necessary procedures to obtain IRB approval for the research. Prereqs: Must be an advanced graduate student or a postdoctoral appointee with some teaching experience, and must have completed 4 STEM Pedagogies workshops (2 are foundational topics) offered by The Teaching Center or received approval from one of the instructors. Same as U29 Bio 4902.
Credit 1 unit.

L41 Biol 5911 Seminar in Biology & Biomedical Sciences
These seminars cover the recent literature in various areas not included in other courses, or in more depth than other courses. Prerequisite: permission of instructor. Credit to be arranged.
Credit variable, maximum 12 units.

L41 Biol 5920 Foundations in Cancer Biology
This basic cancer biology class is designed to provide a didactic foundation into cancer biology principles. These will include tumor suppressors & oncogenes, DNA damage pathways, protein modifications, tumor progression, metastasis, tumor microenvironment and numerous other topics relevant to cancer biology.
Credit 3 units.

L41 Biol 5922 Entering Mentoring
This course is a series of facilitated discussions aimed at developing and improving mentoring skills for those involved in supervising undergraduate research experiences. It is designed for postdocs and graduate students who are or will be ´bench mentors´ for undergraduates doing Bio 500 and/or Summer Research. Participants will receive "Entering Mentoring" materials, including articles and worksheets to facilitate mentoring interactions with their mentee, plus several resource books relevant to mentoring. They will develop a mentoring philosophy statement, work on specific assignments designed to improve their relationship with their mentee and share their present and past experiences as mentors and mentees. Bench mentors will be eligible for a travel award to help defray expenses for attending a meeting with their mentee, if that student wins one of the HHMI SURF travel awards (4-5 awarded annually) or is otherwise being supported to present at a scientific meeting. Prerequisite: open to graduate students and postdocs, with priority for those who plan to mentor undergraduates in summer research experiences. Graduate students and postdocs do NOT need to be mentoring a student at the time of the course; it is open to all with an interest in mentoring now or in the future. Note: The sessions will be held either at the beginning of the day or the end of the day at the Danforth campus. Once registration closes, an email will be sent to those registered to poll for the best days & times.
Credit 1 unit.

L41 Biol 5929 Experimental Cancer Biology
This basic cancer biology class is meant to coincide with the Foundation course. Topics will be discussed in parallel with Foundation course topics but from the perspective of the laboratory experimentalist. Experimental details will provide the basis for understanding how to ask and answer important questions in the cancer biology laboratory.
Credit 3 units.

L41 Biol 5930 Advanced Topics in Neuroscience
This course will expose upper level students and postdocs to advanced topics and methods in Neuroscience. The course will rapidly fill gaps in student knowledge in areas that may be relevant to new directions in thesis work or interest areas. Each section of the course will be offered asynchronously, sometimes in coordination with existing journal clubs and other seminars. Each section will meet for 2-hours per week for 3-weeks. Sections may start with a didactic component or review paper, but will quickly delve into discussion of primary papers curated by faculty and covering a focused topic. It is expected that papers will cover historical and current contexts. Some sections will be techniques-focused; others conceptually focused. Each section will be led by a faculty member drawn from the Neuroscience program in an area of their expertise. Objectives include deepening critical thinking, statistical knowledge, experiemental design, and technical prowess.
Credit 0.5 units.

L41 Biol 5940 Foundations in Cancer Biology and Experimental Cancer Biology
This advanced course will teach the clinical perspective of cancer biology using topics from oncology, radiation biology, radiology, pathology, immunology and surgery. Students will learn to write a grant proposal that includes a clinical trial element while also shadowing physicians in a real cancer clinical setting.
Credit 3 units.

L41 Biol 598 Topics in Evolution, Ecology and Population Biology
This course will meet weekly to discuss ongoing research and future directions of the Evolution, Ecology, and Population Biology (EEPB) graduate program. A different EEPB faculty member will present each week. This course introduces new EEPB students to the diversity of research questions and approaches undertaken by laboratories in the EEPB program; it will also introduce new students to faculty and vice versa. The course will educate the students about the breadth of research in evolution, ecology, and behavior. It will also provide knowledge that students can use when choosing lab rotations and interdisciplinary exposure to enhance creativity in research.
Credit 1 unit.

L41 Biol 5989 Advanced Topics in Neuroscience
This course will expose upper-level and postdoctoral students to advanced topics and methods in neuroscience. The course will rapidly fill gaps in student knowledge in areas that may be relevant to new directions in thesis work or interest areas. Each section of the course will be offered asynchronously, sometimes in coordination with existing journal clubs and other seminars. Each section will meet for two hours per week for three weeks. Sections may start with a didactic component or a review paper, but they will quickly delve into the discussion of primary papers curated by faculty and covering a focused topic. It is expected that papers will cover both historical and current contexts. Some sections will focus on technique; others will be conceptually focused. Each section will be led by a faculty member drawn from the Neuroscience program in an area of their expertise. Objectives include deepening critical thinking, statistical knowledge, experimental design, and technical prowess.
Credit 0.5 units.

L41 Biol 5991 Decision Neuroscience
This is an advanced, reading-intensive graduate course. We will meet once a week for 3 hrs and focus primarily on discussing the literature on decision making from various perspecitves. Decision making is a cantral object of study in multiple diciplines including neuroscience, cognitive psychology, and economics. Within systems neuroscience, research in the past 20 years has developed in two main areas - namely perceptual decisions and economic (value-based) decisions. Each week we will discuss a specific topic and/or research question. Discussion topics will originate from perceptual decisions or economic decisions, and often be relevant to both. Readings will include experimental papers and computational/theoretical papers. Every week, students are expected to read the assigned papers and to write a short comment before class. In class, we will discuss the papers and the weekly topic in a journal-club format. Participation of PhD students from different programs is encouraged, pending permission from the instructor. The goal of the class is to bring graduate students from different disciplines up-to-date on the current debate(s) in decision neuroscience, and to inspire and support their future research.
Credit 3 units.

L41 Biol 5999 Independent Work
This course is designed for individual students wishing to explore indepth specialized areas of literature or technology with one or more faculty members. Credit will vary with the amount of work and discussion, but cannot be more than 3 credits.
Credit variable, maximum 3 units.

L41 Biol 883 Master's Continuing Student Status

L41 Biol 885 Master's Nonresident

L41 Biol 886 Doctoral Nonresident

Biology, AM (Part-Time)

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 30**
- **Degree Length: 3 years maximum** (Students enrolled in the Master of Arts in Biology program in Fall 2024 have until May 2027 to complete all degree requirements.)
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Students must obtain a minimum grade of B- in graduate courses for them to count toward the degree.

Master of Arts in Biology

Students seeking the Master of Arts in Biology must satisfactorily complete 30 units of graduate courses in the biological sciences, including a required capstone experience, which occurs after they have completed 21 units in the program and is chosen from the following options:

1. Complete a capstone course that is approved by the department
2. Complete a 3-unit independent study
3. Complete a 6-unit master's thesis: Students with appropriate backgrounds, interests, and academic qualifications may, with authorization, write a master's thesis based on original library or laboratory research.

Note: The above options cannot count as the capstone experience if they occur before a student has completed 21 units toward the Master of Arts in Biology.

Credit Transfer

A maximum of 3 units of related and comparable graduate-level course work may be transferred from another university or from a related graduate program at Washington University with the approval of the program director. These must be graduate-level units not used to fulfill undergraduate degree or post-baccalaureate program requirements. Transfer credit may be granted only for authorized courses for which the student received a grade of B or higher.

Please note that the Master of Arts in Biology degree is a terminal graduate degree awarded on the basis of the completion of courses rather than research. Except in rare cases, it is not intended as preparation for a PhD degree. No more than 6 of the 30 credits required for this program may be earned in research courses. Those students interested in graduate research or in earning a PhD should apply to the PhD programs offered by Washington University's Division of Biology and Biomedical Sciences.

Thesis Requirements/Details

Students with appropriate backgrounds, interests, and academic qualifications may, with authorization, write a master's thesis based on original library or laboratory research.

A master's thesis in biology is a form of independent study. The purpose of a master's thesis is to provide a capstone or final project in which the student can use the knowledge and methodology obtained in previous courses for the investigation of some problem in depth. Master's theses involve 6 units of independent study, generally taken in two consecutive semesters (i.e., fall and spring). During the first semester, the student carries out research; during the second semester, the student writes up the project. A thesis project is expected to encompass a larger range of issues or a more in-depth investigation than an individual independent study. Theses can be anywhere from 40 to 50 pages minimum, depending on the topic and type of thesis.

To carry out a thesis project, the student must secure an advisor with whom to work; define the project; fill out the necessary forms to be signed by the advisor, student, and departmental graduate program coordinator; and successfully complete the project with advisor and departmental graduate program coordinator approval.

Required Courses

Students must complete 30 units of graduate course work in Arts & Sciences, including a required capstone experience. These courses must be 500-/5000-level Arts & Sciences Biology or Post-Baccalaureate Premedical program courses to fulfill the degree requirements.

Contact:	Philip Osdoby
Email:	osdoby@wustl.edu

Biology & Biomedical Sciences

The Roy and Diana Vagelos Division of Biology & Biomedical Sciences at Washington University offers exceptional doctoral education at one of the nation's preeminent biomedical research centers. The Division includes 12 doctoral programs:

- Biochemistry, Biophysics, & Structural Biology
- Biomedical Informatics & Data Science
- Cancer Biology
- Computational & Systems Biology
- Developmental, Regenerative, & Stem Cell Biology
- Ecology & Evolutionary Biology
- Immunology
- Molecular Cell Biology
- Molecular Genetics & Genomics
- Molecular Microbiology & Microbial Pathogenesis
- Neurosciences
- Plant & Microbial Biosciences

A collaborative, interdisciplinary approach to research and education is a hallmark of Washington University and the Division. As a university-wide consortium, the Division transcends departmental lines and removes traditional boundaries of scientific fields. Faculty and graduate students regularly cross disciplines, devising novel questions and approaches that might otherwise go unexplored. The Division consists of over 700 PhD and MD/PhD students, with more than 700 faculty members from 38 departments.

Washington University in St. Louis provides unique opportunities for translating basic science into practical application. In addition, the Division's associations with internationally prominent local institutions provide exciting opportunities. Students in the biomedical sciences enrich their work with the clinical perspective of our outstanding medical school; students in plant, population, evolutionary and ecological sciences benefit from our close affiliation with the internationally renowned Missouri Botanical Garden, the Tyson Research Center, and the Donald Danforth Plant Science Center.

To help prepare graduates for careers in academia, government, industry or another field of their choice, educational opportunities are offered for skills development and career exploration. The DBBS offers career-planning curriculum, and students can pursue noncredit elective credentials to build transferable professional skills in four areas that apply to a wide variety of scientific careers: leadership, entrepreneurship, science communication, and teaching. Through the Initiative for Maximizing Student Development Career Pathway Talks program, professionals from a variety of fields (e.g., biotech startups, patent law) provide presentations and Q&A sessions to students throughout the year. In addition — through partnerships with groups such as the Teaching Center, the Career Center, and student organizations such as ProSPER, InPrint, Sling Health, the BALSA Group, and the Young Scientist Program — students have additional opportunities to develop experiences relevant to their future career goals.

DBBS students can reference the DBBS Student Handbook for student guidelines across all Division programs.

Email:	dbbsphdadmissions@wustl.edu
Website:	http://dbbs.wustl.edu

Faculty

Associate Directors

Eric Herzog
Professor of Biology, Professor of Neuroscience, Viktor Hamburger Distinguished Professor
PhD, Syracuse University

Heather True
Professor of Cell Biology and Physiology, Associate Director of the Division of Biology and Biomedical Sciences, David English Smith Professorship in Medicine
PhD, University of Illinois-Urbana-Champaign

Faculty Program Directors: Biochemistry, Biophysics, & Structural Biology

Thomas Brett
Associate Professor of Medicine, Associate Professor of Biochemistry and Molecular Biophysics, Associate Professor of Cell Biology and Physiology
PhD, University of Nebraska – Lincoln

Eric Galburt
Associate Professor of Biochemistry and Molecular Biophysics
PhD, University of Washington

Faculty Program Director: Biomedical Informatics & Data Science

Philip Payne
Professor of Medicine, Director, Institute for Informatics, Professor, Professor of Computer Science and Engineering, Associate Dean for Health Information and Data Science for the School of Medicine, Chief Scientist for the School of Medicine, Janet and Bernard Becker Professor of Medicine
PhD, Columbia University

Faculty Program Directors: Cancer Biology

Jason Weber
Professor of Medicine, Professor of Cell Biology and Physiology, Adjunct Instructor, Adjunct Lecturer
PhD, Saint Louis University

Julie Schwarz
Professor of Radiation Oncology, Director - Cancer Biology Division, Vice Chair - Research, Professor of Cell Biology and Physiology
MD/PhD, Washington University School of Medicine

Faculty Program Directors: Computational & Systems Biology

Gautam Dantas
Professor of Pathology and Immunology, Co-Division Chief - Division of Laboratory and Genomic Medicine, Professor of Biomedical Engineering, Professor of Molecular Microbiology, Professor of Pediatrics, Conan Professorship in Laboratory and Genomic Medicine
PhD, University of Washington – Seattle

Nancy Saccone
Associate Professor of Genetics, Associate Professor of Biostatistics
PhD, Brown University

Faculty Program Directors: Developmental, Regenerative, & Stem Cell Biology

Helen McNeill
Professor of Developmental Biology, Larry J Shapiro and Carol-Ann Uetake-Shapiro Professor
PhD, Stanford University

Andrew Yoo
Professor of Developmental Biology
PhD, Columbia University

Faculty Program Director: Ecology & Evolutionary Biology

Jonathan Myers
Associate Professor of Biology
PhD, Louisiana State University

Faculty Program Director: Immunology

Eynav Klechevsky
Assistant Professor of Pathology and Immunology
PhD, Israel Institute of Technology, Haifa, Israel and The Baylor Institute for Immunology Research

Faculty Program Directors: Molecular Cell Biology

Roberta Faccio
Professor of Orthopedic Surgery, Professor of Cell Biology and Physiology
PhD, University of Bari Aldo Moro

Zhongsheng You
Professor of Cell Biology and Physiology, Professor of Medicine
PhD, University of California – San Diego

Faculty Program Directors: Molecular Genetics & Genomics

Jim Skeath
Professor of Genetics, Assistant Dean Academic Pathway Programs
PhD, University of Wisconsin – Madison

John Edwards
Associate Professor of Medicine
PhD, Columbia University

Faculty Program Directors: Molecular Microbiology & Microbial Pathogenesis

Christina Stallings
Professor of Molecular Microbiology
PhD, Columbia University

Megan Baldridge
Associate Professor of Medicine, Associate Professor of Molecular Microbiology
MD/PhD, Baylor College of Medicine

Faculty Program Directors: Neurosciences

Joe Dougherty
Professor of Genetics, Professor of Psychiatry
PhD, University of California – Los Angeles

Daniel Kerschensteiner
Professor of Ophthalmology and Visual Sciences, Vice Chair - Research Division, Professor of Biomedical Engineering, Professor of Neuroscience, Janet and Bernard Becker Professor of Ophthalmology
MD, Georg-August University of Göttingen

Faculty Program Director: Plant & Microbial Biosciences

Hani Zaher
Professor of Biology
PhD, Simon Fraser University

DBBS mentors and educators are key to our training mission. Those who serve as primary mentors are DBBS Program Members, and others who participate in the educational mission are General Members.

Visit the DBBS website to learn about DBBS Faculty Membership or to search DBBS Faculty by last name, program or expertise.

Degree Requirements

- Biochemistry, Biophysics, & Structural Biology, PhD (p. 117)
- Biomedical Informatics & Data Science, PhD (p. 119)
- Cancer Biology, PhD (p. 122)
- Computational & Systems Biology, PhD (p. 124)
- Developmental, Regenerative, & Stem Cell Biology, PhD (p. 126)
- Ecology & Evolutionary Biology, PhD (p. 128)
- Immunology, PhD (p. 130)
- Molecular Cell Biology, PhD (p. 132)
- Molecular Genetics & Genomics, PhD (p. 135)
- Molecular Microbiology & Microbial Pathogenesis, PhD (p. 137)
- Neurosciences, PhD (p. 139)
- Plant & Microbial Biosciences, PhD (p. 141)

Courses

Visit online course listings to view semester offerings for L41 Biol.

For questions about course listings, please email dbbscurriculum@wustl.edu.

L41 Biol 500 Independent Research
Research under the supervision of a faculty mentor. Prerequisites: junior or senior standing and permission of mentor and the department. Credit/No Credit or Audit grade options; credit to be determined in each case, usually 3 units/semester and not to exceed 3 units/semester; may be repeated for credit. Because this course has

a large number of sections, some sections are listed and enrolled as Bio 500A. If work is to be submitted for Latin honors, see p. 3 of the Department of Biology Handbook for Majors, Latin Honors Through a Biology Major Program. The handbook can be found online at: https://wustl.app.box.com/s/d63rx5o0kygqtsv899eyhax5v31gvy1a. Arrangements for registration should be completed during the preregistration period through the Bio 500 course website https://pages.wustl.edu/Bio_200-500_independent_research.
Credit variable, maximum 3 units.

L41 Biol 500A Independent Research
Research under the supervision of a faculty mentor. Prerequisites: junior or senior standing and permission of mentor and the department. Credit/No Credit or Audit grade options; credit to be determined in each case, usually 3 units/semester and not to exceed 3 units/semester; may be repeated for credit. 500A is equivalent to Bio 500. If work is to be submitted for Latin honors, see p. 3 of the Department of Biology Handbook for Majors, Latin Honors Through a Biology Major Program. The handbook can be found online at: https://wustl.app.box.com/s/d63rx5o0kygqtsv899eyhax5v31gvy1a. Arrangements for registration should be completed during the preregistration period through the Bio 500 course website: https://pages.wustl.edu/Bio_200-500_independent_research.
Credit variable, maximum 3 units.

L41 Biol 500N Independent Research in Neuroscience
Research in neuroscience under the supervision of a faculty mentor. Prerequisites: junior or senior standing and permission of mentor and the department. Credit/No Credit or Audit grade options; credit to be determined in each case, usually 3 units/semester and not to exceed 3 units/semester; may be repeated for credit. If work is to be submitted for Latin honors, see p. 3 of the Department of Biology Handbook for Majors, Latin Honors Through a Biology Major Program. The handbook can be found online at: https://wustl.app.box.com/s/d63rx5o0kygqtsv899eyhax5v31gvy1a. Arrangements for registration should be completed during the preregistration period through the Bio 500 course website: https://pages.wustl.edu/Bio_200-500_independent_research.
Credit variable, maximum 3 units.

L41 Biol 500S Summer Independent Research
Summer research under the supervision of a faculty mentor. Prerequisites: junior or senior standing and permission of mentor and the department. Credit to be determined in each case, usually 3 units/summer; may be repeated for credit in different summers. Because this course has a large number of sections, some sections are listed and enrolled as Bio 500T. Credits are received in the fall semester following the summer research. If work is to be submitted for Latin honors, see p. 3 of the Department of Biology Handbook for Majors, Latin Honors Through a Biology Major Program. The handbook can be found online at: https://wustl.app.box.com/s/d63rx5o0kygqtsv899eyhax5v31gvy1a. Arrangements for registration should be completed no later than the end of Summer Session I through the Bio 500 course website: https://pages.wustl.edu/Bio_200-500_independent_research. Credit/No Credit or Audit grade options. Course may not be taken for a letter grade. 1-3 units
Credit variable, maximum 3 units.

L41 Biol 500U Summer Independent Research in Neuroscience
Summer research in neuroscience under the supervision of a faculty mentor. Prerequisites: junior or senior standing and permission of mentor and the department. Credit to be determined in each case, usually 3 units/summer; may be repeated for credit in different summers. Credits are received in the fall semester following the summer research. If work is to be submitted for Latin honors, see p. 3 of the Department of Biology Handbook for Majors, Latin Honors Through a Biology Major Program. The handbook can be found online at: https://wustl.app.box.com/s/d63rx5o0kygqtsv899eyhax5v31gvy1a. Arrangements for registration should be completed no later than the end of Summer Session I through the Bio 500 course website: https://pages.wustl.edu/Bio_200-500_independent_research. Credit/No Credit or Audit grade options. Course may not be taken for a letter grade. 1-3 units
Credit variable, maximum 3 units.

L41 Biol 501 Human Anatomy & Development
Study of the human body primarily by dissection; extensive use of X-rays and CT scans. Emphasis on functional and clinical aspects of anatomy. Prerequisite: This course is restricted to first year medical students. Same as L48 Anthro 502 and M05 AnatNeuro 501A.
Credit 6 units.

L41 Biol 5011 Ethics & Research Science
Exploration of ethical issues which research scientists encounter in their professional activities. Topics will include, but are not limited to: student-mentor relationships, allegations of fraud, collaborators' rights and responsibilities, conflicts of interest, confidentiality, publications. Case study and scenario presentations will provide focus for discussions. Prerequisite, open to graduate students engaged in research. Six 90 minute sessions.
Credit 1 unit.

L41 Biol 5014 Biotech Industry Innovators
Late one Friday afternoon in April 1976, the late venture capitalist Robert Swanson met with biochemist Herb Boyer, PhD, at his UCSF lab. Swanson had requested 10 minutes of Boyer's time; when the meeting ended, three hours later, the foundations had been laid for the formation of Genentech, the first biotechnology company, and the beginnings of the biotechnology industry. This course, The Basics of Bio-Entrepreneurship, investigates issues and choices that inventor/scientists encounter when considering the applications and commercialization of early stage scientific discoveries. This course is intended for anyone interested in working in the medical device, life-, bio-, or pharma-sciences industries as a founder, scientist, entrepreneur, manager, consultant, or investor. It focuses on the decision processes and issues that researchers and their business partners face when considering how a discovery might best be moved from academia to successful commercialization.
Credit 3 units.

L41 Biol 502 General Physiology
This course applies the fundamental physiological mechanisms of cell biology to the functions of the major organ systems of the body, namely, the cardiovascular, renal, respiratory, gastrointestinal, and endocrine systems. The course is intended primarily for first-year medical students. The Physiology and Microscopic Anatomy courses are closely coordinated within the same schedule. Course continues into the spring semester with a different schedule. Prerequisite, Biol 5061 or the equivalent and permission of course director.
Credit 6 units.

L41 Biol 5053 Immunobiology I
Immunobiology I and II are a series of two courses taught by the faculty members of the Immunology Program. These courses cover in depth modern immunology and are based on Janeway's Immunobiology 8th Edition textbook. In Immunobiology I, the topics include: basic concepts in immunology, innate immunity: the first lines of defense, the induce responses of innate immunity, antigen recognition by B-cell and T-cell receptors, the generation of lymphocyte antigen receptors, antigen presentation to T lymphocytes and signaling through immune system receptors. In Immunobiogy II the topics include: the

development and survival of lymphocytes, T cell-mediated immunity, the humoral immune response, dynamics of adaptive immunity, the mucosal immune system, failures of host defense mechanisms, allergy and allergic diseases, autoimmunity and transplantation, and manipulation of the immune response. These courses are open to graduate students. Advanced undergraduate students may take these courses upon permission of the coursemaster. Prereq: DBBS students and advanced undergraduates with permission.
Credit 4 units.

L41 Biol 5054 Immunobiology II
Immunobiology I and II are a series of two courses taught by the faculty members of the Immunology Program. These courses cover in depth modern immunology and are based on Janeway's Immunobiology 8th Edition textbook. In Immunobiology I, the topics include: basic concepts in immunology, innate immunity: the first lines of defense, the induce responses of innate immunity, antigen recognition by B-cell and T-cell receptors, the generation of lymphocyte antigen receptors, antigen presentation to T lymphocytes and signaling through immune system receptors. In Immunobiogy II the topics include: the development and survival of lymphocytes, T cell-mediated immunity, the humoral immune response, dynamics of adaptive immunity, the mucosal immune system, failures of host defense mechanisms, allergy and allergic diseases, autoimmunity and transplantation, and manipulation of the immune response. These courses are open to graduate students. Advanced undergraduate students may take these courses upon permission of the coursemaster. Prereq: DBBS students and advanced undergraduates with permission.
Credit 4 units.

L41 Biol 5068 Fundamentals of Molecular Cell Biology
This is a core course for incoming graduate students in Cell and Molecular Biology programs to learn about research and experimental strategies used to dissect molecular mechanisms that underlie cell structure and function, including techniques of protein biochemistry. Enrolling students should have backgrounds in cell biology and biochemistry, such as courses comparable to L41 Biol 334 and L41 Biol 4501. The format is two lectures and one small group discussion section per week. Discussion section focuses on original research articles. Same as M15 5068 and M04 5068.
Credit 4 units.

L41 Biol 5075 Fundamentals of Biostatistics for Graduate Students
This course is designed for first-year DBBS students who have had little to no prior experience in programming or statistics. The course will cover common statistical practices and concepts in the life sciences, such as error bars, summary statistics, probability and distributions, and hypothesis testing. The class will also teach students basic programming skills for statistical computation, enabling them to retrieve and analyze small and large data sets forom online databases and other sources.
Credit 2 units.

L41 Biol 5077 Pharmaceutical Research and Development: Case Studies
The course will provide an overview of the history of pharmaceutical research and development activities, with emphasis upon understanding a blend of the scientific, public health, regulatory and business decisions that have shaped the pharmaceutical industry over the past eight decades. Particular emphasis will be placed on understanding how past trends have raised questions about the sustainability of the enterprise. Although no prerequisites are formally requires, the course will blend basic understanding of scientific and medical terminology with an understanding of the commercial and policy decision-making processes that govern the pharmaceutical and biotechnology enterprises. The course will provide an overview of the history of pharmaceutical research and development activities, with emphasis upon understanding a blend of the scientific, public health, regulatory and business decisions that have shaped the pharmaceutical industry over the past eight decades. Particular emphasis will be placed on understanding how past trends have raised questions about the sustainability of the enterprise. Although no prerequisites are formally requires, the course will blend basic understanding of scientific and medical terminology with an understanding of the commercial and policy decision-making processes that govern the pharmaceutical and biotechnology enterprises.
Credit 2 units.

L41 Biol 5079 The Science, Medicine and Business of Drugs & Vaccines
The course will provide an overview of the history of research and development in the biotechnology and pharmaceutical industries, with emphasis upon understanding a blend of the scientific, public health, regulatory and business decisions that have shaped the pharmaceutical industry over the past eight decades. Particular emphasis will be placed on understanding how past and ongoing trends have raised questions about the sustainability of the enterprise. Although no prerequisites are formally required, the course will blend basic understanding of scientific and medical terminology with an understanding of the commercial and policy decision-making processes that govern the pharmaceutical and biotechnology enterprises.
Credit 2 units.

L41 Biol 5084 Single Molecule Biophysics Journal Club
Molecular motors in the cell harness chemical energy to generate mechanical work in a host of processes including cell motility, DNA replication and repair, cell division, transcriptional regulation, and intracellular transport. The purpose of this course is to discuss recent advances in the field of molecular motors. Special emphasis will be placed on understanding and criticially evaluating single molecule studies. The course will consist of both journal club presentations and small group discussions.
Credit 1 unit.

L41 Biol 5098 Graduate Research Fundamentals
This course introduces first-year Ph.D. students to the foundational skills, knowledge, and habits of mind required of successful independent biological scientists: 1) Social dynamics in the scientific research enterprise 2) Epistemology and ethics of bioresearch methods 3) Development and communication of research questions and results 4) Interdisciplinary scientific thinking. Class sessions and homework introduce these topics; major assignments prompt student to connect them with the broader scope of graduate training in lab rotations, course work, and interdisiplinary scientific seminars. the interactive, student-driven class structure facilitates autodidactic development while integrating small group activities and peer mentoring from advanced DBBS students. Prerequisite: Students must be enrolled in a graduate program through the Division of Biology & Biomedical Sciences.
Credit 0.5 units.

L41 Biol 5123 Experimental Hematopoiesis Journal Club
Journal club in which papers that describe significant advances in the field of experimental hematopoiesis are discussed. Students are expected to present one paper per semester and attend the weekly (1 hour) session. No prerequisites.
Credit 1 unit.

L41 Biol 5128 Cell Biology of Extracellular Matrix Journal Club
This journal club covers a broad range of topics related to extracellular matrix and cell-cell communication, including the fields of biochemistry, molecular biology, cell biology, and developmental biology. Speakers give a brief background to introduce the topic and then focus on one paper from the current literature. Presentations are given by students, faculty, and post-doctorates. Students receive 1 unit of credit for regular participation and for making one presentation.
Credit 1 unit.

L41 Biol 5130 Plant Diveristy and Evolution
This course is an in-depth exploration of the diversity and evolution of vascular plants. The course focuses mainly on flowering plants because of their dominant role on our planet, but lycophytes, ferns, and gymnosperms are studied as well. A phylogeny of vascular plants provides the framework for their evolution and diversification. Related subjects, including phylogenetics, biogeography, herbaria, nomenclature, species concepts, and pollination biology are also presented. The weekly lectures/discussions and (three hour) lab function in tandem and it is the responsibility for the student to integrate information from the lectures with the abundant materials presented in lab. The lecture will take place on main campus at WashU, and the lab sessions will make use the abundant and exceptional living and preserved materials at the Missouri Botanical Garden. The intended audience is advanced undergraduates and graduate students. Prerequisite: Bio 2970 or Permission of Instructor. Small Class. Credit. Same as L41 Biol 4132
Credit 3 units. A&S IQ: NSM

L41 Biol 5137 Ion Channels Journal Club
Weekly presentations of recent papers on mechanisms of ion channel function and membrane excitability, as well as the role of channel defects in human and model diseases, with lively group discussions the norm! Once per semester, each participant will choose a paper and present it to the group.
Credit 1 unit.

L41 Biol 5138 Journal Club for the Molecular Mechanism of Aging
Why do we age? What causes aging? How is our life span determined? This journal club will address such fundamental, but challenging questions of aging and longevity. Recent studies on aging and longevity are now unveiling regulatory mechanisms of the complex biological phenomenon. We'll cover the latest progress in this exciting field and stimulate discussions on a variety of topics including aging-related diseases. One hour of paper presentation or research talk and discussion per every two weeks. Prerequisite: Basic knowledge of molecular biology and genetics of model organisms, such as yeast, C. elegans, Drosophila and mouse. Registered students are expected to have at least one presentation for 1 unit credit.
Credit 1 unit.

L41 Biol 5146 Principles and Applications of Biological Imaging
Principles and Applications of Biological Imaging will introduce the interdisciplinary nature of the imaging sciences and conduct a comprehensive survey of the array of interrelated topics that define biological imaging. The course will cover the basics of the optical, magnetic resonance, CT, SPECT and PET imaging modalities, and microscopy, while focusing on applications of imaging to different disease states, such as oncology, neurology, cardiology and pulmonary diseases. Prereqs. One year each of Biology, Chemistry, Physics and Calculus.
Credit 3 units.

L41 Biol 5147 Contrast Agents for Biological Imaging
Contrast Agents in Biological Imaging will build the chemistry foundations for the design and use of contrast agents in imaging applications such as nuclear medicine, magnetic resonance imaging (MRI) and optical imaging. The course will include lectures on the design of radiopharmaceuticals for gamma scintigraphy and positron emission tomography, MRI contrast agents and agents for optical imaging, including bioluminescence and fluorescence microscopy. Prereqs: one year of general chemistry, one semester of organic chemistry.
Credit 3 units.

L41 Biol 5148 Metabolism Journal Club
The purpose of the Metabolism Journal Club is to introduce the graduate students to advanced topics spanning the biochemistry, cell biology and genetics of cellular and whole body metabolism. Under the guidance of the course directors (Drs. Ory and Schaffer), students will select recent topical articles for discussion in the weekly journal club. Students will be expected to provide a succinct introduction to the topic and lead discussion of the data presented in the journal article. Students will be evaluated on the basis of their presentation and their participation in the seminar throughout the semester. Prerequisites: Successful completion of Fundamentals of Molecular Cell Biology (Bio 5068) and Nucleic Acids and Protein Biosynthesis (Bio 548).
Credit 1 unit.

L41 Biol 5150 Environmental Medicine
Environmental Medicine explores the interactions between the environment and human health, focusing on the role of the environment in causing or mediating disease. Environmental hazards are examined in terms of toxicology, epidemiology, exposure assessment, risk assessment, individual susceptibility, adaptation/maladaptation, and the total load concept. Students enrolled in the 500-level must also complete a term paper and oral presentation. Prerequisites: General Biology I or permission of instructor.
Credit 3 units.

L41 Biol 5151 RNA Biology Journal Club
The purpose of the RNA Biology Journal Club is to introduce the graduate students to advanced topics spanning the bioinformatics, biochemistry, cell biology and genetics of RNA biology. Under the guidance of the course directors (Drs. Ory and Schaffer), students will select recent topical articles for discussion in the weekly journal club. Students will be expected to provide a succinct introduction to the topic and lead discussion of the data presented in the journal article. Students will be evaluated on the basis of their presentation and their participation in the seminar throughout the semester. Prerequisites: Successful completion of Fundamentals of Molecular Cell Biology (Bio 5068) and Nucleic Acids and Protein Biosynthesis (Bio 548).
Credit 1 unit.

L41 Biol 5152 RAD Journal Club (Regeneration, Aging, and Development)
Focuses on developing a dialog around current topics in developmental and regenerative biology at the molecular, cellular and systems levels.
Credit 1 unit.

L41 Biol 5171 Medical Immunology
An introduction to basic concepts in immunology and immunopathology. Lectures focus on antigen-antibody interactions, immunoglobulin structure and genetics, the cellular basis of the immune response and immune regulation, T cell effector mechanisms, the inflammatory response, complement, the positive and negative roles of hypersensitivity, and immune deficiency. Prerequisite, some

background in biochemistry and genetics helpful. Restricted to medical students only except in unusual circumstances, with permission of coursemaster. Offered during the first half of the second medical semester. Three-four lecture hours a week, two 2-hour lab periods, four 1-hour clinical discussion groups.
Credit variable, maximum 3 units.

L41 Biol 5181 Population Genetics
An introduction to the basic principles of population and ecological genetics. Mechanisms of microevolutionary processes; integrated ecological and genetic approach to study the adaptive nature of the evolutionary process. Prerequisite: Bio 2970.
Same as L41 Biol 4181
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L41 Biol 5190 Community Ecology
Community ecology is an interdisciplinary field that bridges concepts in biodiversity science, biogeography, evolution and conservation. This course provides an introduction to the study of pattern and process in ecological communities with an emphasis on theoretical, statistical and experimental approaches. Topics include: ecological and evolutionary processes that create and maintain patterns of biodiversity; biodiversity and ecosystem function; island biogeography, metacommunity dynamics, niche and neutral theory; species interactions (competition, predation, food webs), species coexistence and environmental change. The class format includes lectures, discussions, and computer labs focused on analysis, modeling and presentation of ecological data using the statistical program R. Prereq: Bio 2970 required, Bio 381 recommended, or permission of instructor. (Biology Major Area C)
Same as L41 Biol 419
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L41 Biol 5191 Pathobiology of Human Disease States
Three human disease states will be discussed in detail. Topics will include background clinical and epidemiological information, followed by a detailed examination of the molecular and cellular events that underlie the disease state. Examples of pertinent topics include Alzheimer's disease, AIDS, leukemia, cystic fibrosis, sickle cell anemia, diabetes, etc. Prerequisite: Must be a Markey Pathway student.
Credit 2 units.

L41 Biol 5192 Cancer Biology Journal Club
This journal club covers current papers in molecular oncology, cancer genetics and contemporary molecular biology. Presentations will be given by students, post-docs and faculty, then discussed.
Credit 1 unit.

L41 Biol 5195 Disease Ecology
Disease ecology is an interdisciplinary field that bridges concepts from fields including population ecology, community ecology, landscape ecology, and evolutionary biology. This course provides an introduction to the study of infectious diseases with an emphasis on theoretical, experimental, and quantitative approaches. The course will integrate studies of infectious diseases from across disciplines including human epidemiology, veterinary medicine, wildlife epidemiology, plant pathology, parasitology, and ecology. Principles of Biology II (Bio 2970) required, Introduction to Ecology (Bio 381) recommended, or permission of instructor.
Same as L41 Biol 4195
Credit 4 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L41 Biol 5196 Special Emphasis Pathway in Cancer Biology
This course is designed to present pre- and postdoctoral trainees with an organized educational format to explore major contemporary topics in cancer biology. The elective will provide an integrated view of cancer research including basic science, translational science, and clinical investigation. Approximately 60 minutes will be devoted to a didactic presentation by a faculty member with interaction by the participants. The remaining 30 minutes will be used to discuss a pivotal research paper from this field, preselected by the faculty member. Outside reading (30-60 min/week) will be required.
Credit 2 units.

L41 Biol 5201 Membrane Protein Biophysics Journal Club
Cells are encapsulated by lipid bilayers providing a physical barrier for the passage of charged molecules and ions in and out of the cell. the proteins that reside within this layer of oil are called membrane proteins, and they act as the molecular gatekeepers, controlling the passage of ions, nutrients, waste products and signaling elements, across cell membranes. This journal club focuses on examining key literature in the field that investigates how membrane proteins fold, adopt certain structures, and how they function inside of the strange envrionment of the lipid membrane. The papers will be selected from biophysical studies that combine new and notable research with key historical work, for a broad perspective of the science being conducted in this complex and emerging field. Special emphasis will be placed on emerging topics, such as regulation of protein function by lipid composition, membrane protein synthesis and folding, cutting-edge developments in membrane biophysics. The course will consist of both journal club presentations, as well as small group discussions in the form of "chalk-talks."
Credit 1 unit.

L41 Biol 5217 Special Topics in Microbial Pathogenesis
Primarily for graduate and MSTP students, this course involves oral presentation and discussion of current research articles on pathogenic microorganisms (bacteria, viruses, parasites, and fungi). Discussion will include design of specific aims for research proposals. Emphasis will be on literature that addresses the cellular and molecular basis of host-pathogen interactions. Students are expected to prepare all articles covered and to participate actively in each discussion. Prerequisite: advanced elective course "Molecular Microbiology and Pathogenesis" or permission of instructors. Class meets twice per week for 1.5 hours each.
Credit 2 units.

L41 Biol 5224 Molecular, Cell and Organ Systems
This course will introduce Ph.D. and MSTP students to fundamental problems in cell and molecular biology at the systems level. The course is divided into 5 themes: 1) microbial systems; 2) organ development and repair; 3) cardiovascular system and disease; 4) tumor & host systems; and 5) metabolic systems and disease. Topics within each theme highlight current research concepts, questions, approaches and findings at the molecular, cellular and physiological levels. Students will write an original research grant proposal on a topic of their choosing in one of the 5 themes. Students will critique proposals anonymously in an NIH-like study section. Prereqs; Fundamentals of Molecular Cell Biology and Nucleic Acids and Protein Synthesis.
Credit 3 units.

L41 Biol 5235 Genetics Journal Club
This journal club will be focused on the Genetics department seminar series. Students will present one or a few recent papers by the seminar speaker scheduled for that week. Students will provide a brief written evaluation (on a form that will be provided) of their peers' presentations, and the faculty advisors will meet with each student after the presentation to provide feedback.

Credit 1 unit.

L41 Biol 5241 Immunology
Basic molecular and cellular aspects of the vertebrate immune system with emphasis upon the interrelationships of non-specific and specific host defense against disease, the nature of immunological specificity and its underlying molecular biology. Includes complement systems, immunochemistry, the nature of cellular activation and effector generation, immunodeficiency, tolerance, tissue transplantation, hypersensitivity, immune regulation and specific diseases illustrative of the successes and failures of the immune system. Case studies will be presented by the students on an array of immune system disease. Prerequisites: Bio 2970 and Chem 262. Interested Juniors in their second semester are particularly encouraged to register for this course.
Same as L41 Biol 424
Credit 4 units. A&S IQ: NSM Arch: NSM Art: NSM

L41 Biol 5244 Advances in Immunology
One of life's greatest challenges is how do we best survive in a world that is constantly challenging us to survive the many and varied types of infections that would threaten our survival. The main way in which we survive is the immune system that we possess. As a consequence, this course covers basic molecular and cellular aspects of the vertebrate immune system emphasizing specific and nonspecific host defense against disease. In so doing, we will discuss the nature of immunological specificity, and its underlying molecular genetics. We also cover how our immune system responds to foreign invaders by describing the nature of cell activation, the results of such activation in the form of both cellular activities and the impact of factors released by these cells. Finally, we will consider the role that the immune response plays in tolerance. autoimmunity, allergic reactions, transplantation reactions, immunodeficiency, and how it responds to cancer. In so doing, you will have a better understanding as to how we respond to the world in which we live. Prerequisites: it is recommended, but not required, that you have some knowledge of: Biochemistry, Cell Biology, Molecular Biology/Nucleic Acids, Microbiology/Virology, Pathology/ Pathobiology.
Credit 3 units.

L41 Biol 5246 Coding and Statistical Thinking in the Neurosciences
Students will larn common programming constructs and how to visualize and analyze data. Coding will be integrated into a statistics curriculum introducing summary statistics, probability distributions, simulation and hypothesis testing, and power analysis for experimental design.
Credit 1 unit.

L41 Biol 5255 Experimental Skeletal Biology Journal Club
The journal club, which meets weekly, focuses on cellular and molecular biology of the skeleton. Emphasis is placed on gaining insights into normal skeletal homeostasis as well as systemic disorders of bone. Papers presented for review are selected from the most competitive journals. Participants are encouraged to "think outside of the box" and discuss novel molecular discoveries that may impact bone cell function. Prerequisite, permission of instructor.
Credit 1 unit.

L41 Biol 5265 The Science of Cats
This capstone-style course will give students the opportunity to apply what they've learned in topics as diverse as speciation, molecular evolution, community ecology and animal behavior to investigate and analyze questions concerning the biology of a species near and dear to the hearts of many, Felis catus, the domestic cat. Over the last several decades, scientists have studied cats in the same way they have studied lizards, birds, flies and many other species. This cat research allows questions of broad scientific interest to be addressed using cutting-edge methods, including (but not limited to): what is a species? How do new species arise? How do we determine when, where and from what species the cat evolved? How do we determine if a trait (e.g., response to catnip) evolved as an adaptation driven by natural selection? How do we determine the impact of an invasive species on local ecosystems? How does domestication occur and is the cat actually domesticated? Is the behavior of domestic cats a legacy of their evolutionary past or does it represent adaptation to living with humans? What role, if any, can genetic engineering play in decreasing feral cat populations and developing new breeds of cats with desirable traits.
Same as L41 Biol 4271
Credit 3 units. A&S IQ: NSM

L41 Biol 5272 Advanced Topics in Immunology
This course uses a journal club format to discuss contemporary issues in the cell and molecular biology of the immune system. Discussions focus on the use of current approaches to analyze the cellular and molecular basis of immunity. Topics include mechanisms of antigenic specificity, diversity, cell communication, differentiation, activation, and effector activity. Prerequisite, Bio 5051 and permission of instructor.
Credit 2 units.

L41 Biol 5282 Chromatin Structure and Gene Expression
This special topics course will use "Epigenetics" ed. By Allis, Jenuwein, Reinberg, and Caparros (2007, Cold Spring Harbor Laboratory Press) as the organizing text. Each week a faculty member will provide a background lecture on an important topic or model system, and a student will present and lead discussion of a paper from the current scientific literature related to the previous week's background lecture. Topics to be considered will include background on chromatin structure, histone modifications and histone variants; epigenetic regulation in yeast, other fungi, ciliates, flies, mammals and plants; dosage compensation in different systems; DNA methylation and imprinting in mammals; stem cells, nuclear transplantation and reprogramming; and the epigenetics of cancer and other human diseases (some variation in topics in different years). Students enrolled in the course will be required to present one paper and to come prepared to each session, with a question for discussion. Prerequisite, BIO 548 Nucleic Acids and Protein Biosynthesis.
Credit 2 units.

L41 Biol 5284 Current Research in Chromatin, Epigenetics and Nuclear Organization
This journal club considers papers from the current literature on chromatin structure and function, with an emphasis on regulation of transcription, epigenetics and genomics. Presentations are given by students, postdocs and faculty, with discussion by all. Students enrolled for credit are expected to attend regularly, and to present a minimum of one paper during the term, with consultation and critique from the faculty.
Credit 1 unit.

L41 Biol 5285 Current Topics in Human and Mammalian Genetics
This course aims to provide both biologists and those with mathematical backgrounds with a basis in mammalian genetics. The course will include the following modules: Nucleic acid biochemistry; Gene and chromosome organization; Introduction to Human Genetics; Mutations and DNA repair; Cancer Genetics; Genomic methodologies; Biochemical genetics; Murine Genetics; Epigenetics; Neurodegenerative diseases; Mitochondrial disorders; Pharmacogenetics; Introduction to human population genetics; Applications of modern human genetics; Introduction to web-based informatics tools for molecular genetics. One of the required courses in the Quantitative Human Statistical Genetics graduate program.

Credit 3 units.

L41 Biol 5288 Special Topics in Molecular Genetics
A special topics course with lectures and discussion on the molecular basis of cancer including cell cycle regulation, tumor suppressor genes, tumor invasion, angiogenesis, immune evasion, resistance to apoptosis, signaling, imaging, gene expression, chromosomal translocations, and viral oncology.
Credit 2 units.

L41 Biol 5303 Protein NMR Journal Club
This journal club covers the recent literature on protein NMR with a focus on using NMR to study protein function, NMR dynamics, and novel methods that expand the range of systems accessible to solution NMR studies. Students, postdocs and faculty discuss a recent paper and present background information on the relevant technical aspects of NMR. Students receive 1 credit for participation and presenting one paper.
Credit 1 unit.

L41 Biol 5304 Introduction to Biomedical Data Science I
This course is designed primarily for individuals who wish to learn the research tools and approaches required for biomedical informatics-based research and who have little or no computational experience using command line shells, programming, and databases.
Credit 4 units.

L41 Biol 5310 Biology of Aging
This course provides concepts and examples of the biology of aging. We discuss current literature with emphasis on theoretical causes of aging and the practical implications of these theories. Major topics include the biochemical processes of aging, cell cycle senescence, age-related organ dysfunction, interventions to alter the aging process, and medical illnesses associated with aging (e.g., Alzheimer's disease, the dementias). We also study animal and human models for extending longevity, and current approaches for dealing with the aging process are included. Prerequisites: Biol 2960 and Biol 2970 or equivalent; Chem 105 and Chem 106 or equivalent are recommended.
Same as L41 Biol 4310
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L41 Biol 5311 Dynamics in Mesoscopic Molecular Systems
This course will provide a background in the theory of the dynamics of mesoscopic systems and introduction to methods for measuring the dynamics of these systems. It will include measurement methods, some of which are in common use and others that have only recently been introduced. This course would be useful for biophysics students and others that are interested in molecular processes and mechanisms in small systems such as cells. Prerequisites, Physical Chemistry.
Credit 3 units.

L41 Biol 5312 Macromolecular Interactions
This course will cover equilibria, kinetics and mechanisms of macromolecular interactions from a quantitative perspective. Thermodynamics, multiple binding equilibria (binding polynomials), linkage phenomena, cooperativity, allostery, macromolecular assembly, analysis of binding isotherms, enzyme catalysis and mechanism, steady-state and pre-steady-state kinetics, kinetic simulation, and isotope effects. Prerequisite, physical chemistry, biochemistry, calculus, and organic chemistry. 3 class hours per week.
Credit 3 units.

L41 Biol 5318 DNA Repair
This course is an advanced graduate course that explores all aspects of DNA damage and the cellular responses to DNA damage. It is designed for graduate students who have a working knowledge of Chemistry, Molecular Biology and Cellular Biology, and for interested postdocs and researchers. Specific topics that will be covered are: The chemical basis of DNA damage, specific DNA repair mechanisms, cell cycle responses to damage, translesion DNA replication and mutagenesis, and human diseases related to defects in DNA damage response. The course consists of a lecture module, open to all, and a discussion module for registered students. In addition, several invited speakers in the field of DNA repair will give seminars and meet with registered students for discussion. Students will present and discuss research papers. Grades will be given based on student presentation and participation. Prerequisite; Permission of instructor.
Credit 2 units.

L41 Biol 5319 Molecular Foundations of Medicine
This course will cover fundamental aspects of biochemistry and cell biology from a medical perspective. The course begins with a treatment of protein structure and the function of proteins in the cytoskeleton and cell motility. The principles of enzyme kinetics and regulation are then discussed and basic pathways for the synthesis and metabolism of carbohydrates and lipids are introduced. This leads in to a discussion of membrane structure and the function cellular organelles in biological processes including energy production, protein degradation and protein trafficking. Prerequisite: Two semesters of organic chemistry. Coursemaster approval is required. Please note: This course is given on the medical school schedule and so it begins 8 days before the grad school schedule.
Credit 3 units.

L41 Biol 5327 Optical Spectroscopy: Theory and Applications
Spectroscopic methods to be covered include fluorescence, both ensemble and single molecule, and absorption (circular dichroism); fluorescence correlation spectroscopy will also be discussed. The quantum chemistry /physics behind these methods will be reviewed. Prerequisite: Consent of instructor.
Credit 2 units.

L41 Biol 5328 Structural Biology Journal Club
Multi-laboratory research colloquia for DBBS graduate students focused on structural biology and complementary biophysical techniques. Course credit requires student presentation for credit.
Credit 1 unit.

L41 Biol 5335 Linkage Theory and Experiment
The course will cover basic concepts of linkage and their application to the analysis of protein function and interactions. The course is meant to expose students in Biochemistry to the conceptual framework behind current approaches to the study of protein function and interactions, using a very simple mathematical treatment (no knowledge of calculus required) and the discussion of specific biological systems. Topics to be covered include: 1. Linkage cycles; 2. Allostery and cooperativity; 3. Site-specific linkage; 4. Epitope mapping using Ala-scanning mutagenesis; 5. Double-mutant cycles; and 6. Rational protein engineering. Prerequisite: Basic knowledge of protein structure and function.
Credit variable, maximum 1.5 units.

L41 Biol 5336 Computational Biophysics Journal Club
This course covers a combination of classic and recent publications on computational methods for studying biomolecules. Students participating for credit will be required to present at least once.
Credit 1 unit.

L41 Biol 5344 Epigenetics
Introductory course in epigenetics - the layer of chemical information that sits on top of the genome - that switch genes 'on' or 'off'. Will introduce how the epigenome, in collaboration with the genome, controls versatile biological processes and cell fates. Will also cover the latest advances of how humans can control their own epigenetic destiny by lifestyle, diet, and other environmental factors. Learning Objectives: Recognize and summarize the difference between genetics and epigenetics, Apply the basic knowledge of epigenetic mechanism and illustrate how their misregulations cause abnormal development and diseases, Critically review and discuss epigenetic literature, Design epigenetic experiments and interpret the results of those experiments, Graduate student specific: Demonstrate the ability to clearly communicate epigenetic research in both oral and written formats. Prerequisite: Biology 2960 and Biology 2970 (or consent of instructor) (Biology Major Area A)
Same as L41 Biol 4344
Credit 3 units. A&S IQ: NSM Art: NSM

L41 Biol 5352 Developmental Biology
Analysis of a selected set of key processes in development, such as pattern formation, cell-cell signaling, morphogenesis, etc. The focus is on molecular approaches applied to important model systems, but framed in classical concepts. The discussion section provides instruction in presenting a journal club and writing a research proposal. Prerequisites, Molecular Cell Biology (Bio 5068) and Nucleic Acids (548).
Credit 3 units.

L41 Biol 5357 Chemistry and Physics of Biomolecules
This course covers three major types of biomolecular structures: proteins, nucleic acids, and membranes. Basic structural chemistry is presented as well as the biophysical techniques used to probe each type of structure. Selected topics covered include protein folding, protein design, X-ray crystallography, NMR spectroscopy, nucleic acid bending and supercoiling, nucleic acid:protein interactions, RNA folding, membrane organization, fluidity, permeability and transport, and membrane channels. The weekly discussion section will cover problem sets and present current research papers. This is one of the required courses for the biochemistry and for the molecular biophysics graduate programs. Prior course work in biochemistry and physical chemistry is recommended but not required.
Credit 3 units.

L41 Biol 5358 Biochemical and Biophysical Investigations of Infectious Diseases Journal Club
Biochemical and biophysical approaches continue to advance as powerful approaches to the understanding of human disease processes. This journal club covers recent papers in which these approaches address aspects of infectious diseases or inflammation. Students who enroll for credit will be expected to participate in weekly presentations and to present one to two papers along with accompanying background information. Prerequisites:Graduate standing in DBBS; prior introductory course work in biochemistry, physical chemistry, or Chemistry and Physics of Biomolecules (Biol 5357). Course work in microbiology or immunology is not required.
Credit 1 unit.

L41 Biol 5360 Neural Basis of Behavior
This course provides an overview of how the nervous system works from a biological perspective. We will begin by studying how nerve cells function, focusing on how they transmit signals and communicate with one another through specialized connections called synapses. We will further examine the anatomy of the nervous system to discover how nerve cells are organized into circuits and how these circuits develop. We will investigate how the specialized properties of our nerve cells allow us to interact with our environment through an in-depth study of our motor and sensory systems. In our 500 level course, we will apply our learning objectives to a scientific research presentation using peer reviewed literature.
Credit 3 units.

L41 Biol 5392 Molecular Microbiology & Pathogenesis
Course is devoted to studying microorganisms, particularly those that cause disease, with an emphasis on the molecular interactions between pathogens and hosts. First third of the course focuses on virology, second third on bacteriology and the last third on eukaryotic pathogens. Prereq, first semester core curriculum for Programs in Cell and Molecular Biology.
Credit 3 units.

L41 Biol 5393 Molecular Virology Journal Club
Journal club covering a broad range of topics in virology with an emphasis on pathogenesis or molecular biology of medically important viruses. A minimum of one student presentation with faculty critique. Prerequisite: Permission of instructor.
Credit 0.5 units.

L41 Biol 5397 Current Literature in Microbiology
Presentations by students on a broad range of topics of current interest in microbiology. The course will emphasize presentations and discussion skills. Credit requires attendance and participation at all sessions and one presentation. Prerequisites: L41 Biology and Biomedical Science Microbiology (349) and laboratory (3491).
Credit 1 unit.

L41 Biol 5401 Introduction to Bioinformatics I
This year-long course for first-year BIDS PhD students introduces a broad spectrum of biomedical informatics theories and methods that support and enable translational research and, ultimately, precision health care. The course is organized into modules spanning levels of inquiry from biomolecules to patients to populations. For each module, a relevant set of biomedical informatics frameworks will be introduced and then demonstrated via experiential learning involving the analysis of a variety of biological, clinical, and population-level data sets.
Credit 4 units.

L41 Biol 5403 Introduction to Biomedical Data Science I
This course provides a hands-on introduction to fundamental principles of informatics and data analysis tools and methods. It is designed primarily for individuals who wish to learn the research tools and approaches required for biomedical informatics-based research and who have little or no computational experience using command line shells, programming, and databases.
Credit 4 units.

L41 Biol 5412 Tropical and Molecular Parasitology
Graduate level seminar course focusing on current scientific literature in molecular parasitology. The journal club will meet biweekly during the Fall and Spring semesters. Students will attend both semesters in order to receive one credit. The seminar series will run jointly with a research conference in Tropical and Molecular Parasitology. Outside speakers will be invited for the seminar series to emphasize important developments in tropical medicine and molecular parasitology. In advance of the invited speakers, topics will focus on their previous research publications. Prerequisites, BIO 5392 Molecular Microbiology & Pathogenesis.
Credit 0.5 units.

L41 Biol 5417 Hematology Division Journal Club: Current Topics in Biochemistry, Cellular, and Molecular Biology
This journal club covers a broad range of topics of current interest, including the fields of biochemistry, molecular biology, cell biology, developmental biology, and immunology. Speakers usually give a brief background to introduce the topic and then focus on one-two papers from the current literature. Presentations are given by graduate students, post-doctorates, and faculty. Each attendee presents two-three times per year. Participants are expected to attend all the sessions. This journal club was founded in 1966.
Credit 1 unit.

L41 Biol 5420 Membrane Protein Biophysics Journal Club
Cells are encapsulated by lipid bilayers providing a physical barrier for the passage of charged molecules and ions in and out of the cell. the proteins that reside within this layer of oil are called membrane proteins, and they act as the molecular gatekeepers, controlling the passage of ions, nutrients, waste products and signaling elements, across cell membranes. This journal club focuses on examining key literature in the field that investigates how membrane proteins fold, adopt certain structures, and how they function inside of the strange environment of the lipid membrane. the papers will be selected from biophysical studies that combine new and notable research with key historical work, for a broad perspective of the science being conducted in this complex and emerging field. Special emphasis will be placed on emerging topics, such as regulation of protein function by lipid composition, membrane protein synthesis and folding, and cutting-edge developments in membrane biophysics. The course will consist of both journal club presentations, as well as small group discussions in the form of "chalk-talks."
Credit 1 unit.

L41 Biol 5425 Immunology of Infectious Diseases Journal Club
The goal of this Journal Club (JC) is to provide 2nd year students in MMMP program a platform to discuss new and emerging concepts on mechanisms by which host immune responses mediate protection against infectious diseases. This exercise will also enable the student who attend the fundamental Immunology course to apply their knowledge to understand the basis for immunology of infectious diseases. The format will include faculty who will select cutting-edge papers and head the discussion during the JC session.
Credit 1 unit.

L41 Biol 5426 ID Gateway: Translational and Public Health Aspects of Basic Infectious Disease Research
This course provides an opportunity for students, postdoctoral fellows, infectious disease fellows and faculty to explore issues at the interface between patient care, public health and basic research in the area of microbial pathogenesis. Prerequisites, Application and L41 Bio 5392 or M30 526, or permission of instructor.
Credit 2 units.

L41 Biol 5445 DNA Metabolism Journal Club
Presentation of current research papers in DNA replication, DNA repair, and DNA recombination, with an emphasis on basic biochemical and biophysical approaches.
Credit 1 unit.

L41 Biol 5456 Advanced Crystallography
The advanced course in Protein Crystallography will address all aspects of modern protein crystallography including fundamentals of crystallography, the derivation of the structure factor and electron density equation, symmetry and space groups, direct methods, isomorphous replacement, molecular replacement, data collection, and crystal growing theory and techniques. Prerequisite, Physical Chemistry & Bio 5325 Protein Structure and Function. Two class hours per week.
Credit 2 units.

L41 Biol 5466 Current Topics in Biochemistry
Special topics course offered every other week involving the discussion of research papers covering a broad range of topics in the field of biochemistry. Papers selected from the primary literature will be presented and discussed by students with guidance from the instructor. Emphasis will be placed on papers that illustrate the application of chemical approaches to important biological processes. Designed primarily for first- and second-year graduate students in the Biochemistry Ph.D. program. Prerequisites: coursemaster permission.
Credit 0.5 units.

L41 Biol 5469 Biochemistry, Biophysics, and Structural Biology Seminar
Student presentation of Biochemistry, Biophysics or Structural Biology topic. Second Year Students present from literature; senior students give formal research seminar. Attendance required of all BBSB Graduate Students. Prerequisites: BBSB Graduate Student.
Credit 0.5 units.

L41 Biol 548 Nucleic Acids & Protein Biosynthesis
Fundamental aspects of the structure, biosynthesis, and function of nucleic acids and the biosynthesis of proteins. Emphasis on mechanisms involved in the biosynthetic processes and the regulation thereof. Lecture course supplemented with student discussions of research papers. Prerequisites: Biol 3371, Biol 451, Chem 481 or equivalent, or permission of instructor.
Credit 3 units.

L41 Biol 5483 Human Genetic Analysis
Basic Genetic concepts: meiosis, inheritance, Hardy-Weinberg Equilibrium, Linkage, segregation analysis; Linkage analysis: definition, crossing over, map functions, phase, LOD scores, penetrance, phenocopies, liability classes, multi-point analysis, non-parametric analysis (sibpairs and pedigrees), quantitative trait analysis, determination of power for mendelian and complex trait analysis; Linkage Disequilibrium analyses: allelic association (case control designs and family bases studies), QQ and Manhattan plots, whole genome association analysis; population stratification; Quantitative Trait Analysis: measured genotypes and variance components. Hands-on computer lab experience doing parametric linkage analysis with the program LINKAGE, model free linkage analyses with Genehunter and Merlin, power computations with SLINK, quantitative trait anaylses with SOLAR, LD computations with Haploview and WGAViewer, and family-based and case-control association anaylses with PLINK and SAS. The methods and exercises are coordinated with the lectures and students are expected to understand underlying assumptions and limitations and the basic calculations performed by these computer programs. Auditors will not have access to the computer lab sessions. Prerequisite: M21-515 Fundamentals of Genetic Epidemiology. For details, to register and to receive the required permission of the Coursemaster contact the MSIBS Program Manager (biostat-msibs@email.wustl.edu or telephone 362-1384).
Credit 3 units.

L41 Biol 5484 Genetics and Development of C. elegans Journal Club
Students will present a research paper (or present their current thesis research) and the appropriate background material.
Credit 1 unit.

L41 Biol 5487 Genetics and Genomics of Disease
The course will cover the use of genomic and genetic information in the diagnosis and treatment of disease, with an emphasis on current practice and existing gaps to be filled to achieve precision medicine. Areas of discussion include: bioinformatics methods; assessment of pathogenicity; use and curation of disease variant databases; discovery of incidental findings; genomics applications in Mendelian disease, complex traits, cancer, pharmacogenomics, and infectious disease; design of clinical trials with genetic data; ethical and policy issues. Prerequisites: Genomics (Bio 5488), Advanced Genetics (Bio 5491), or Fundamentals of Mammalian Genetics (Bio 5285) or equivalent (permission from instructor)
Credit 2 units.

L41 Biol 5488 Genomics
This course is designed for beginning students who want to become familiar with the basic concepts and applications of genomics. The course covers a wide range of topics including how genomes are mapped and sequenced as well as the latest computational and experimental techniques for predicting genes, splice sites, and promoter elements. High throughput techniques for ascribing function to DNA, RNA, and protein sequences including microarrays, mass spectrometry, interspecies genome comparisons and genome-wide knock-out collections will also be discussed. Finally, the use of genomic techniques and resources for studies of human disease will be discussed. A heavy emphasis will be put on students acquiring the basic skills needed to navigate databases that archive sequence data, expression data and other types of genome-wide data. Through problem sets the students will learn to manipulate and analyze the large data sets that accompany genomic analyses by writing simple computer scripts. While students will become sophisticated users of computational tools and databases, programming and the theory behind it are covered elsewhere, in Michael Brent's class, Bio 5495 Computational Molecular Biology. Because of limited space in our teaching lab, enrollment for lab credit will be limited to 24 students. Priority will be given to students in the DBBS program. Others interested in the course may enroll for the lectures only. If you have previous experience in computer programming, we ask that you do not enroll for the laboratory credit. Prerequisites, Molecular Cell Biology (Bio 5068), Nucleic Acids (Bio 548) or by permission of instructor. Lecture 3 units of credit; lab 1 additional unit, space limited.
Credit variable, maximum 4 units.

L41 Biol 5489 Human Genetics Journal Club
In this biweekly journal club on Human Genetics we will present and discuss current cutting edge papers in human and mammalian molecular genetics. Students learn presentation skills, how to critique a paper and how to interact with a very active and critical audience. Prerequisites; Any person interested in the current state of the art in Human Genetics may attend this course. It is a requirement that all students wishing to earn credit in this course must present a 1.5 hour journal club talk and must regularly attend and participate in the journal club throughout the year.
Credit 0.5 units.

L41 Biol 5491 Advanced Genetics
Fundamental aspects of organismal genetics with emphasis on experimental studies that have contributed to the molecular analysis of complex biological problems. Examples drawn from bacteria, yeast, nematodes, fruit flies and mammalian systems. Prerequisite, graduate standing or permission of instructor.
Credit 3 units.

L41 Biol 5495 Computational Molecular Biology
This course is a survey of algorithms and mathematical methods in biological sequence analysis (with a strong emphasis on probabilistic methods) and systems biology. Sequence analysis topics include introduction to probability, probabilistic inference in missing data problems, hidden Markov models (HMMs), profile HMMs, sequence alignment, and identification of transcription-factor binding sites. Systems biology topics include the discovery of gene regulatory networks, quantitative modeling of gene regulatory networks, synthetic biology, and (in some years) quantitative modeling of metabolism. Prerequisite: CSE 131 or CSE 501N.
Credit 3 units. EN: BME T, TU

L41 Biol 5496 Seminar in Computational Molecular Biology
Students present current research papers and the appropriate background material in the field of Computational Biology. **Arts and Sciences students must take this course for credit; Engineering students must take this course Pass/Fail.**
Credit 1 unit.

L41 Biol 5499 Cancer Informatics Journal Club
This journal club will explore current topics in cancer informatics. Current literature will be reviewed for advanced cancer genome analysis methods, statistics, algorithms, tools, databases, and other informatics resources.
Credit 1 unit.

L41 Biol 550 Medical Genetics
A significant portion of the first-year course in basic medical genetics devoted to human and clinical genetics, with emphasis on how genomic information will transform the practice of medicine. Topics covered include population genetics; molecular basis of mutations; human functional genomics; mouse models of human disease; pharmacogenomics; metabolic defects. Lectures, small group discussions, patient information session. Prereq, an introductory genetics course and permission of the instructor.
Credit 2 units.

L41 Biol 5501 The Biology and Pathology of the Visual System
The purpose of the course is to provide a fascinating view of vertebrate eye development, anatomy, physiology and pathology. Topics to be covered include the molecules that control eye formation, ocular stem cells, the physiology of transparency, hereditary ocular diseases, phototransduction, the neurobiology of the retina and central visual pathways, age-related eye diseases, and many others. The course is open to all second year graduates students and above. Ophthalmology residents and postdocs with an interest in vision are strongly encouraged to attend.
Credit 3 units.

L41 Biol 5502 Molecular Aspects of Vision
Seminar on useful research strategies used to elucidate the molecular basis of light detection including the biochemical, biophysical and electrophysiological events. Discussions of the molecular basis of inherited ocular cancer, color blindness and retinitis pigmentosis included. Prerequisite, 3 units of biochemistry.
Credit 3 units.

L41 Biol 5504 Algorithms for Biosequence Comparison
This course surveys algorithms for comparing and organizing discrete sequential data, especially nucleic acid and protein sequences. Emphasis is on tools to support search in massive biosequence databases and to perform fundamental comparison tasks such as DNA short-read alignment. Prerequisite: CSE 347 or permission of

instructor. These techniques are also of interest for more general string processing and for building and mining textual databases. Algorithms are presented rigorously, including proofs of correctness and running time where feasible. Topics include classical string matching, suffix array string indices, space-efficient string indices, rapid inexact matching by filtering (including BLAST and related tools), and alignment-free algorithms. Students complete written assignments and implement advanced comparison algorithms to address problems in bioinformatics. This course does not require a biology background. Prerequisites: CSE 347 or instructor permission Revised: 2019-02-21
Same as E81 CSE 584A
Credit 3 units. EN: BME T, TU

L41 Biol 5505 Independent Study in Fundamentals of Molecular and Microbial Genetics
This literature-based course will introduce students to seminal and current studies in molecular and microbial genetics. Students will read and present a minimum of 12 landmark papers that helped shape our understanding of molecular and microbial genetics. Emphasis will be placed on students' ability to comprehend and explain these studies via chalk talks. All presentations will be given by students. Prerequisites: L41 5491 Advanced Genetics and permission from instructor.
Credit 2 units.

L41 Biol 5507 Genome Engineering Methods and Applications
This course will cover the basic principles of genome engineering with emphasis on Cas9/CRISPR technology. It will consist of discussion sessions in which students will present assigned manuscripts followed by a general discussion of the topic directed by the instructor. The course will cover the mechanisms of genome editing using host DNA repair systems, the function of Cas9, and how Cas9 can be harnessed to introduce defined mutations into almost any genome. The use of Cas9 to activate or repress genes, alter chromatin modifications, and the application of these Cas9 systems to conducting genome-scale screens in mammalian cells as well as its use in studying cell fate will be highlighted. Finally, we will study how Cas9 methodologies can be used to introduce disease-associated variants into pluripotent stem cells (e.g. iPSCs) that can be differentiated into disease-relevant cell for use in functional genomic studies.
Credit 1 unit.

L41 Biol 5508 ITVS Advanced Techniques
The Advanced Methods in Vision Science course provides ITVS students the opportunity to learn about advanced methods utilized in studies of the visual systems from the experts who perform the studies. These methods emerged from different disciplines (molecular biology, imaging, electrophysiology, machine learning), but provide critical details for understanding how the visual systems focuses and processes light stimuli. The course has two components. 1) A series of 90-minute structured discussions of advanced methods via foundational papers and recent applications of these methods. 2) A choice of two hands-on experiences with these methods in the instructor laboratories. We open the discussion section of the course to all students, postdocs, and faculty members (in this order) but cap the class size at 12 participants to facilitate interactions. Hands-on experiences are restricted to ITVS students. For hands-on experiences, each ITVS student chooses two techniques and spends a day in the laboratory of the respective instructor to gain practical experience with the experiments and analysis pipelines and discuss pitfalls and applications of the methods in detail. Through these components, the Advanced Methods in Vision Science course tries to accomplish three goals: 1) enable students to critically assess the literature through an understanding of strengths and limitations of advanced methods, 2) help students plan experiments involving these methods, and 3) facilitate collaborations with experts in the field that could enhance the science of the ITVS students.
Credit 3 units.

L41 Biol 5509 ITVS Project Building
The overall goal is to have intense guidance to construct a grant/fellowship application. Students should expect to have a near completed F30/F31 application by the end of this course Students will study previous F30/F31 applications and sit on a mock panel to review real world grants from their peers. They will use this experience to understand the reviewers perspective when writing fellowships and grants in the future. Students will draft all portions of a research proposal with feedback from their peers, the course instructor and faculty mentors.
Credit 1 unit.

L41 Biol 5512 Diseases of Membrane Transport & Excitability
Classes will consider the molecular basis of the disease as well as animal models and current clinical studies. Addressing studies from the level of basic biophysical and molecular properties of the underlying ion channels/transporters, to the cellular deflects, to organ and animal outcomes and therapies., which will encourage and force sutdents to develop their ability to integrate understanding at multiple levels. Students will be introduced to emerging ideas in clinical diagnosis, management and treatment, when appropriate, clinical specialists will allow student participants to directly observe and participate in the clinical experiences. Prerequisites, Bio 5068 Fundamentals of Molecular Cell Biology.
Credit 2 units.

L41 Biol 554 Neural Sciences
An integrated course dealing with the structure, function and development of the nervous system. The course will be offered in the Spring of the first year Medical School calendar. Prerequisite: Biol 3411 or Biol 501 and approval of the instructor.
Credit 5 units.

L41 Biol 5565 Oral Presentation of Scientific Data
Practical course on how to prepare and present scientific data to an audience. Prerequisite: First year neuroscience program courses. Meets once a week for 90 minutes.
Credit 1 unit.

L41 Biol 5571 Cellular Neurobiology
This course will present a fully integrated overview of nerve cell structure, function and development at the molecular and cellular level. Broad topics to be covered include gene structure and regulation in the nervous system, quantitative analysis of voltage- and chemically-gated ion channels, presynaptic and postsynaptic mechanisms of chemical neurotransmission, sensory transduction, neurogenesis and migration, axon guidance and synapse formation. Two lectures plus one hour of discussion per week for 14 weeks. There will be three exams, as well as homework problems and summaries of discussion papers. Prerequisites: graduate standing or permission of the instructor.
Credit 6 units.

L41 Biol 5572 Regenerative and Stem Cell Biology
Regeneration is a very complex, post-embryonic developmental phenomenon, where organisms replace lost body parts and organs upon injury. However, we still know very little about why some animals are so successful at regenerating whole bodies and organs, while other animals (like humans) have limited or no capacity to do so. This course covers regeneration and stem cell biology across different levels of biological organization (e.g. cell, organ, limb regeneration.) and across the animal phylogeny.
Credit 3 units.

L41 Biol 5577 Synapses Journal Club
Synaptic function and malleability are fundamental to nervous sytem function and disease. This is an advanced seminar in the development, structure, and function of the synapse in health and disease. It is a natural extension of topics covered in Bio 5571. It may be primarily of interest to students in the Neurosciences Program, but also to students in MCB, Development, Biochemistry, Computational Biology, and Molecular Biophysics. Generally a topic for the semester helps focus the group; past topics have included Synapses and Disease, Neurotransmitter Transporters, Glutamate Receptors, Dendrites, GABA receptors. Participants (students, postdocs, and faculty) alternate responsibility for leading critical discussion of a current paper. Active participation offers the opportunity for students to hone their critical thinking and presentation skills. Students enrolling for credit will be expected to attend each week, to lead discussion once per semester and to provide written critiques (1-2 pages each) of two papers. Prerequisites, Graduate standing in DBBS; Bio 5571 preferred.
Credit 1 unit.

L41 Biol 5582 Macroevolution
An advanced introduction to the study of macroevolutionary patterns and processes with emphasis on the systematic methodology employed. Topics: theories of classification, phylogenetic reconstruction, testing of historical hypotheses, hierarchy theory, adaptation, extinction, speciation, developmental mechanisms of organismal evolution, biogeography. Prerequisite: permission of instructor.
Same as L41 Biol 4182
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L41 Biol 560A Special Topics in Nuclear Chemistry: Radiochemistry for the Life Sciences
This course will provide an introduction to nuclear science (e.g. radioactive decay, nuclear stability, interactions of radiation with matter) and followed by an overview of how radiochemistry is used in the life sciences. Lectures on radiolabeling chemistry with radionuclides used in medical imaging (single photon emission computed tomography (SPECT) and positron emission tomography (PET) and their applications will be presented. In addition, lectures on radiochemistry with tritium (H-3) and C-14 will also be included. Additional applications include environmental radiochemistry as applied to nuclear waste disposal and biofuels.
Same as L07 Chem 536
Credit 2 units.

L41 Biol 5617 Development Biology PhD Program Seminar
In response to student feedback for additional training in Developmental Biology obtained from surveys and group meetings, we propose a new seminar course in Developmental Biology. This once a week course will introduce student in the Developmental, Regenerative, and Stem Cell Biology PhD Program both to the classical embryological experiments that deined key concepts in developmental biology, such as cellular fields, equivalence groups, cytoplasmic determinants, and the more modern experiments that uncovered the genetic and molecular basis of these processes. In general, the classes will be individual sessions on professional development, such as scientific presentation, how to navigate graduate school, etc.
Credit 1 unit.

L41 Biol 5619 Advanced Cognitive, Computational, and Systems Neuroscience
This course will develop critical thinking and analysis skills with regard to topics in Cognitive, Computational and Systems Neuroscience. Course format will be a series of modules composed of intensive, faculty-led case studies on interdisciplinary topics at the intersection of psychology, computation and neuroscience. The goal will be to highlight the benefits of integrative, interdisciplinary approaches, by delving into a small set of topics from a variety of perspectives, rather than providing a survey-level introduction to a broader set of topic areas. Modules will involve a combination of lectures and student-led discussion groups, with students further expected to complete a multi-disciplinary integrative final review paper. Case-study topics will vary somewhat from year to year, but are likely to include some of the following: temporal coding as a mechanism for information processing, coordinate transformations in sensory-motor integration, mechanisms of cognitive control, motor control strategies including application to neural prosthetics, and memory systems in health and disease.
Same as L33 Psych 519
Credit 3 units.

L41 Biol 5621 Computational Statistical Genetics
This course covers the theory and application of both classical and advanced algorithms for statistical modeling in genetics. Students learn how to derive, design and implement their own statistical genetics models through computer labs by writing their own software program from the basic model equations up to analyze one of four major term project datasets. Didactic lectures cover a wide range of important topics including: Maximum Likelihood theory, Frequentist vs. Bayesian approaches, Information Theory, Model Selection techniques, analysis methods for pedigrees vs. unrelated individuals, rare vs. common variant approaches, the E-M Algorithm, mixed model approaches, MCMC methods, Hidden Markov Models, Coalescent Theory, Haplotyping Algorithms, Epigenetic Analysis methods, Genetic Imputation Algorithms, Graphical Models, Decision Trees and Random Forests, Permutation/Randomization Tests, classification and Data Mining Algorithms, Population Stratification and Admixture Mapping Methods, Multiple comparisons corrections, and Power and Monte-Carlo simulation experiments. Same as M21-621
Credit 3 units.

L41 Biol 5622 Cognitive, Computational, and Systems Neuroscience Project Building
The goal of this course is to help students in the CCSN Pathway develop the critical thinking skills necessary to develop and implement high quality, interdisciplinary research projects. Throughout the course of the semester, each student will develop a research plan in their chosen area of interest. The plan will be developed in consultation with at least two faculty members (from at least two different subdisciplines within the pathway) as well as the other students and faculty participating in the course. The culmination of this course will be for each student to produce an NIH-style grant proposal on the research project of their choosing. For most students, this will serve either as their thesis proposal or a solid precursor to the thesis proposal. The course will be designed to help facilitate the development of such a research plan through didactic work, class presentations, class discussion, and constructive feedback on written work. The course will begin with a review of written examples of outstanding research proposals, primarily in the form of grant submissions similar to those that the students are expected to develop (i.e., NRSA style proposals, R03 proposals). Review of these proposals will serve as a stimulus to promote discussion about the critical elements of good research proposals and designs in different areas. Each student will be expected to give three presentations throughout the semester that will provide opportunities to receive constructive feedback on the development and implementation of research aims. The first presentation (towards the beginning of the semester) will involve presentation of the student's

general topic of interest and preliminary formulation of research questions. Feedback will emphasize ways to focus and develop the research hypotheses into well-formulated questions and experiments. The second presentation will involve a more detailed presentation of specific research questions (along the lines of NIH-style Specific Aims) and an initial outline of research methods. The final presentation will involve a fuller presentation of research questions and proposed methods. Feedback, didactic work, and group discussion throughout the semester will include guidance on critical components of the development of a research plan, including how to perform literature searches, formulate testable hypotheses, write critical literature summaries, and design experiments and analyses. The course will meet once a week, with faculty members from different tracks within the Pathway present at each meeting. This will allow students to receive feedback from several perspectives. Prerequisite: Member of CCSN Pathway, permission of instructor.
Credit 3 units.

L41 Biol 5624 Bioinformatics for Genomics I
This course is designed to follow Applied Bioinformatics for Genomics I, in the fall semester. The fall semester course is not required as a prerequisite. Students who need fundamental skills for computational genomics can access the fall semester lectures online. This course is for those who want to 1) expand fundamentals skills for computational genomics, 2) use this information to improve and expedite their research and 3) improve their knowledge by hearing from experts in specific technologies and practices. The course meets once a week throughout the Spring semester, covering a variety of best practices methods, technology, and knowledge in focused short lectures coupled with hands-on exercises.
Credit 1 unit.

L41 Biol 5625 Applied Bioinformatics for Genomics II
This course is designed to follow Applied Bioinformatics for Genomics I, in the fall semester. The fall semester course is not required as a prerequisite. Students who need fundamental skills for computational genomics can access the fall semester lectures online. This course is for those who want to 1) expand fundamentals skills for computational genomics, 2) use this information to improve and expedite their research and 3) improve their knowledge by hearing from experts in specific technologies and practices. The course meets once a week throughout the Spring semester, covering a variety of best practices methods, technology, and knowledge in focused short lectures coupled with hands-on exercises.
Credit 1 unit.

L41 Biol 5646 First-Year Fundamentals
This course will provide a two-part introduction to neuroscience research fundamentals. Namely, it will introduce elementary statistical analysis for neuroscience research as well as grant writing to support neuroscience-related research. Enrollment is limited to first-year neuroscience students.
Credit 0.5 units.

L41 Biol 5648 Coding and Statistical Thinking in the Neurosciences
Students are introduced to scientific programming in Python. Students will learn common programming constructs and how to visualize and analyze data. Coding will be integrated into a statistics curriculum introducing summary statistics, probability distributions, simulation and hypothesis testing, and power analysis for experimental design.
Credit 3 units.

L41 Biol 5651 Neural Systems
The course will consist of lectures and discussions of the sensory, motor and integrative systems of the brain and spinal cord, together with a weekly lab. The lectures will present aspects of most neural systems, and will be given by faculty members who have specific expertise on each topic. The discussions will include faculty led group discussions and papers presented and discussed by students. The labs will include human brain dissections, examination of histological slides, physiological recordings, behavioral methods, computational modeling, and functional neural imaging.
Credit 4 units.

L41 Biol 5657 Biological Neural Computation
This course will consider the computations performed by the biological nervous system with a particular focus on neural circuits and population-level encoding/decoding. Topics include, Hodgkin-Huxley equations, phase-plane analysis, reduction of Hodgkin-Huxley equations, models of neural circuits, plasticity and learning, and pattern recognition & machine learning algorithms for analyzing neural data. Note: Graduate students in psychology or neuroscience who are in the Cognitive, Computational, and Systems Neuroscience curriculum pathway may register in L41 5657 for three credits. For non-BME majors, conceptual understanding, and selection/application of right neural data analysis technique will be stressed. Hence homework assignments/examinations for the two sections will be different, however all students are required to participate in a semester long independent project as part of the course. Calculus, Differential Equations, Basic Probability and Linear Algebra Undergraduates need permission of the instructor. L41 5657 prerequisites: Permission from the instructor
Same as E62 BME 572
Credit 3 units. EN: TU

L41 Biol 5663 Neurobiology of Disease
This is an advanced graduate course on the pathology of nervous system disorders. This course is primarily intended to acquaint Neuroscience graduate students with a spectrum of neurological diseases, and to consider how advanced neuroscientific approaches may be applied to promoting recovery in the brain. Topics will be presented by Washington University faculty members and include: neurooncology, stroke, retinal disease, perinatal brain injury, neurodegenerative disorders, neuroinflammation, epilepsy, and psychiatric disorders. The class will meet for 2 hours each week. Each session will be led by a faculty guest with expertise in a specific neurological or psychiatric disease. In the first hour, the speaker will discuss clinical manifestations and pathophysiology. Where possible, the clinical presentation will be supplemented with a patient demonstration or videotape. After a 30 minute break for pizza and soda, the second hour will follow a journal club format. Two or three students will review current papers assigned by the speaker or course director. This course is offered in alternate years. Prerequisite: Introductory neuroscience course at the graduate or medical school level.
Credit 2 units.

L41 Biol 5665 The Science of Behavior
The primary function of nervous systems is to control behavior. Understanding the links between brain and behavior requires an understanding of cognition-the computations performed by the brain, as well as the algorithms underlying those computations and the physical substrates that implement those algorithms. The goal of this course is to introduce students to the tools, concepts, and techniques for the experimental study of cognition and behavior in humans and nonhuman animals. We will focus on cognitive capacities that are well-developed in humans and can be compared with those of other species, to develop an understanding of how evolution shapes cognition and behavior. Students who complete this course will be

able to ask questions and form hypotheses about the computations and algorithms underlying cognition and behavior, and to design experiments that test these hypotheses. PREREQ: Graduate standing or permission of the instructor
Same as L33 Psych 5665
Credit 3 units.

L41 Biol 5678 Clocksclub
Clocksclub focuses on recent advances in the study of biological timing including sleep and circadian rhythms. Participants discuss new publications and data on the molecules, cells and circuits underlying daily rhythms and their synchronization to the local environment. Students registered for this journal club will lead a discussion once during the semester. Prerequisites: BIO 2970 or permission of instructor.
Credit 1 unit.

L41 Biol 5702 Current Approaches in Plant and Microbial Research
This course is designed to introduce graduate students and upper-division undergraduates to contemporary approaches and paradigms in plant and microbial biology. The course includes lectures, in-class discussions of primary literature and hands-on exploration of computational genomic and phylogenetic tools. Evaluations include short papers, quizzes, and oral presentations. Over the semester, each student works on conceptualizing and writing a short NIH-format research proposal. Particular emphasis is given to the articulation of specific aims and the design of experiments to test these aims, using the approaches taught in class. Students provide feedback to their classmates on their oral presentations and on their specific aims in a review panel. Prereq: Bio 2970 or permission of the instructor.
Credit 4 units.

L41 Biol 5703 Experimental Design and Analysis in Biological Research
In-depth exploration of landmark and current papers in genetics, molecular and cell biology, with an emphasis on prokaryotes and eukaryotic microbes. Class discussions will center on such key discoveries as the chemical nature of genetic material, the genetic code, oxygen producing light-spectrum, cell-cell signaling, transcriptional regulation, the random nature of mutation, and cell cycle regulation. Emphasis will be placed on what makes a good question or hypothesis, expedient ways to address scientific problems, and creative thinking. The last third of the course will consist of student-run seminars on selected topics to increase proficiency in the synthesis of new material and public presentation skills.
Credit 2 units.

L41 Biol 5715 Basic Cancer Biology
More than two thirds of all people know someone who has cancer. This course provides students with a more extensive understanding of what cancer is and how it affects the human body. We will discuss the history of cancer research, the many different types of human cancers, and basic chemotherapeutics. The topics will be presented in a basic scientific nature, with an emphasis on gaining a broad understanding of the subjects. Prerequisite: Biol 2960 or equivalent. Not available to students who have credit for Biol 144 or Biol 1440.
Same as L41 Biol 4715
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L41 Biol 5723 Seminar in Plant and Microbial Bioscience
This course emphasizing presentation skill and critical analysis counts towards the PMB Graduate Program's journal club course requirement. Students will be responsible for dividing and presenting 30 current research publications selected by the course masters. In addition to assembling brief PowerPoint presentations providing background and significance for their assigned articles, students are expected to provide classmates with a 1 page primer and short list of relevant references
Credit 2 units.

L41 Biol 5772 Behavioral Ecology
This course examines animal behavior from an evolutionary perspective and explores the relationships between animal behavior, ecology, and evolution. Topics include mating systems, sexual selection, parental care, kin selection, and cooperation. There is a strong active - learning component. Prerequisite: Bio 2970 or permission of instructor.
Same as L41 Biol 472
Credit 4 units. A&S IQ: NSM Arch: NSM Art: NSM

L41 Biol 580 Seminar in Population Biology
This weekly seminar, covering different topics each semester, should be taken by graduate students in the program. Prerequisite: graduate standing or permission of the instructors.
Credit variable, maximum 3 units.

L41 Biol 5801 Biochemistry & Molecular Biophysics Seminar Journal Club
This will be a journal club-based seminar course mirroring the topics covered by Biochemistry and Molecular Biophysics (BMB) seminar speakers during the concurrent semester. Students will present a paper published by one of the BMB seminar speakers one-week ahead of that speaker's seminar. This will allow students and faculty to become more familiar with the research programs of BMB invited speakers, likely stimulating discussion within the Q&A period after the seminar, as well as during informal meet-the-speaker lunch sessions. Students will be evaluated on their journal club presentation, attendance and class participation.
Credit 1 unit.

L41 Biol 584 Climate Change Reading Group
The Climate Change Reading Group is made up of multi-disciplinary faculty and students from multiple institutions in St Louis: WUSTL, UMSL, SLU, Missouri Botanical Garden, Danforth Center, and more. Many of us in different labs, departments, and institutions around STL are actively investigating aspects and effects of climate change; this reading group provides a venue for interacting with others in the community. Subject matter within the context of Climate Change will be chosen each week by a different presenter. Students can join this reading group for 1 credit if they agree to read all papers, actively participate in discussions, find and present one high quality scientific paper on climate change in the field of their choice and moderate the discussion of this paper. The students will be evaluated on their participation, their understanding of the issues, and their presentation. Prerequisites: Contact the course coordinator.
Credit 1 unit.

L41 Biol 585 Seminar in Floristic Taxonomy
This weekly seminar provides an introduction to/overview of Plants, each semester progressively covering orders and families in a sequence derived from the Angiosperm Phylogeny Website (http://www.mobot.org/MOBOT/Research/APweb/welcome.html); in Spring 2015, the seminar will cover several crown orders of the monocots, including grasses and relatives. Weekly presentations include a summary of all relevant information (molecular, chemical, anatomical,

embryological, morphological, ecological, geographical, historical/paleontological, etc.) about the plant group under consideration, review of the classification/phylogeny of the group, examination of fresh and/or preserved specimens, and discussion of relationships, human uses, and other relevant aspects of the biology of that group. Credit will be contingent on one (or two) seminar presentation(s) per student, regular attendance and active participation in group discussions.
Credit 1 unit.

L41 Biol 5862 Seminar on Professional Development for Graduate Students in Ecology, Evolution & Population Biology
This is a weekly discussion seminar course in which advanced graduate students and postdocs in STEM will discuss the practices of scientific teaching and basic professional development skills. Topics covered will include scientific teaching, active learning, assessment driven instruction, creation inclusive classrooms, preparing for job interviews, preparing grant proposals, and balancing family and work. There will be several panel discussions with invited speakers on a range of potential career options to STEM PhDs. Students will prepare or revise their professional portfolio materials over the course of the semester. The course is open to all DBBS graduate students and is required for GAANN fellows. Prerequisite: Graduate student status in the DBBS or permission of instructor.
Credit 1 unit.

L41 Biol 5866 Communicating Science: Writing for Multiple Audiences
This course introduces strategies for writing effectively and communicating scientific research to a variety of audiences. Students will learn to reduce jargon, explain scientific concepts in common language, write clearly and concisely, and use sentence structure to maximum efficiency. Written assignments emphasize the significance and innovation in scientific research that appeal to broad audiences, including: the general public, students, policy makers, grant reviewers, and journal editors. This course meets biweekly and consists of lectures and small group sessions. You must enroll in both the lecture session (section 1) and a small group (section A, B, C, or D).
Credit 1 unit.

L41 Biol 5867 Career Planning for Biological Scientists
This course will guide you through nationally recognized and evidence-based career exploration curricula. It is intended for DBBS Ph.D. students and bioscience postdocs who want to jump-start career planning and professional skills needed for a broad range of scientific careers. Topics include self-assessment, career exploration, and goal-setting for long-term success. You will work on a team to research the scientific career path of your choice. Each team will study the specific required knowledge, skills, and attributes of their career interest or employment sector. As part of this research project, you will complete a simulated job exercise and network with alumni or local leaders in your chosen field, gaining valuable real-world insights and creating essential professional connections.
Credit 1 unit.

L41 Biol 590 Research
Credit to be arranged.
Credit variable, maximum 12 units.

L41 Biol 5901 Biomolecular Condensates Journal Club
Biomolecular condensates are non-stoichiometric assemblies of protein and nucleic acids that provide a means for cellular spatiotemporal organization. Over the last decade, a growing appreciation has emerged than many such condensates (which include nucleoli, stress granules, paraspeckles, or even transcriptional assemblies) may form in part via liquid-liquid phase separation, although this does not preclude other assembly mechanisms. A challenge for those new to this field reflects the need to apply ideas from condensed matter physics, biochemistry, physical chemistry, and cell biology. In this journal club we will focus on developing an understanding of the core concepts surrounding biomolecular condensates and phase transitions in biology by reading a mixture of cutting edge and more 'classic' (i.e. mid 2010s) literature.
Credit 1 unit.

L41 Biol 5902 Introduction to the Scholarship of Teaching and Learning
In this course, advanced graduate students and postdocs in STEM will 1) learn the fundamentals of the Scholarship of Teaching and Learning (SoTL)-which is the practice of developing, reflecting on, and evaluating teaching methods to improve student learning, 2) Develop a working knowledge of SoTL, which draws on research in education, STEM education, and cognitive science, 3) Understand how SoTL can lead to the dissemination of new knowledge to a broad audience of educators through publication and presentations., and 4) Develop the central elements of a SoTL project. These elements include articulating questions about classroom teaching that can be addressed in a SoTL research project; developing working hypotheses in response to the questions; designing an evaluative plan, including specific research methods, the type of data to be collected, and how the data will be analyzed in relation to the hypotheses; identifying and understanding necessary procedures to obtain IRB approval for the research. Prereqs: Must be an advanced graduate student or a postdoctoral appointee with some teaching experience, and must have completed 4 STEM Pedagogies workshops (2 are foundational topics) offered by The Teaching Center or received approval from one of the instructors. Same as U29 Bio 4902.
Credit 1 unit.

L41 Biol 5911 Seminar in Biology & Biomedical Sciences
These seminars cover the recent literature in various areas not included in other courses, or in more depth than other courses. Prerequisite: permission of instructor. Credit to be arranged.
Credit variable, maximum 12 units.

L41 Biol 5920 Foundations in Cancer Biology
This basic cancer biology class is designed to provide a didactic foundation into cancer biology principles. These will include tumor suppressors & oncogenes, DNA damage pathways, protein modifications, tumor progression, metastasis, tumor microenvironment and numerous other topics relevant to cancer biology.
Credit 3 units.

L41 Biol 5922 Entering Mentoring
This course is a series of facilitated discussions aimed at developing and improving mentoring skills for those involved in supervising undergraduate research experiences. It is designed for postdocs and graduate students who are or will be ´bench mentors´ for undergraduates doing Bio 500 and/or Summer Research. Participants will receive "Entering Mentoring" materials, including articles and worksheets to facilitate mentoring interactions with their mentee, plus several resource books relevant to mentoring. They will develop a mentoring philosophy statement, work on specific assignments designed to improve their relationship with their mentee and share their present and past experiences as mentors and mentees. Bench mentors will be eligible for a travel award to help defray expenses for attending a meeting with their mentee, if that student wins one of the HHMI SURF travel awards (4-5 awarded annually) or is otherwise being supported to present at a scientific meeting. Prerequisite: open to graduate students and postdocs, with priority for those who plan to mentor undergraduates in summer research experiences. Graduate

students and postdocs do NOT need to be mentoring a student at the time of the course; it is open to all with an interest in mentoring now or in the future. Note: The sessions will be held either at the beginning of the day or the end of the day at the Danforth campus. Once registration closes, an email will be sent to those registered to poll for the best days & times.
Credit 1 unit.

L41 Biol 5929 Experimental Cancer Biology
This basic cancer biology class is meant to coincide with the Foundation course. Topics will be discussed in parallel with Foundation course topics but from the perspective of the laboratory experimentalist. Experimental details will provide the basis for understanding how to ask and answer important questions in the cancer biology laboratory.
Credit 3 units.

L41 Biol 5930 Advanced Topics in Neuroscience
This course will expose upper level students and postdocs to advanced topics and methods in Neuroscience. The course will rapidly fill gaps in student knowledge in areas that may be relevant to new directions in thesis work or interest areas. Each section of the course will be offered asynchronously, sometimes in coordination with existing journal clubs and other seminars. Each section will meet for 2-hours per week for 3-weeks. Sections may start with a didactic component or review paper, but will quickly delve into discussion of primary papers curated by faculty and covering a focused topic. It is expected that papers will cover historical and current contexts. Some sections will be techniques-focused; others conceptually focused. Each section will be led by a faculty member drawn from the Neuroscience program in an area of their expertise. Objectives include deepening critical thinking, statistical knowledge, experiemental design, and technical prowess.
Credit 0.5 units.

L41 Biol 5940 Foundations in Cancer Biology and Experimental Cancer Biology
This advanced course will teach the clinical perspective of cancer biology using topics from oncology, radiation biology, radiology, pathology, immunology and surgery. Students will learn to write a grant proposal that includes a clinical trial element while also shadowing physicians in a real cancer clinical setting.
Credit 3 units.

L41 Biol 598 Topics in Evolution, Ecology and Population Biology
This course will meet weekly to discuss ongoing research and future directions of the Evolution, Ecology, and Population Biology (EEPB) graduate program. A different EEPB faculty member will present each week. This course introduces new EEPB students to the diversity of research questions and approaches undertaken by laboratories in the EEPB program; it will also introduce new students to faculty and vice versa. The course will educate the students about the breadth of research in evolution, ecology, and behavior. It will also provide knowledge that students can use when choosing lab rotations and interdisciplinary exposure to enhance creativity in research.
Credit 1 unit.

L41 Biol 5989 Advanced Topics in Neuroscience
This course will expose upper-level and postdoctoral students to advanced topics and methods in neuroscience. The course will rapidly fill gaps in student knowledge in areas that may be relevant to new directions in thesis work or interest areas. Each section of the course will be offered asynchronously, sometimes in coordination with existing journal clubs and other seminars. Each section will meet for two hours per week for three weeks. Sections may start with a didactic component or a review paper, but they will quickly delve into the discussion of primary papers curated by faculty and covering a focused topic. It is expected that papers will cover both historical and current contexts. Some sections will focus on technique; others will be conceptually focused. Each section will be led by a faculty member drawn from the Neuroscience program in an area of their expertise. Objectives include deepening critical thinking, statistical knowledge, experimental design, and technical prowess.
Credit 0.5 units.

L41 Biol 5991 Decision Neuroscience
This is an advanced, reading-intensive graduate course. We will meet once a week for 3 hrs and focus primarily on discussing the literature on decision making from various perspecitves. Decision making is a cantral object of study in multiple diciplines including neuroscience, cognitive psychology, and economics. Within systems neuroscience, research in the past 20 years has developed in two main areas - namely perceptual decisions and economic (value-based) decisions. Each week we will discuss a specific topic and/or research question. Discussion topics will originate from perceptual decisions or economic decisions, and often be relevant to both. Readings will include experimental papers and computational/theoretical papers. Every week, students are expected to read the assigned papers and to write a short comment before class. In class, we will discuss the papers and the weekly topic in a journal-club format. Participation of PhD students from different programs is encouraged, pending permission from the instructor. The goal of the class is to bring graduate students from different disciplines up-to-date on the current debate(s) in decision neuroscience, and to inspire and support their future research.
Credit 3 units.

L41 Biol 5999 Independent Work
This course is designed for individual students wishing to explore indepth specialized areas of literature or technology with one or more faculty members. Credit will vary with the amount of work and discussion, but cannot be more than 3 credits.
Credit variable, maximum 3 units.

L41 Biol 883 Master's Continuing Student Status

L41 Biol 885 Master's Nonresident

L41 Biol 886 Doctoral Nonresident

Policies

The Vagelos Division of Biology & Biomedical Sciences has more than 700 students with access to over 700 faculty mentors with whom they may perform their dissertation work. This unparalleled flexibility results from the joint governance of DBBS by the Washington University School of Medicine and the School of Arts & Sciences — a 50-year-old model that fosters the most impactful science executed at the boundaries of fields, programs, disciplines, schools and departments. This collaborative, interdisciplinary approach that transcends traditional boundaries is a hallmark of DBBS, and our training programs routinely rank among the top PhD programs nationally and internationally.

In this interdisciplinary environment, graduate students are governed by policies established by the university, the Office of Graduate Studies, Arts & Sciences, the School of Medicine and DBBS. The policies identified here and elsewhere in this *Bulletin* are not to be considered a complete list. However, every attempt has been made to identify the location of those policies that affect most or all students in DBBS.

In this *Bulletin*, the University Policies (p. 16) page covers many of the policies that apply to both graduate and undergraduate students, specifically in the areas of nondiscrimination, student health, student conduct, academic integrity, intent to graduate, and academic records and transcripts. In addition, it refers to the university's Compliance and Policies page. Graduate students should follow that page's links to the Information Technology, Computers and Internet Policies and to the Intellectual Property Policies and the Research Policies; most of the former and many of the latter will apply to all graduate students.

All DBBS students must follow the University PhD Policies & Requirements as set forth by the Provost's Office.

Degrees in DBBS are conferred by the School of Arts & Sciences; hence, students must follow the policies and procedures as set forth by the school. The website of the Office of Graduate Studies, Arts & Sciences, has a Policies & Procedures page that includes links to the full text of several of its policies, including those related to the following:

- Academic and Professional Integrity for Graduate Students
- Access to Student Academic Records
- Alcohol Service (at events sponsored by graduate students and organizations)
- Bias-Related University Policies
- Change of Student Status
- Confidentiality
- Consensual Faculty-Student Relationships
- Courses & Grades
- Dissenting Votes (at a dissertation defense)
- Enrollment & Registration
- Interdisciplinary Opportunities
- International Travel
- Leaves (Leave of Absence, Medical Leave of Absence, Involuntary Leave, New Child Leave)
- Part-Time Employment
- Probation & Dismissal for Academic Reasons
- Reinstatement
- Residency Requirement
- Student Grievance Procedures
- Time Off
- Transfer of Credit
- Tuition and Fees
- Withdrawal

Students should be familiar with the applicable policies as set forth by the School of Medicine, including the Student Mistreatment Reporting and Monitoring Policy. The Student Mistreatment Reporting and Monitoring policy includes information about Supporting a Fair Environment (SAFE).

In addition, Student Health Services provides efficient, accessible, high-quality medical care to DBBS students.

Biochemistry, Biophysics, & Structural Biology, PhD

Biochemistry, Biophysics, & Structural Biology

Biochemistry uses the concepts and approaches of chemistry to understand the molecular basis of biological processes. Biochemical studies include enzymology, metabolism, DNA replication, cell signaling, and drug discovery. Insights from these studies may shed light on fundamental biological processes as well as mechanisms of disease, new drug treatments, and new diagnostics.

Biophysics brings together elements of biology, chemistry, physics, and mathematics to describe and understand biological processes. It is a fusion of scientific cultures: the systems and processes of biochemistry and computational and molecular biology are joined with the principles and quantitative laws of physical chemistry. The goal is to develop a quantitative and predictive understanding of biology at a detailed molecular level.

Structural Biology seeks a mechanistic understanding of macromolecular function through molecular structure and dynamics. X-ray diffraction, cryo-electron microscopy, and nuclear magnetic resonance are among the tools used by structural biologists, whose insights address important questions throughout biology and medicine at Washington University.

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36 Credits**
- **Degree Length: 7 Years**
  - Students are expected to maintain satisfactory academic progress in accordance with academic milestones. Students entering their seventh year in the program will receive a warning letter with regard to reaching their stated degree length. Students entering their eighth year in the program will be required to obtain permission from the Associate Dean of Graduate Education.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Continued support is guaranteed for the duration of the student's graduate studies, provided that they maintain satisfactory progress toward completion of the degree.

Required Courses

Required courses generally consist of four to nine courses in areas fundamental to the student's program. Students are expected to maintain a B average in graduate courses.

DBBS Required Courses

- Biol 5098 Graduate Research Fundamentals
- Biol 5011 Ethics & Research Science

BBSB Specific Requirements

- Biol 5357 Chemistry and Physics of Biomolecules
- Four Semesters of BBSB Student Seminar

Students complete a peer review seminar series in which they present their current work and receive feedback on both their science and their presentation.

Three Advanced Electives

Courses must be offered through DBBS or through the Chemistry, Physics, or Mathematics departments as 500-level or above graduate courses unless otherwise approved by program directors. MSTP students may use their medical courses to satisfy this requirement.

Three Semesters of Journal Clubs

DBBS and WashU have journal clubs on a variety of topics aligned with student interests. Participating students present at least once per semester for credit and will receive feedback. Students are encouraged to continue participation in journal clubs throughout their graduate experience.

Laboratory Rotations

Selecting a thesis advisor is the most important decision a student makes in graduate school. To help each student make an informed, thoughtful choice, the Division builds in flexibility to explore options. Students usually participate in three lab rotations during their first year. Additional rotations can be arranged, and rotation lengths are flexible. Students usually begin their thesis research by the end of their first year.

Scientific Scholarship

Keeping abreast of scientific developments is critical for faculty and students alike. The Division offers many ways to stay current. More than 15 weekly biology seminars provide excellent opportunities to meet outstanding scientists from outside Washington University. Several annual symposia bring internationally recognized speakers to campus. Journal clubs meet weekly for students, postdoctoral fellows, and faculty to present and discuss current scientific literature. A number of Interdisciplinary Research Pathways allow students to enhance their PhD program. Program retreats allow for informal interaction among students and faculty. The Division also provides funds for each student for professional development.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Program-specific information: After taking the first year of classes and selecting a laboratory, students will develop and defend a novel research project of their own design in the qualifying exam (QE). During this process, which has both a written and oral component, students identify important gaps in knowledge based on primary literature, develop clear hypotheses, and devise quantitative experiments to test said hypotheses.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

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A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

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Email:	dbbsphdadmissions@wustl.edu
Website:	http://dbbs.wustl.edu

Biomedical Informatics & Data Science, PhD

Biomedical Informatics & Data Science

Biostatistics and Data Science Research Track: The goal of the Biostatistics and Data Science track is to train independent and innovative researchers who will contribute to the development and application of cutting-edge statistical and data science methodologies in health science disciplines. The track provides a balance of theory, methods, and applications of biostatistics and data science that are

central to modern interdisciplinary research. Under the supervision of advisors, PhD students participate in the design of clinical studies and are involved in the analysis, inference, and interpretation of these studies.

Biomedical Informatics Research Track: Through the Biomedical Informatics track, students will have training and research opportunities in the five subdisciplines of biomedical informatics as defined by the American Medical Informatics Association (AMIA), the largest professional scientific community in the field of biomedical informatics:

- Applied Clinical Informatics (ACI): applying innovative measurement and informatics approaches to inform and improve clinical practice
- Consumer Health Informatics (CHI): investigating consumers' needs and integrating consumers' preferences into health information systems
- Clinical Research Informatics (CRI): managing information related to clinical trials as well as secondary use of clinical data
- Translational Bioinformatics (TBI): developing storage, analytic, and interpretive methods to optimize the transformation of biomedical data
- Population Health Informatics (PopHI): integrating aspects of public health, clinical informatics, and health care delivery

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36 Crediits**
- **Degree Length: 7 Years**
  - Students are expected to maintain satisfactory academic progress in accordance with academic milestones. Students entering their seventh year in the program will receive a warning letter in regards to reaching their stated degree length. Students entering their eighth year in the program will be required to obtain permission from the Associate Dean of Graduate Education.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Continued support is guaranteed for the duration of your graduate studies, provided that you maintain satisfactory progress towards completion of the degree.

Required Courses

This generally consists of four to nine courses in areas fundamental to the student's program. Students are expected to maintain a B average in graduate courses.

DBBS Required Courses

- Biol 5098 Graduate Research Fundamentals
- Biol 5011 Ethics & Research Science

Program Required Courses

- BMI 5302 Introduction to Biomedical Informatics I
- BMI 5303 Introduction to Biomedical Informatics II
- BMI 5304 Introduction to Biomedical Data Science I
- BMI 5305 Introduction to Biomedical Data Science II

Additional Requirements

- Three semesters of advanced electives
- Four semesters of BIDS journal club and seminar series

Laboratory Rotations

Selecting a thesis advisor is the most important decision a student makes in graduate school. To help each student make an informed, thoughtful choice, the Division builds in flexibility to explore options. Students usually participate in three lab rotations during their first year. Additional rotations can be arranged, and rotation lengths are flexible. Students usually begin their thesis research by the end of their first year.

Scientific Scholarship

Keeping abreast of scientific developments is critical for faculty and students alike. The Division offers many ways to stay current. More than 15 weekly biology seminars provide excellent opportunities to meet outstanding scientists from outside Washington University. Several annual symposia bring internationally recognized speakers to campus. Journal clubs meet weekly for students, postdoctoral fellows and faculty to present and discuss current scientific literature. A number

of Interdisciplinary Research Pathways allow students to enhance their PhD program. Program retreats allow for informal interaction among students and faculty. The Division also provides funds for each student for professional development.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Program-specific information: In the spring and/or summer semesters of Year 2, students must pass a Qualifying Exam (QE). Following a successful QE defense, students will identify and finalize their committee and complete their thesis proposal by December 31 of Year 3.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

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Submission of the Dissertation

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Email:	dbbsphdadmissions@wustl.edu
Website:	http://dbbs.wustl.edu

Cancer Biology, PhD

Cancer Biology

The graduate program in Cancer Biology spans many disciplines, including cell biology, genetics, biochemistry, microbiology, pharmacology, pathology, epidemiology, bioinformatics, and immunology, to name a few. It represents a unique set of training and educational activities that, taken collectively, expose the student to the full breadth of cancer biology while allowing immersion in a specific dissertation topic of the student's choice. A common theme that unites these diverse endeavors is the desire to push the limits of our understanding of these processes to the highest possible molecular resolution. The program is designed to provide graduate and medical students with the education and training they need to make significant contributions to the field of cancer biology, both in the laboratory and in the clinic.

Doctoral Candidacy

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Program Requirements

- **Total Units Required: 36 Credits**
- **Degree Length: 7 Years**
  - Students are expected to maintain satisfactory academic progress in accordance with academic milestones. Students entering their seventh year in the program will receive a warning letter in regards to reaching their stated degree length. Students entering their eighth year in the program will be required to obtain permission from the Associate Dean of Graduate Education.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Continued support is guaranteed for the duration of your graduate studies, provided that you maintain satisfactory progress towards completion of the degree.

Required Courses

This generally requires two to five semesters and usually consists of four to nine courses in areas fundamental to the student's program. Students are expected to maintain a B average in graduate courses.

DBBS Required Courses

- Biol 5098 Graduate Research Fundamentals
- Biol 5011 Ethics & Research Science

Program Required Courses

- Biol 5920 Foundations in Cancer Biology
- Biol 5929 Experimental Cancer Biology

Additional Requirement

- Elective in advanced cancer biology

Laboratory Rotations

Selecting a thesis advisor is the most important decision a student makes in graduate school. To help each student make an informed, thoughtful choice, the Division builds in flexibility to explore options. Students usually participate in three lab rotations during their first year. Additional rotations can be arranged, and rotation lengths are flexible. Students usually begin their thesis research by the end of their first year.

Scientific Scholarship

Keeping abreast of scientific developments is critical for faculty and students alike. The Division offers many ways to stay current. More than 15 weekly biology seminars provide excellent opportunities to meet outstanding scientists from outside Washington University. Several annual symposia bring internationally recognized speakers to campus. Journal clubs meet weekly for students, postdoctoral fellows and faculty to present and discuss current scientific literature. A number of Interdisciplinary Research Pathways allow students to enhance their PhD program. Program retreats allow for informal interaction among students and faculty. The Division also provides funds for each student for professional development.

Qualifying Examinations

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Program-specific information: In the spring/summer semesters of Year 2, students must pass a Qualifying Exam (QE). Following a successful QE defense, students will identify and finalize their committee and complete their thesis proposal by December 31 of Year 3.

Mentored Experience Requirements

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The Doctoral Dissertation

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Email:	dbbsphdadmissions@wustl.edu
Website:	http://dbbs.wustl.edu

Computational & Systems Biology, PhD

Computational & Systems Biology

The graduate program in Computational and Systems Biology trains the next generation of scientists in technology-intensive, quantitative, systems-level approaches to molecular biology. As technological changes generate exponentially larger amounts of data, the scale of the biological questions under investigation grows ever larger. Students in the Computational and Systems Biology program learn to leverage advances in cutting-edge, high-throughput experimental and computational tools. Because of its interdisciplinary nature, the program's curriculum accommodates students with a wide variety of backgrounds, including genetics, biochemistry, molecular biology, mathematics, engineering, physics, chemistry, computer science, and statistics. The faculty in the program are highly interdisciplinary and specialize in the application of computer science, information technology, biophysics, biochemistry, genetics, applied mathematics, and statistics to problems in molecular biology.

Doctoral Candidacy

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  - Continued support is guaranteed for the duration of your graduate studies, provided that you maintain satisfactory progress towards completion of the degree.

Required Courses

This generally requires two to five semesters and usually consists of four to nine courses in areas fundamental to the student's program. Students are expected to maintain a B average in graduate courses.

DBBS Required Courses

- Biol 5098 Graduate Research Fundamentals
- Biol 5011 Ethics & Research Science

Program Required Courses

- Biol 5495 Computational Molecular Biology
- Biol 5488 Genomics

Three Advanced Electives

Common options include the following:

- Biol 5014 Biotech Industry Innovators
- Biol 5285 Current Topics in Human and Mammalian Genetics
- Biol 5357 Chemistry and Physics of Biomolecules
- Biol 5483 Human Genetic Analysis
- Biol 5312 Macromolecular Interactions
- Biol 548 Nucleic Acids & Protein Biosynthesis
- Biol 5491 Advanced Genetics
- Math 493C Probability
- CSE 502N Data Structures and Algorithms
- CSE 514A Data Mining

- CSE 517A Machine Learning
- MSB 621 Computational Statistical Genetics
- INFO 558 Applications of Deep Neural Networks

Three Semesters of Journal Clubs

Participation in Biol 5496 Seminar in Computational Molecular Biology is strongly encouraged but not required.

Laboratory Rotations

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Scientific Scholarship

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A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field

of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.

- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Email:	dbbsphdadmissions@wustl.edu
Website:	http://dbbs.wustl.edu

Developmental, Regenerative, & Stem Cell Biology, PhD

Developmental, Regenerative, & Stem Cell Biology

A central theme of the Developmental, Regenerative and Stem Cell Biology program is the desire to understand the genetic and molecular basis of specific developmental events and how defects in these events lead to developmental disorders and disease, such as cancer and neurodegeneration. Students and faculty members in the program employ genetics, cell biology, and biochemistry as well as cutting-edge imaging, genomic, and systems-level approaches to dissect key outstanding questions in the fields of development, regeneration, and stem cell biology.

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36 Credits**
- **Degree Length: 7 Years**
  - Students are expected to maintain satisfactory academic progress in accordance with academic milestones. Students entering their seventh year in the program will receive a warning letter in regards to reaching their stated degree length. Students entering their eighth year in the program will be required to obtain permission from the Associate Dean of Graduate Education.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Continued support is guaranteed for the duration of your graduate studies, provided that you maintain satisfactory progress towards completion of the degree.

Required Courses

This generally consists of four to nine courses in areas fundamental to the student's program. Students are expected to maintain a B average in graduate courses.

DBBS Required Courses

- Biol 5098 Graduate Research Fundamentals
- Biol 5011 Ethics & Research Science

Program Required Courses

- Biol 548 Nucleic Acids & Protein Biosynthesis
- Biol 5068 Fundamentals of Molecular Cell Biology
- Biol 5352 Developmental Biology
- Biol 5491 Advanced Genetics

Advanced Elective

Students may select one or more, subject to approval by the DRSCB Steering Committee:

- Biol 5224 Molecular, Cell and Organ Systems
- Biol 5053 Immunobiology I
- Biol 5054 Immunobiology II
- Biol 5488 Genomics
- Biol 5312 Macromolecular Interactions
- Biol 5392 Molecular Microbiology & Pathogenesis

Journal Clubs

Students may select one or more, based on their interests:

- Biol 5138 Journal Club for the Molecular Mechanism of Aging
- Biol 5128 Cell Biology of Extracellular Matrix Journal Club
- Biol 5152 RAD Journal Club (Regeneration, Aging, and Development)
- Biol 5235 Genetics Journal Club
- Biol 5123 Experimental Hematopoiesis Journal Club
- Biol 5137 Ion Channels Journal Club
- Biol 5192 Cancer Biology Journal Club
- Biol 5255 Experimental Skeletal Biology Journal Club
- Biol 5284 Current Research in Chromatin, Epigenetics and Nuclear Organization
- Biol 5412 Tropical and Molecular Parasitology
- Biol 5445 DNA Metabolism Journal Club
- Biol 5484 Genetics and Development of C. elegans Journal Club
- Biol 5496 Seminar in Computational Molecular Biology

Laboratory Rotations

Selecting a thesis advisor is the most important decision a student makes in graduate school. To help each student make an informed, thoughtful choice, the Division builds in flexibility to explore options. Students usually participate in three lab rotations during their first year. Additional rotations can be arranged, and rotation lengths are flexible. Students usually begin their thesis research by the end of their first year.

Scientific Scholarship

Keeping abreast of scientific developments is critical for faculty and students alike. The Division offers many ways to stay current. More than 15 weekly biology seminars provide excellent opportunities to meet outstanding scientists from outside Washington University. Several annual symposia bring internationally recognized speakers to campus. Journal clubs meet weekly for students, postdoctoral fellows and faculty to present and discuss current scientific literature. A number of Interdisciplinary Research Pathways allow students to enhance their PhD program. Program retreats allow for informal interaction among students and faculty. The Division also provides funds for each student for professional development.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Program specific information: In the spring/summer semesters of Year 2, students must pass a Qualifying Exam (QE). Following a successful QE defense, students will identify and finalize their committee and complete their thesis proposal by December 31 of Year 3.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Email:	dbbsphdadmissions@wustl.edu
Website:	http://dbbs.wustl.edu

Ecology & Evolutionary Biology, PhD

Ecology & Evolutionary Biology

The graduate program in Ecology and Evolutionary Biology studies the origins and maintenance of biodiversity on both evolutionary and ecological timescales. The program combines field studies with the technical advances of molecular genetics, statistics, large-scale genomics, quantitative genetics, and mathematical theory to gain an understanding of evolutionary history and environmental biology. Research in the program is extremely diverse. Study organisms include model systems such as yeast, *Drosophila, Arabidopsis,* and *Dictyostelium;* human populations; agricultural species; and various natural plant and animal populations. Students' research opportunities are enriched by the university's partnerships with local institutions. Our Tyson Research Center allows field studies in local natural ecosystems. The Missouri Botanical Garden conducts systematic studies of plant diversity worldwide. The Saint Louis Zoo facilitates studies of the conservation biology of exotic large animals. Our faculty and students also conduct studies on a global scale at field sites in Africa, Asia, and South America.

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36 Credits**
- **Degree Length: 7 Years**
  - Students are expected to maintain satisfactory academic progress in accordance with academic milestones. Students entering their seventh year in the program will receive a warning letter in regards to reaching their stated degree length. Students entering their eighth year in the program will be required to obtain permission from the Associate Dean of Graduate Education.

- **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
- Continued support is guaranteed for the duration of the student's graduate studies, provided that the student maintains satisfactory progress toward completion of the degree.

Required Courses

This generally consists of four to nine courses in areas fundamental to the student's program. Students are expected to maintain a B average in graduate courses.

DBBS Required Courses

- Biol 5098 Graduate Research Fundamentals
- Biol 5011 Ethics & Research Science

Program Required Courses

Students must take at least one (1) course from each program course group:

Group 1 courses:

- Biol 5190 Community Ecology
- Biol 5195 Disease Ecology

Group 2 courses:

- Biol 5582 Macroevolution
- Biol 5181 Population Genetics
- Biol 5583 Molecular Evolution
- Biol 5772 Behavioral Ecology

Group 3 courses:

- Group 1 courses
- Group 2 courses
- Biol 5220 Practical Bioinformation
- Biol 5488 Genomics
- Biol 5491 Advanced Genetics
- Other relevant courses – *subject to approval by the EEB Program Director(s)*

Additional Requirements

- Four semesters of Biol 580 Seminar in Population Biology
- Biol 598 Topics in Evolution, Ecology and Population Biology

Laboratory Rotations

Selecting a thesis advisor is the most important decision a student makes in graduate school. To help each student make an informed, thoughtful choice, the Division builds in flexibility to explore options. Students usually participate in three lab rotations during their first year. Additional rotations can be arranged, and rotation lengths are flexible. Students usually begin their thesis research by the end of their first year.

Scientific Scholarship

Keeping abreast of scientific developments is critical for faculty and students alike. The Division offers many ways to stay current. More than 15 weekly biology seminars provide excellent opportunities to meet outstanding scientists from outside Washington University. Several annual symposia bring internationally recognized speakers to campus. Journal clubs meet weekly for students, postdoctoral fellows and faculty to present and discuss current scientific literature. A number of Interdisciplinary Research Pathways allow students to enhance their PhD program. Program retreats allow for informal interaction among students and faculty. The Division also provides funds for each student for professional development.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Program-specific information: In the spring/summer semesters of Year 2, students must pass a Qualifying Exam (QE). Following a successful QE defense, students will identify and finalize their committee and complete their thesis proposal by December 31 of Year 3.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences

as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

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- Three of the five normally come from the student's degree program; at least one of the five must not.

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Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Email:	dbbsphdadmissions@wustl.edu
Website:	http://dbbs.wustl.edu

Immunology, PhD

Immunology

The graduate program in Immunology offers an outstanding learning environment in one of the largest and most diverse Immunology programs in the nation and a faculty that is highly committed to graduate education. The Immunology faculty are leaders in their field, developing and employing cutting-edge technologies, including the generation of genetically modified mice by gene targeting, proteomics, intravital microscopy, and high-throughput pathogen discovery. Some of the key questions explored here are specific to the field, while others deal with the immunological versions of more basic phenomena in areas such as developmental biology, signal transduction, and the regulation of gene expression. Because immunology is interdisciplinary and rapidly developing, the program trains students to develop specialty expertise in immunology itself, as well as basic knowledge in a number of general "emphasis" areas with broader applicability.

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree

general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36 Credits**
- **Degree Length: 7 Years**
  - Students are expected to maintain satisfactory academic progress in accordance with academic milestones. Students entering their seventh year in the program will receive a warning letter in regards to reaching their stated degree length. Students entering their eighth year in the program will be required to obtain permission from the Associate Dean of Graduate Education.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Continued support is guaranteed for the duration of the student's graduate studies, provided that the student maintains satisfactory progress toward completion of the degree.

Required Courses

This generally consists of four to nine courses in areas fundamental to the student's program. Students are expected to maintain a B average in graduate courses.

DBBS Required Courses

- Biol 5098 Graduate Research Fundamentals
- Biol 5011 Ethics & Research Science

Program Required Courses

- Biol 5053 Immunobiology I
- Biol 5054 Immunobiology II

Two to Three Advanced Electives

- Biol 5392 Molecular Microbiology & Pathogenesis
- Biol 5014 Biotech Industry Innovators
- Biol 548 Nucleic Acids & Protein Biosynthesis
- Biol 5312 Macromolecular Interactions
- Biol 5352 Developmental Biology
- Biol 5426 ID Gateway: Translational and Public Health Aspects of Basic Infectious Disease Research
- Biol 5068 Fundamentals of Molecular Cell Biology

Laboratory Rotations

Selecting a thesis advisor is the most important decision a student makes in graduate school. To help each student make an informed, thoughtful choice, the Division builds in flexibility to explore options. Students usually participate in three lab rotations during their first year. Additional rotations can be arranged, and rotation lengths are flexible. Students usually begin their thesis research by the end of their first year.

Scientific Scholarship

Keeping abreast of scientific developments is critical for faculty and students alike. The Division offers many ways to stay current. More than 15 weekly biology seminars provide excellent opportunities to meet outstanding scientists from outside Washington University. Several annual symposia bring internationally recognized speakers to campus. Journal clubs meet weekly for students, postdoctoral fellows and faculty to present and discuss current scientific literature. A number of Interdisciplinary Research Pathways allow students to enhance their PhD program. Program retreats allow for informal interaction among students and faculty. The Division also provides funds for each student for professional development.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Program-specific information: In the spring/summer semesters of Year 1, students must pass a Qualifying Exam (QE).

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience

Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

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Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

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Website:	http://dbbs.wustl.edu

Molecular Cell Biology, PhD

Molecular Cell Biology

The graduate program in Molecular Cell Biology involves a wide array of investigations into many fundamental cell processes and the mechanisms that control them. Among the subjects currently under investigation are gene expression; mechanisms of transcription and tissue-specific transcription regulation; molecular mechanisms involved in cell proliferation; the cell cytoskeleton, motility, and chemotaxis; pathways for the trafficking of molecules into and out of cells; receptor-ligand interactions involved in the regulation of cell growth and the cell phenotype; signal transduction molecules and pathways; lipid metabolism; the assembly of supramolecular structures, including the extracellular matrix; mechanisms of enzyme catalysis and inhibition; and mechanisms of pathogenesis. A common theme uniting these research programs is the desire to understand essential cellular functions at the highest possible level of molecular resolution.

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree

general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36 Credits**
- **Degree Length: 7 Years**
  - Students are expected to maintain satisfactory academic progress in accordance with academic milestones. Students entering their seventh year in the program will receive a warning letter in regards to reaching their stated degree length. Students entering their eighth year in the program will be required to obtain permission from the Associate Dean of Graduate Education.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Continued support is guaranteed for the duration of the student's graduate studies, provided that the student maintain satisfactory progress toward completion of the degree.

Required Courses

This generally consists of four to nine courses in areas fundamental to the student's program. Students are expected to maintain a B average in graduate courses.

DBBS Required Courses

- Biol 5098 Graduate Research Fundamentals
- Biol 5011 Ethics & Research Science

Program Required Courses

- Biol 5068 Fundamentals of Molecular Cell Biology
- Biol 548 Nucleic Acids & Protein Biosynthesis

One Advanced Elective

- Biol 5491 Advanced Genetics
- Biol 5501 The Biology and Pathology of the Visual System
- Biol 5014 Biotech Industry Innovators
- Biol 5495 Computational Molecular Biology
- Biol 5352 Developmental Biology
- Biol 5053 Immunobiology I
- Biol 5054 Immunobiology II
- Biol 5312 Macromolecular Interactions
- Biol 5224 Molecular, Cell and Organ Systems
- Biol 5392 Molecular Microbiology & Pathogenesis

Two Semesters of Journal Clubs

- Biol 5192 Cancer Biology Journal Club
- Biol 5678 Clocksclub
- Biol 5284 Current Research in Chromatin, Epigenetics and Nuclear Organization
- Biol 5417 Hematology Division Journal Club: Current Topics in Biochemistry, Cellular, and Molecular Biology
- Biol 5152 RAD Journal Club (Regeneration, Aging, and Development)
- Biol 5445 DNA Metabolism Journal Club
- Biol 5123 Experimental Hematopoiesis Journal Club
- Biol 5255 Experimental Skeletal Biology Journal Club
- Biol 5128 Cell Biology of Extracellular Matrix Journal Club
- Biol 5235 Genetics Journal Club
- Biol 5484 Genetics and Development of C. elegans Journal Club
- Biol 5137 Ion Channels Journal Club
- Biol 5148 Metabolism Journal Club
- Biol 5138 Journal Club for the Molecular Mechanism of Aging
- Biol 5565 Oral Presentation of Scientific Data
- Biol 5303 Protein NMR Journal Club
- Biol 5151 RNA Biology Journal Club
- Biol 5577 Synapses Journal Club
- Biol 5328 Structural Biology Journal Club
- Biol 5412 Tropical and Molecular Parasitology

Laboratory Rotations

Selecting a thesis advisor is the most important decision a student makes in graduate school. To help each student make an informed, thoughtful choice, the Division builds in flexibility to explore options. Students usually participate in three lab rotations during their first year. Additional rotations can be arranged, and rotation lengths are flexible. Students usually begin their thesis research by the end of their first year.

Scientific Scholarship

Keeping abreast of scientific developments is critical for faculty and students alike. The Division offers many ways to stay current. More than 15 weekly biology seminars provide excellent opportunities to meet outstanding scientists from outside Washington University. Several annual symposia bring internationally recognized speakers to campus. Journal clubs meet weekly for students, postdoctoral fellows and faculty to present and discuss current scientific literature. A number of Interdisciplinary Research Pathways allow students to enhance their PhD program. Program retreats allow for informal interaction among students and faculty. The Division also provides funds for each student for professional development.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Program-specific information: In the spring/summer semesters of Year 2, students must pass a Qualifying Exam (QE). Following a successful QE defense, students will identify and finalize their committee and complete their thesis proposal by December 31 of Year 3.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

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Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts &

Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Email:	dbbsphdadmissions@wustl.edu
Website:	http://dbbs.wustl.edu

Molecular Genetics & Genomics, PhD

Molecular Genetics & Genomics

The graduate program in Molecular Genetics and Genomics provides an ideal interdisciplinary training environment for students interested in exploring basic questions in biology. Students and faculty members in the program employ genetic and genomic approaches to investigate questions in genetics, cell biology, development, and physiology. Common themes include research aimed at identifying and characterizing the genes and the genetic and molecular networks that control fundamental genetic and cellular processes; deciphering how defects in gene function disrupt these processes and lead to disease; and devising genetic and molecular methods to identify and treat diseases.

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36 Credits**
- **Degree Length: 7 Years**
  - Students are expected to maintain satisfactory academic progress in accordance with academic milestones. Students entering their seventh year in the program will receive a warning letter in regards to reaching their stated degree length. Students entering their eighth year in the program will be required to obtain permission from the Associate Dean of Graduate Education.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Continued support is guaranteed for the duration of the student's graduate studies, provided that the student maintains satisfactory progress toward completion of the degree.

Required Courses

This generally consists of four to nine courses in areas fundamental to the student's program. Students are expected to maintain a B average in graduate courses.

DBBS Required Courses

- Biol 5098 Graduate Research Fundamentals
- Biol 5011 Ethics & Research Science

Program Required Courses

- Biol 5491 Advanced Genetics
- Biol 5488 Genomics
- Biol 5235 Genetics Journal Club

Two Advanced Electives

- Biol 5075 Fundamentals of Biostatistics for Graduate Students*(recommended for students with little or no programming experience)*
- Biol 5483 Human Genetic Analysis
- Biol 5068 Fundamentals of Molecular Cell Biology
- Biol 548 Nucleic Acids & Protein Biosynthesis
- Biol 5224 Molecular, Cell and Organ Systems
- Biol 5495 Computational Molecular Biology

In addition to the listings above, students may also take the following additional courses as appropriate:

- Biol 5352 Developmental Biology
- Biol 5312 Macromolecular Interactions
- Biol 5392 Molecular Microbiology & Pathogenesis
- Biol 5053 Immunobiology I
- Biol 5054 Immunobiology II

Laboratory Rotations

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Scientific Scholarship

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Program-specific information: In Year 2, students must pass a Qualifying Exam (QE). Following a successful QE defense, students will identify and finalize their committee and complete their thesis proposal by December 31 of Year 3.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

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A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

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defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Email:	dbbsphdadmissions@wustl.edu
Website:	http://dbbs.wustl.edu

Molecular Microbiology & Microbial Pathogenesis, PhD

Molecular Microbiology & Microbial Pathogenesis

Molecular Microbiology

Research in molecular microbiology employs genetics, cell biology, biochemistry, and biophysics to investigate fundamental biological problems including environmental sensing and cell-cell signaling, transcriptional and post-transcriptional regulation, secretion, energy generation, and the bacterial cell cycle. State-of-the-art computational and comparative genomic approaches are used to study commensal, pathogenic, and environmental organisms in their natural environments.

Microbial Pathogenesis and Host Defense

Research in this area involves the molecular biology and biochemistry of pathogenic bacteria, fungi, protozoa, helminths, and viruses, with an emphasis on mechanisms of virulence and host–parasite interactions. By applying a wide range of emerging technologies in molecular genetics and cell biology, this work includes the discovery and analysis of virulence-associated genes, the study of innate and acquired immunity to pathogens, and the identification and exploration of novel targets for chemotherapy.

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36 Credits**
- **Degree Length: 7 Years**
  - Students are expected to maintain satisfactory academic progress in accordance with academic milestones. Students entering their seventh year in the program will receive a warning letter in regards to reaching their stated degree length. Students entering their eighth year in the program will be required to obtain permission from the Associate Dean of Graduate Education.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Continued support is guaranteed for the duration of the student's graduate studies, provided that the student maintains satisfactory progress toward completion of the degree.

Required Courses

This generally consists of four to nine courses in areas fundamental to the student's program. Students are expected to maintain a B average in graduate courses.

DBBS Required Courses

- Biol 5098 Graduate Research Fundamentals
- Biol 5011 Ethics & Research Science

Program Required Courses

- Biol 5392 Molecular Microbiology & Pathogenesis
- Biol 5217 Special Topics in Microbial Pathogenesis

Students may select either course below:

- Biol 548 Nucleic Acids & Protein Biosynthesis
- Biol 5068 Fundamentals of Molecular Cell Biology

One Advanced Elective

- Biol 5014 Biotech Industry Innovators
- Biol 5053 Immunobiology I
- Biol 5054 Immunobiology II
- Biol 5146 Principles and Applications of Biological Imaging
- Biol 5224 Molecular, Cell and Organ Systems
- Biol 5312 Macromolecular Interactions
- Biol 5319 Molecular Foundations of Medicine
- Biol 5352 Developmental Biology
- Biol 5357 Chemistry and Physics of Biomolecules
- Biol 5488 Genomics
- Biol 5491 Advanced Genetics
- Biol 5495 Computational Molecular Biology

Journal Clubs

Students may select one or more based on interest:

- Biol 5123 Experimental Hematopoiesis Journal Club
- Biol 5128 Cell Biology of Extracellular Matrix Journal Club
- Biol 5137 Ion Channels Journal Club
- Biol 5138 Journal Club for the Molecular Mechanism of Aging
- Biol 5192 Cancer Biology Journal Club
- Biol 5235 Genetics Journal Club
- Biol 5255 Experimental Skeletal Biology Journal Club
- Biol 5284 Current Research in Chromatin, Epigenetics and Nuclear Organization
- Biol 5393 Molecular Virology Journal Club
- Biol 5397 Current Literature in Microbiology
- Biol 5412 Tropical and Molecular Parasitology
- Biol 5417 Hematology Division Journal Club: Current Topics in Biochemistry, Cellular, and Molecular Biology
- Biol 5484 Genetics and Development of C. elegans Journal Club
- Biol 5496 Seminar in Computational Molecular Biology

Laboratory Rotations

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Scientific Scholarship

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Qualifying Examinations

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Program-specific information: In the spring/summer semesters of Year 2, students must pass a Qualifying Exam (QE). Following a successful QE defense, students will identify and finalize their committee and complete their thesis proposal by December 31 of Year 3.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

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Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Email:	dbbsphdadmissions@wustl.edu
Website:	http://dbbs.wustl.edu

Neurosciences, PhD

Neurosciences

The graduate program in the Neurosciences has a large and interactive faculty drawn from numerous preclinical and clinical departments across two campuses. We study nearly every area of modern neuroscience, from the structural analysis of ion channels to the mapping of the functional connections of the human brain. Students enjoy a challenging and productive environment in which to define and pursue their professional goals. The superb resources and remarkable breadth of research possibilities at Washington University guarantee the student's exposure to the most fundamental issues in the field and the tools to address those issues in depth in a diverse, collaborative, and interdisciplinary scientific community. Active areas of research include cellular, molecular, and developmental neurobiology; systems and integrative neuroscience; and clinical and computational neuroscience.

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36 Credits**
- **Degree Length: 7 Years**
  - Students are expected to maintain satisfactory academic progress in accordance with academic milestones. Students entering their seventh year in the program will receive a warning letter in regards to reaching their stated degree length. Students entering their eighth year in the program will be required to obtain permission from the Associate Dean of Graduate Education.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Continued support is guaranteed for the duration of the student's graduate studies, provided that the student maintains satisfactory progress toward completion of the degree.

Required Courses

This generally consists of four to nine courses in areas fundamental to the student's program. Students are expected to maintain a B average in graduate courses.

DBBS Required Courses

- Biol 5098 Graduate Research Fundamentals
- Biol 5011 Ethics & Research Science

Program Required Courses

- Biol 5571 Cellular Neurobiology
- Biol 5651 Neural Systems
- Biol 5646 First-Year Fundamentals
- Biol 5648 Coding and Statistical Thinking in the Neurosciences
- Biol 5565 Oral Presentation of Scientific Data

Specialized Advanced Electives

Anytime after their Qualifying Exam (QE), students take two or more "nanocourses" of their choice from rotating topics (often inspired by current student interests).

Journal Clubs

Students can select from a variety of ongoing journal clubs that best align with their interests, with topics ranging from circuits to behavior to glial biology.

Laboratory Rotations

Selecting a thesis advisor is the most important decision a student makes in graduate school. To help each student make an informed, thoughtful choice, the Division builds in flexibility to explore options. Students usually participate in three lab rotations during their first year. Additional rotations can be arranged, and rotation lengths are flexible. Students usually begin their thesis research by the end of their first year.

Scientific Scholarship

Keeping abreast of scientific developments is critical for faculty and students alike. The Division offers many ways to stay current. More than 15 weekly biology seminars provide excellent opportunities to meet outstanding scientists from outside Washington University. Several annual symposia bring internationally recognized speakers to campus. Journal clubs meet weekly for students, postdoctoral fellows and faculty to present and discuss current scientific literature. A number of Interdisciplinary Research Pathways allow students to enhance their PhD program. Program retreats allow for informal interaction among students and faculty. The Division also provides funds for each student for professional development.

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Program-specific information: Students take a qualifying exam approximately 12 months after entering the program. Following a successful QE defense, students will identify and finalize their committee and complete their thesis proposal by December 31 of Year 3.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences

as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

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A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

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Email:	dbbsphdadmissions@wustl.edu
Website:	http://dbbs.wustl.edu

Plant & Microbial Biosciences, PhD

Plant & Microbial Biosciences

The graduate program in Plant and Microbial Biosciences provides training in the use of prokaryotes, eukaryotic microbes, mosses, and vascular plants as experimental organisms to address fundamental and applied biological questions. Contemporary research on plant and microbial systems adds to our knowledge of basic biology, informs our understanding of the natural world, and leads to innovations in biomedicine, agriculture, and energy production. Our graduate students have unparalleled opportunities to pursue multidisciplinary training in genetics, biochemistry, cell biology, development, molecular evolution, and physiology, capitalizing on current interest and investment in biological research and fueled by experimental resources found at Washington University and our partnership with the Donald Danforth Plant Sciences Center.

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree

general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36 Credits**
- **Degree Length: 7 Years**
  - Students are expected to maintain satisfactory academic progress in accordance with academic milestones. Students entering their seventh year in the program will receive a warning letter in regards to reaching their stated degree length. Students entering their eighth year in the program will be required to obtain permission from the Associate Dean of Graduate Education.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Continued support is guaranteed for the duration of the student's graduate studies, provided that the student maintains satisfactory progress toward completion of the degree.

Required Courses

This generally consists of four to nine courses in areas fundamental to the student's program. Students are expected to maintain a B average in graduate courses.

DBBS Required Courses

- Biol 5098 Graduate Research Fundamentals
- Biol 5011 Ethics & Research Science

Program Required Courses

- Biol 5703 Experimental Design and Analysis in Biological Research
- Biol 5702 Current Approaches in Plant and Microbial Research

Students may select either course below:

- Biol 548 Nucleic Acids & Protein Biosynthesis
- Biol 5068 Fundamentals of Molecular Cell Biology

Two Advanced Electives

- Biol 5491 Advanced Genetics
- Biol 5068 Fundamentals of Molecular Cell Biology
- Biol 5352 Developmental Biology
- Biol 5392 Molecular Microbiology & Pathogenesis
- Biol 5495 Computational Molecular Biology
- Biol 5488 Genomics
- Chem 550 Mass Spectrometry
- Biol 5014 Biotech Industry Innovators
- Biol 5053 How Plants Work: Physiology, Growth, and Metabolism
- Biol 5523 Laboratory in Protein Analysis, Proteomics, and Protein Structure

Two Semesters of Journal Clubs

- Biol 5723 Seminar in Plant and Microbial Bioscience – required
- One additional journal club

Laboratory Rotations

Selecting a thesis advisor is the most important decision a student makes in graduate school. To help each student make an informed, thoughtful choice, the Division builds in flexibility to explore options. Students usually participate in three lab rotations during their first year. Additional rotations can be arranged, and rotation lengths are flexible. Students usually begin their thesis research by the end of their first year.

Scientific Scholarship

Keeping abreast of scientific developments is critical for faculty and students alike. The Division offers many ways to stay current. More than 15 weekly biology seminars provide excellent opportunities to meet outstanding scientists from outside Washington University. Several annual symposia bring internationally recognized speakers to campus. Journal clubs meet weekly for students, postdoctoral fellows and faculty to present and discuss current scientific literature. A number of Interdisciplinary Research Pathways allow students to enhance their PhD program. Program retreats allow for informal interaction among students and faculty. The Division also provides funds for each student for professional development.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Program-specific information: In the spring/summer semesters of Year 2, students must pass a Qualifying Exam (QE). Following a successful QE defense, students will identify and finalize their committee and complete their thesis proposal by December 31 of Year 3.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Email:	dbbsphdadmissions@wustl.edu
Website:	http://dbbs.wustl.edu

Chemistry

The Department of Chemistry offers a **PhD in Chemistry**, with research specializations available in biological, organic, inorganic, physical, and nuclear chemistry. Doctoral students often work at the interface of two or more subfields of chemistry. They may also work at the interface of different scientific disciplines. Lab assignments are, therefore, made according to each student's research project. Chemistry students may work in a lab outside the department or alongside students from other departments in a chemistry lab.

The department's research strengths in each subfield of chemistry are as follows:

- Biological: biophysical, bioorganic, bioinorganic, biochemistry
- Organic: synthetic, organometallic, bioorganic, physical organic, asymmetric catalysis
- Inorganic: coordination, organometallic, materials, bioinorganic, main group
- Physical: computational, laser spectroscopy, theoretical, magnetic resonance
- Interdisciplinary: biophysical, physical organic, materials
- Nuclear and radiochemistry: stability of nuclei, radioisotopes for medical studies

Washington University's graduate student stipends are in the top 25% of stipends at similar universities, and St. Louis has a low cost of living. The department has an excellent record of placing its graduates in a wide variety of jobs: academic, industrial, governmental, legal, consulting, writing/editing, and entrepreneurial.

Contact:	Barbara Tessmer
Phone:	314-935-7316
Email:	barbara22@wustl.edu
Website:	http://www.chemistry.wustl.edu/graduate

Faculty

Chair

Jennifer Heemstra
Charles Allen Thomas Professor
PhD, University of Illinois, Urbana-Champaign

Director of Graduate Studies

Timothy Wencewicz
Associate Professor
PhD, University of Notre Dame

Director of Undergraduate Studies

Richard Mabbs
Associate Professor
PhD, University of Nottingham (UK)

Department Faculty

Thomas Bakupog
Lecturer
PhD, University of Wyoming, Laramie

Jonathan Barnes
Associate Professor
PhD, Northwestern University

Cory Berkland
Joint Professor of Biomedical Engineering and Chemistry
PhD, University of Illinois

Vladimir B. Birman
Associate Professor
PhD, University of Chicago

John R. Bleeke
Professor
PhD, Cornell University

William Buhro
George E. Pake Professor of Chemistry and Emeritus Department Chair
PhD, University of California, Los Angeles

Rong Chen
Senior Lecturer
PhD, University of Southern California

Maria de la Cruz
Senior Lecturer
PhD, University of Missouri, Saint Louis

Megan Daschbach
Teaching Professor
PhD, Washington University

Joseph Fournier
Assistant Professor
PhD, Yale University

Michael L. Gross
Professor
PhD, University of Minnesota

Richard W. Gross
Joint Professor of Medicine and Developmental Biology and Chemistry
PhD, Washington University

Julie Hamdi
Senior Lecturer
PhD, University of California, Los Angeles

Sophia E. Hayes
Professor
PhD, University of California, Santa Barbara

John Heemstra
Senior Lecturer
PhD, University of Illinois, Urbana-Champaign

J. Dewey Holten
Professor
PhD, University of Washington

Alfred Holtzer
Professor Emeritus
PhD, Harvard University

Alfred Hortmann
Professor Emeritus
PhD

Meredith Jackrel
Assistant Professor
PhD, Yale University

Chenfeng Ke
Associate Professor
PhD, Nankai University (China)

Richard A. Loomis
Professor
PhD, University of Pennsylvania

Ronald Lovett
Professor Emeritus
PhD, University of Rochester

Jia Luo
Senior Lecturer
PhD, Washington University

Bryn Lutes
Senior Lecturer
PhD, Washington University

Kevin D. Moeller
Professor
PhD, University of California, Santa Barbara

Yusuke Okuno
Assistant Professor
PhD, University of Wisconsin at Madison

Gary J. Patti
Michael and Tana Powell Professor of Chemistry
PhD, Washington University

Jay Ponder
Professor
PhD, Harvard University

Kelly Powderly
Assistant Professor
PhD, Princeton University

Courtney Reichhardt
Assistant Professor
PhD, Stanford University

Bryce Sadtler
Associate Professor
PhD, University of California, Berkeley

Demetrios Sarantites
Professor Emeritus
PhD, Massachusetts Institute of Technology

Lee G. Sobotka
Professor
PhD, University of California, Berkeley

William Spees
Lecturer
PhD, Washington University

John-Stephen Taylor
Professor
PhD, Columbia University

Robert Wexler
Assistant Professor
PhD, University of Pennsylvania

Mark Wrighton
Professor and Chancellor Emeritus and James and Mary Wertsch Distinguished University Professor
PhD, California Institute of Technology

Degree Requirements

- Chemistry, PhD (p. 150)

Courses

Visit online course listings to view semester offerings for L07 Chem.

L07 Chem 500 Independent Work
Independent mentored work in Chemistry, such as (but not limited to) a detailed literature search and report on a topic of current interest. Prerequisite: Permission of the faculty mentor.
Credit variable, maximum 6 units.

L07 Chem 5001 Physical Science in 12 Problems
Exercises related to general chemistry, classical mechanics, quantum mechanics, statistical mechanics, thermodynamics, and kinetics, will be solved with numerical software. Each exercise will be accompanied by a lecture, a software template solving a problem and presenting a related take-home problem. The software will allow us to focus on, and treat in a transparent fashion, physical problems without the unworldly idealizations and contrivances found in textbooks. Prerequisites: Chem 106/112A and/or Physics 192/194, and prior or concurrent enrollment in either Chem 401 or Phys 217. The lectures will be in-person however a complete set of taped lectures will also be available. A remote help session will be scheduled at a mutually agreed to time. There are no quizzes, exams or a final.
Same as L07 Chem 400
Credit 1 unit. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 5010 Physical Chemistry I
Introduction to quantum chemistry with applications to electronic structure and elementary spectroscopy. Prerequisites: Chem 106/112A and Math 233; prior completion of Physics 191 and 192 is strongly encouraged (but concurrent enrollment in Physics I will be accepted); or permission of instructor. Required course for all Chemistry majors.
Same as L07 Chem 401
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L07 Chem 5020 Physical Chemistry II
This course presents an introduction to chemical thermodynamics, statistical mechanics, and transport phenomena, and it is a required course for all Chemistry majors. Prerequisites: Chem 401, and Math 233; or permission of instructor. Prior completion of Physics 192/194 is strongly encouraged, but prior completion of Physics 191/193 and concurrent enrollment in Physics 192/194 will be accepted.
Same as L07 Chem 402
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L07 Chem 5030 Chemical Kinetics
This lecture course will provide an introduction to the kinetics of chemical reactions for graduate and upper-level undergraduate science and engineering students. Bulk and molecular-level considerations will be discussed and provide a foundation for the understanding of chemical reaction mechanisms and the techniques used for their study. Students will gain an understanding of the importance and significance of the rate laws of reactions and in particular the reaction rate constant. Details of how the environment in which reactions occur (i.e., gas phase, solution phase, and surface reactions) and molecular structure are reflected in the rate constant will be discussed. Examples such as catalytic loss cycles in the atmosphere, enzyme catalysis, combustion systems, chain reactions, and explosions are presented in detail to illustrate how the fundamental principles of chemical kinetics can be applied to predict reaction rates, chemical reactivity, and the outcomes of particular processes. Prerequisites: Chem 106/112A and/or permission of instructor.
Same as L07 Chem 403
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 5035 Nuclear and Radiochemistry Lab
Application of radiochemistry to problems in chemistry, physics, and nuclear medicine, with emphasis on particle detectors and experimental techniques. Prerequisites: 3 units of physical chemistry or quantum mechanics, or permission of instructor. Five hours of laboratory a week.
Same as L07 Chem 435
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 5036 Introduction to the Atomic Nucleus
Introduction to the interaction of radiation with mater, the production and decay of radioactive nuclides, the structure and properties of nuclei, and various applications of nuclear science (including nuclear power) are all presented. Prerequisites: General Chemistry and/or Physics, and prior or concurrent enrollment in either Chemistry 401 or Physics 217. Lectures will be in-person but a complete set of taped lectures will also be available. A weekly, in-person or remote, help session will be scheduled at a mutually agreed to time. There will be about 6 timed quizzes, one midterm and one final, all of which must be taken in-person on mutually agreed dates.
Same as L07 Chem 436
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 5050 Computational Problem Solving in the Chemical Sciences
Have you ever wondered how molecular interactions shape the world around us? Why do certain materials exhibit unique properties? How can we predict and manipulate chemical reactions at the atomic level? These are the mysteries at the heart of chemistry, where understanding the unseen world of atoms and molecules can unlock groundbreaking advances in science and technology. However, one needs specialized numerical methods and computational chemistry skills to explore these questions. This course is designed to bridge this gap. It provides a comprehensive introduction to the mathematical and computational skills necessary to model chemical phenomena at the atomic level. We start by building a strong foundation in mathematical representations of chemical problems, utilizing open-source software tools for problem-solving, data interpretation, and visualization of materials and molecular structures. In the second part of the course, we delve into the fascinating world of atomic-level computer modeling. You'll learn various methodologies, such as Monte Carlo and molecular dynamics. We'll analyze static (thermodynamic and structural) and dynamic properties and their statistical errors. Don't worry if you're new to coding - we'll cover the basics of Python programming in the first few lectures, setting you up for success. By the end of this course, you will be proficient in using computational tools, understanding atomic interactions, and approaching chemical problems with a structured and strategic thought process. Join us to unlock the secrets of the molecular world and transform the way you see chemistry! Prerequisites: Chem 106/112A, Math 132, Physics 191, Chem 261.
Same as L07 Chem 4050
Credit 3 units. A&S IQ: NSM

L07 Chem 5051 Methods of Biophysical Chemistry
The course provides an overview of key methodologies of contemporary biophysics and biophysical chemistry, covering: 1) Spectroscopic methods routinely used in biochemistry, including absorption, fluorescence, and circular dichroism; 2) Biophysical methods to study intra- and intermolecular protein interactions including solutionstate NMR, FCS, and FRET; 3) Cutting-edge biophysical techniques to study transient proteinprotein/ protein-nucleic acids interactions. A significant emphasis is placed on the principles of quantum mechanics, which underpin all the techniques discussed. The course begins with an introduction to the basics of quantum mechanics, laying a foundation for understanding the core physical principles that govern each method. Throughout the course, we will derive and analyze key formulae essential for comprehending and applying these advanced biophysical techniques effectively.
Credit 3 units.

L07 Chem 5064 NMR for Biological Solids
The course will cover theoretical and practical aspects of nuclear magnetic resonance (NMR) spectroscopy. Specific focus will be given to solid-state NMR and its application for studying amorphous biological solids. Prerequisites: undergraduate-level course in quantum mechanics.
Credit 3 units.

L07 Chem 5070 Instrumental Methods: Physical Chemistry
A course providing direct hands-on experience with the principles of physical chemistry (thermodynamics, quantum, kinetics) and associated experimental methods and instrumentation, including optical, infrared, and nuclear and electron spin resonance, electrochemistry, calorimetry, laser kinetics, and basic electronics. Prerequisite: Chem 401 or concurrent enrollment in Chem 402.
Same as L07 Chem 445
Credit 3 units. A&S IQ: NSM, WI Arch: NSM Art: NSM

L07 Chem 510 Chemical Dynamics of Biological Pathways
This course will provide a highly advanced evaluation of cellular metabolism. The course will interrogate metabolic pathways and associated enzymatic mechanisms by tracking stable isotope labeling patterns as measured by liquid chromatography/mass spectrometry. The course will not contain any background treatment of mass spectrometry or basic metabolism. To be enrolled, students must already have an in-depth understanding of these topics. Major objectives of the course are: (1) to learn how to use labeling patterns qualitatively to understand chemical mechanisms at the arrow-pushing level as well as metabolic regulation, (2) to learn metabolic flux analysis, (3) to understand the complex metabolic interactions between cells and organs, and (4) to understand how metabolic reprogramming of specific cell types supports physiologic coordination at the organismal level. Pre-reqs: Chem 482/Chem 5820/Biol 4820 AND permission of instructor.
Credit 3 units.

L07 Chem 5147 Contrast Agents for Biological Imaging
Contrast Agents in Biological Imaging will build the chemistry foundations for the design and use of contrast agents in imaging applications such as nuclear medicine, magnetic resonance imaging (MRI) and optical imaging. The course will include lectures on the

design of radiopharmaceuticals for gamma scintigraphy and positron emission tomography, MRI contrast agents and agents for optical imaging, including bioluminescence and fluorescence microscopy. Prereqs: one year of general chemistry, one semester of organic chemistry.
Same as L41 Biol 5147
Credit 3 units.

L07 Chem 515 Biological Chemistry Seminar
This course is required for all graduate students following the biological chemistry track. The course will consist of tutorials for first year graduate students and research presentations by second year students. Prerequisites: enrollment in the biological chemistry track or permission of the instructor.
Credit 1 unit.

L07 Chem 533 Time-Dependent Quantum Mechanics & Spectroscopy
This graduate-level course lays the foundations of time-dependent quantum mechanics and applications to contemporary optical spectroscopies, particularly ultrafast techniques. Formal theoretical descriptions for nonlinear spectroscopic techniques including transient absorption, photon echo, and two-dimensional spectroscopies will be developed. Practical aspects of these experiments including modern laser systems, instrument design, data collection, data processing, and data analysis will also be discussed. Discussion of current literature in the field will be an important component of the course. Prerequisite courses: Chem 401 or permission from the instructor.
Credit 3 units.

L07 Chem 536 Radiochemistry for the Life Sciences
This course will provide an introduction to nuclear science (e.g. radioactive decay, nuclear stability, interactions of radiation with matter) and followed by an overview of how radiochemistry is used in the life sciences. Lectures on radiolabeling chemistry with radionuclides used in medical imaging (single photon emission computed tomography (SPECT) and positron emission tomography (PET) and their applications will be presented. In addition, lectures on radiochemistry with tritium (H-3) and C-14 will also be included. Additional applications include environmental radiochemistry as applied to nuclear waste disposal and biofuels.
Credit 2 units.

L07 Chem 540 Inorganic/Organometallic Chemistry Seminar
Students present informal seminars on topics of current interest from the chemical literature or from their own dissertation research.
Credit 1 unit.

L07 Chem 541 Advanced Inorganic Chemistry
Study of physical inorganic concepts with an emphasis on modern experimental methods applied to inorganic and bioinorganic systems. The spectral and magnetic properties of inorganic and bioinorganic compounds will be discussed. Topics in group theory will be covered, including symmetry of molecules and ions, the application of group theory in molecular structure determination, chemical bond theory and spectroscopy for inorganic materials as molecular species and in crystal lattices. Prerequisite: Chem 461, or consent of instructor.
Credit 3 units.

L07 Chem 542 Special Topics in Inorganic Chemistry
This course focuses on an important current topic in inorganic chemistry. Open to undergraduates with permission of the instructor. Chemistry 461 recommended.
Credit 3 units.

L07 Chem 543 Physical Properties of Quantum Nanostructures
This course will explore the physical properties of semiconductor nanomaterials with dimensions that are small enough to give rise to quantum-confinement effects. These effects strongly influence the electronic structures, absorption/emission behavior, and charge-carrier dynamics within quantum wells, rods, wires, dots, and nanotubes. The course begins with an overview of the electronic structure of bulk semiconductors. The theoretical and experimental bases for quantum-confinement effects, which are of considerable fundamental and applied interest, will then be developed. A significant emphasis will be placed on the optical absorption and photoluminescence properties of semiconductor quantum nanostructures. Recent advances and observations as reported in the literature will be emphasized throughout the semester. Prerequisites: Chem 461/Chem 5610 and Chem 465/Chem 5620, or permission of the instructor. While the course is steered to graduate students in the Chemistry Department, Chemistry undergraduate students, graduate or undergraduate students in Physics, Electrical & Systems Engineering, Energy, Environmental & Chemical Engineering, Mechanical Engineering & Materials Science may also find this course valuable.
Credit 3 units.

L07 Chem 550 Mass Spectrometry
The first focus of the course is an overview of the subject and its history. The second covers the fundamentals of ionization to produce molecular ions. Ionization methods include electron ionization, chemical ionization, electrospray, and matrix-assisted laser desorption. Thermodynamic principles of ionization including ionization energies, proton affinities, and gas-phase acidities provide a fundamental basis for ionization. The third major focus is interpretation of EI and product-ion spectra from MS/MS. Mechanisms of gas-phase ion decomposition reactions, rates and thermodynamics of gas-phase ion processes, and ion-molecule reactions are discussed in terms of interpreting spectra. A major emphasis is the spectra of peptides and proteins, providing a basis for the field of proteomics and related "omics" areas. The fourth focus is the fundamentals of instrumentation design and implementation: quadrupole, time-of-flight, ion trap, orbitraps, and Fourier transform instruments. Combined or hyphenated GC/MS, LC/MS, and tandem mass spectrometry are also discussed. Applications in a variety of areas are worked in as the course progresses: structure determination of synthetic, natural products, metabolites, and biomolecules, exact mass measurements (high resolution MS), peptide and protein and other biomolecule sequencing, sensitive detection, trace analysis, and mixture analysis. Prerequisite: Chem 262 or permission of instructor.
Credit 3 units.

L07 Chem 5510 Organic Chemistry III
A lecture course that builds on the material in Chem 261/262, covering in more detail certain topics in those courses while also introducing new topics. A transition to graduate-level study in organic chemistry; recommended for chemistry, biochemistry, and biology majors. Prerequisite: Chem 262.
Same as L07 Chem 451
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 5511 Synthetic Polymer Chemistry
This course that describes various methods for the synthesis and characterization of polymers. Copolymers, control of architecture, polymer reactivity, polymer properties, structure/property relationships, and applications of polymers will be discussed. Current topics of interest from the recent literature will also be covered. Prerequisite: Chem 262 or permission of instructor.
Same as L07 Chem 452
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 5521 Physical Organic Chemistry
The goal of physical organic chemistry (formerly called mechanistic organic chemisry) is to understand the details of reaction mechanisms, and gain insight into structures and reactivity common to organic chemicals and of high-energy chemical intermediates. This course focuses on the structure of any intermediates, the extent of a reaction from the perspective of the transition state, and identifying the relative energies of reactants, products, intermediates, and transition states. Students will learn concepts needed to solve mechanistic organic problems encountered in research, covering common organic reaction mechanisms, experimental techniques, and theoretical approaches. After the course, students will be able to design experiments to probe mechanistic questions and propose reasonable mechanisms and intermediates to explain experimental observations. Prerequisite CHEM 262 or permission of the instructor.
Same as L07 Chem 450
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L07 Chem 5522 Synthetic Methods
A lecture course presenting a detailed survey of synthetically useful reactions of carbonyl compounds and their derivatives, with particular attention to their stereoselectivity aspects and asymmetric methodology. The course is intended to provide the necessary background for more advanced work in organic synthesis.
Credit 3 units.

L07 Chem 554 Molecular Orbital Theory
Lectures will cover the background, practice and applications of computational chemistry to the modeling of the structures and chemical reactions of organic molecules. Different levels of calculation will be presented, from molecular mechanics calculations and Hhckel molecular orbital theory, through semi-empirical and ab initio self-consistent field calculations with correlation energy corrections, and density functional theory. Hands-on experience performing calculations is an important element in this course.
Credit 3 units.

L07 Chem 555 Special Topics in Organic Chemistry
This course focuses on an important current topic in organic chemistry. Open to undergraduates with the permission of the instructor.
Credit 3 units.

L07 Chem 557 Advanced Organic Synthesis
The objective of this course is to teach students the art of planning a total synthesis. Key synthetic concepts, strategies and tactics, as well as a variety of reactions and synthetic methods, will be illustrated using examples from total syntheses of the main groups of natural products - terpenes, steroids, and alkaloids. Prerequisite: Chem 451/Chem 5510 or permission of instructor.
Credit 3 units.

L07 Chem 5570 Synthetic Polymer Chemistry Laboratory
Chem 462 is an upper-level undergraduate laboratory course that complements Chem 452 Synthetic Polymer Chemistry. This twice-a-week lab provides hands-on training in the design, synthesis, and characterization of polymers and polymeric materials through four standard experiments (each one week) and one independent project (over five to six weeks). The independent project involves using an article from the literature as the basis for developing a short proposal. At the end of the course, students give oral presentations of their proposals, which are reviewed by their classmates. Prerequisite or Concurrent: Chem 452 or permission from instructor.
Same as L07 Chem 462
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L07 Chem 558 Spectral Methods in Organic Chemistry
A detailed treatment of the structure and stereochemistry of organic compounds with particular emphasis on ultraviolet, visible, infrared, nuclear magnetic resonance, and mass spectroscopic techniques for structure determination. Prerequisite: Chem 262 or permission of instructor.
Credit 3 units.

L07 Chem 559 Organic Chemistry Seminar
The organic chemistry graduate students enrolled will each present one seminar on a topic of current interest in the literature.
Credit 1 unit.

L07 Chem 5610 Inorganic Chemistry
Inorganic chemistry encompasses the structure, properties, and reactivity of inorganic molecules and solids and it is a required course for all Chemistry majors. This course will focus on the symmetry, bonding, electronic structure, spectroscopy, and reactivity of inorganic coordination complexes in which ligands are bound to one or more metal centers. The course will start with using group theory to classify molecules based on the symmetry elements they possess. A series of different bonding models including VSPER, valence bond theory, molecular orbital theory, crystal field theory, and ligand field theory will be used to describe the structure and bonding of inorganic molecules, coordination complexes, and organometallic compounds. These models will serve as a basis for interpreting and predicting the electronic and vibrational spectra of inorganic compounds. Prerequisites: Chem 106 or 112, and Chem 152.
Same as L07 Chem 461
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 562 Statistical Thermodynamics
Statistical mechanical methods will be used to characterize equilibrium and non-equilibrium thermodynamic systems. Computer programming assignments are given. An initial familiarity with ideal equilibrium systems will be assumed. Prerequisite Chem 401 or its equivalent or permission of the instructor.
Credit 3 units.

L07 Chem 5620 Solid-State and Materials Chemistry
A description of how the structures of crystalline solids at different length scales control their chemical and physical properties is critical for understanding how these materials are applied in a variety of technologies ranging from solar cells to lithium batteries. This course begins with basic crystallography and introduces common inorganic structure types as well as common defects in crystalline solids. With the aid of computer models, students will learn to analyze and index x-ray powder-diffraction patterns that provide a fingerprint to identify a crystal. The relation between the crystal structure of a solid and its resulting electronic structure, chemical reactivity, and physical properties (e.g., optical, electrical, and mechanical) will be discussed throughout the semester with an emphasis on how crystal defects alter these properties. The course will conclude with the use of phase diagrams to assess the composition and microstructure of metals and ceramics. Prerequisite: Chem 105/111A or permission of instructor
Same as L07 Chem 465
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 5630 Inorganic Electrochemistry and Photochemistry
An understanding of electrochemical processes is critical in describing the behavior of batteries, fuel cells, and other important devices used in energy conversion and environmental remediation. This course will cover modern inorganic electrochemistry, photochemistry, and photoelectrochemistry from a microscopic perspective of solid-electrolyte interfaces. The course material will start with the thermodynamics of solid-electrolyte interfaces and the kinetics of electron transfer across these interfaces. Electroanalytical techniques, including cyclic voltammetry and potential-step experiments, will be described to understand the mechanism of electrochemical and photochemical reactions. Lectures will include applications of electrochemical cells in catalysis, materials synthesis, and solar-fuel generation. Prerequisites: Chem 461, or Chem 465, or consent of instructor.
Same as L07 Chem 426
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 5670 Inorganic Chemistry Laboratory
A laboratory course emphasizing both the synthesis of inorganic compounds and the study of their physical properties. Laboratory exercises will introduce novel synthetic techniques including high-temperature synthesis and vacuum-line manipulations. Compounds will be spectroscopically characterized by UV-visible absorption, gas-phase infrared, and multinuclear and dynamic NMR spectroscopies. Measurements of electrochemical behavior, magnetic susceptibility, and electrical conductivity will be performed. Prereq: Chem 461 or consent of the instructor. A Writing Intensive option is available with the permission of the instructor.
Same as L07 Chem 470
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 571 Quantum Chemistry and Spectra
This course covers the development and application of quantum mechanics as applied to molecular structure and properties. Material to be discussed will include the fundamentals of quantum mechanics; representations; matrix formalisms; applications to model systems; perturbation theory; variational methods; many-electron wavefunctions; Hartree-Fock theory and post-Hartree Fock methods; density functional theory; additional topics and applications. Prereq: Chem 401.
Credit 3 units.

L07 Chem 5721 Quantum Chemistry in Practice
A spectrum of modern computational tools -- from semiempirical, self-consistent field theory, and density functional theory one-electron pictures to perturbative and simulation many-electron pictures -- will be used to determine potential energy surfaces, spectroscopic cross-sections, and oxidation -reduction energetics.
Credit 3 units.

L07 Chem 576 Magnetic Resonance
Quantum mechanical and classical aspects of paramagnetism and of nuclear and electronic magnetic resonance. Phenomenological equations of motion, spin intractions, spin temperature, thermal relaxation, dynamic polarization, multiple resonance phenomena.
Credit 3 units.

L07 Chem 5762 Electron Spin Resonance
Principles of magnetic resonance of paramagnetic species, structure and dynamics of organic free radicals and transition metal ions in the condensed phase. Detection of transient paramagnetic species generated in photochemical reactions and photo physical processes. Prereq, Chem 401.
Credit 3 units.

L07 Chem 578 Nuclear Magnetic Resonance Spectroscopy
A course dealing with the quantum and classical description of the nuclear magnetic resonance of an isolated system of two spin-1/2 nuclei. The design of pulsed NMR spectrometers and the Fourier analysis of time-dependent observable magnetization in 1 and 2 dimensions are treated in detail, NMR relaxation in liquids and solids is included phenomenologically. Prerequisite: Physical Chemistry or permission of the instructor.
Credit 3 units.

L07 Chem 580 Special Topics in Physical Chemistry: Methods of Biophysical Chemistry
The course provides an overview of key methodologies of contemporary biophysics and biophysical chemistry, covering: 1) Spectroscopic methods routinely used in biochemistry, including absorption, fluorescence, and circular dichroism; 2) Biophysical methods to study intra- and intermolecular protein interactions including solution-state NMR, FCS, and FRET; 3) Cutting-edge biophysical techniques to study transient protein-protein/ protein-nucleic acids interactions. Prerequisites: undergraduate-level course in quantum mechanics (Chem 401)
Credit 3 units.

L07 Chem 581 Advanced Quantum Chemistry
A study of the theory and methods of quantum mechanics, with applications to problems of chemical interest. Prerequisite, Chem 571 or permission of the instructor.
Credit 3 units.

L07 Chem 5810 General Biochemistry I
Topics include the properties and structures of biomolecules, including amino acids, nucleotides, lipids, carbohydrates, proteins and nucleic acids. Additional topics include enzyme kinetics and mechanisms, membrane structure and properties, protein folding, an introduction to metabolism, oxidative phosphorylation and photosynthesis. This course is the first semester of an integrated two-semester sequence. The second course is Chem 482. Prerequisites: Biol 2970, Chem 262.
Same as L07 Chem 481
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 5811 Introduction to Biomolecules
The goal of this course is to introduce students to the preparation, characterization, structure-function relationship, and chemistry of proteins, polysaccharides, and nucleic acids. The course emphasizes understanding the chemical and physical properties of the respective building blocks and their noncovalent interactions as the foundation for macromolecular properties and function. Students will apply fundamental energetic and mechanistic principles (from general and organic chemistry) and develop chemical reasoning skills that enable scientific problem-solving towards the understanding of chemical phenomena in biological systems.
Credit 3 units.

L07 Chem 5820 General Biochemistry II
Biochemistry explores the chemistry of life processes at the molecular level. This course is the second semester of a two-semester General Biochemistry sequence (Chem481/482 or Bio4810/4820). Prerequisites include Chem481/Bio4810 and Chem262 or instructor permission. The first semester of the Biochemistry sequence covered the basics of the topic with an emphasis on the structures, functions, and interactions of biomolecules including proteins, nucleic acids, carbohydrates, and

lipids. This second semester course will emphasize metabolism, the biosynthetic (anabolism) and degradation (catabolism) pathways that provide the energy of life and define the molecules associated with healthy and disease states.
Same as L07 Chem 482
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 5821 Chemical Biology
This course is a survey of modern chemical biology focusing on the application of a broad array of chemical tools to biological problems. The course is roughly divided into four sections; biopolymers, computational methods and bioinformatics, tools for chemical biology, and applications of chemical biology. A mandatory discussion section accompanies the course and is used to review current and classical literature in the field. Prereqs: Chem 262 and Biol 2970, or permission of the instructor.
Same as L07 Chem 475
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 583 Time-Dependent Quantum Mechanics & Spectroscopy
This graduate-level course lays the foundations of time-dependent quantum mechanics and applications to contemporary optical spectroscopies, particularly ultrafast techniques. Formal theoretical descriptions for nonlinear spectroscopic techniques including transient absorption, photon echo, and two-dimensional spectroscopies will be developed. Practical aspects of these experiments including modern laser systems, instrument design, data collection, data processing, and data analysis will also be discussed. Discussion of current literature in the field will be an important component of the course. Prerequisite courses: Chem 401 or permission from the instructor.
Credit 3 units.

L07 Chem 5830 Bioorganic Chemistry
This course presents a molecule-centered perspective on the current state of the art in antibiotic drug discovery and natural products chemistry. The molecular mechanisms of antibiotic drug action and pathogen resistance will be covered along with the biosynthetic origins of antibiotics from plants and microbes. The course is taught from the perspective of understanding how organic chemistry plays out in biological systems, with an emphasis on small organic molecules and enzymes. Curved arrow mechanisms will be used frequently in learning activities and assignments. Thus, Chem 262 (Organic Chemistry 2) is a mandatory prerequisite for this course. A working knowledge of protein structure and function is helpful. Students are encouraged (but not required) to take Chem 481 (General Biochemistry 1) and/or Chem 482 (General Biochemistry 2) in preparation for this course. Students will be responsible for writing a review article on an assigned antibiotic molecule and presenting their paper to the class.
Same as L07 Chem 453
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L07 Chem 5833 Protein Biochemistry
The focus of this course is protein biochemistry, and is intended to build upon General Biochemistry (Chem 481). In this course we will focus on protein structure, folding, and techniques to purify and characterize protein activity. We will progress from initial studies to first understand protein fold and function to current efforts to better characterize protein structure-function relationships. We will also highlight human diseases that are underpinned by protein misfolding. This course will focus on reading and understanding primary literature, including landmark papers along with more recent work. During the second half of the semester, each student will select a paper and prepare a written analysis of that paper. The student will then present the paper and lead a journal club style discussion of the paper. Pre-requisites: Chem 481 or instructor's permission
Same as L07 Chem 483
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L07 Chem 584 Molecular Spectroscopy
Cursory overview of electromagnetic radiation and its interaction with atoms and molecules. The course will assume a general knowledge of quantum chemistry, (i.e., Chem 401), although a quick review of eigenfunctions and states will be given. We will cover Rotational Spectroscopy, Vibrational Spectroscopy, Electronic Spectroscopy, and Time-resolved Spectroscopy. In so doing, attention will be focused on diatomic molecules, although some examples of polyatomics will be given with emphasis placed on how structure contrbutes to spectra. Emphasis is placed on creating intuition into spectroscopy, not necessarily the quantum-mechanical rigor or detailed calculations of molecular spectroscopy. Prequisite, Chem 401 or permission of the instructor.
Credit 3 units.

L07 Chem 585 Molecular Reaction Dynamics
This course addresses the question, "what happens in a chemical reaction?" at the atomic/molecular level. Topics: Non-reactive and reactive molecular collisions, scattering and resonances, unimolecular and bimolecular reactions, potential energy surfaces, reaction rate calculations and models, state to state experiments and stereodynamics, energy transfer mechanisms, time resolved and frequency resolved dynamics, condensed phase dynamics, control of chemical reactions. Requirements: Chem 401 is a pre-requisite and prior completion or current registration in Chem 402 is required. However, equivalent courses will be considered at the discretion of the instructor.
Credit 3 units.

L07 Chem 599 Chemical Laboratory Safety
An overview of current laboratory safety, regulatory, and compliance practices. Safety and compliance issues that impact chemical, biological, and materials research will be covered. Required for entering chemistry graduate students.
Credit 0.5 units.

L07 Chem 883 Master's Continuing Student Status

L07 Chem 885 Master's Nonresident

L07 Chem 886 Doctoral Nonresident

L07 Chem 887 Master's Resident

L07 Chem 888 Doctoral Resident

Chemistry, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree

general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 72**
- **Degree Length: 5 Years**
  - There is no minimum residence requirement for the PhD degree at Washington University in St. Louis, but a typical PhD in Chemistry takes between five and six years of graduate study, with most of this time ordinarily spent doing research at Washington University in St. Louis. While the official program length is six years, students are expected to graduate within five years of study.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

PhD in Chemistry

Requirements:

- 72 units of graduate credit in courses and research
- Satisfactory performance on oral cumulative examinations
- Satisfactory performance in annual pre-thesis committee meetings
- Demonstration of teaching competence
- Dissertation research and preparation of dissertation
- Satisfactory performance on a final oral dissertation defense

On average, students take between five and six years to complete the PhD.

Requirements specific to Chemistry include attendance at faculty research presentations during the student's first fall semester, presenting and passing an oral examination within the first four semesters, and annual recertification in laboratory safety.

Almost all students participate in mentored teaching experiences during their first two years and must perform satisfactorily. Students must also make annual research presentations to their advisory committee, prepare a satisfactory dissertation research proposal, and pass an oral examination.

Required Courses

Maintaining a GPA of at least 3.0 and passing at least four courses in the candidate's research area and two courses out of that area by the end of four semesters in residence.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way/ In Lieu of a PhD

Requirements:

- 36 units of graduate credit in courses and research
- Satisfactory performance on oral cumulative examinations
- Demonstration of teaching competence

Contact:	Barbara Tessmer
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Classics

The Department of Classics is committed to the threefold study of Greco-Roman antiquity via its languages and literatures, its history, and its art and architectural remains. The **Master of Arts (AM) in Classics** is ideal preparation either for the PhD or for a career in secondary teaching, and it has a strong placement record in both areas. The **Doctor of Philosophy (PhD)** program prepares candidates primarily for careers in research and university teaching. The department also supports students' exploration of alternative careers while pursuing the AM or PhD. Both programs provide rigorous instruction in Greek and Latin languages and literatures, exposure to the subfields of Classics, opportunities to cultivate special fields of research, and teaching experience in departmental courses.

Although both graduate programs are built around preparation in the core fields of Classics, opportunities exist for collaboration with numerous other departments and programs. PhD candidates have the option to pursue one of several special interdisciplinary tracks: Ancient History, Ancient Performance, Ancient Music, or Ancient Philosophy. Washington University also possesses several special collections of interest to the Classics researcher: the John Max Wulfing Coin Collection, an internationally recognized resource that can be applied to studies in numismatics, history, economics and art; a small collection of papyri housed in Olin Library; a substantial archive of epigraphical materials; and an important collection of Greek painted pottery.

Contact:	Cathy Keane
Phone:	314-935-5198
Email:	classics@wustl.edu
Website:	https://classics.wustl.edu

Faculty

Endowed Professor and Chair

Timothy Moore
John and Penelope Biggs Distinguished Professor of Classics
Department Chair
PhD, University of North Carolina

Director of Graduate Studies

Catherine Keane
Professor
PhD, University of Pennsylvania

Director of Undergraduate Studies

Luis Alejandro Salas
Associate Professor
PhD, University of Texas at Austin

Department Faculty

Nicola Aravecchia
Associate Professor
PhD, University of Minnesota

William Bubelis
Associate Professor
Curator of the Wulfing Coin Collection
PhD, University of Chicago

Carl W. Conrad
Professor Emeritus
PhD, Harvard University

Christopher Erdman
Assistant Professor
PhD, University of California at Santa Barbara

Ian Hollenbaugh
Assistant Professor
PhD, University of California, Los Angeles

Lance Jenott
Senior Lecturer
PhD, Princeton University

Thomas Keeline
Associate Professor
PhD, Harvard University

Robert D. Lamberton
Professor Emeritus
PhD, Yale University

Justin Meyer
Lecturer
PhD, Washington University in St. Louis

Susan I. Rotroff
Jarvis Thurston & Mona Van Duyn Professor Emerita
PhD, Princeton University

Rebecca Sears
Senior Lecturer
PhD, University of Michigan

Zoe Stamatopoulou
Associate Professor
PhD, University of Virginia

Kathryn Wilson
Senior Lecturer
PhD, University of Pennsylvania

Degree Requirements

- Classics, AM (p. 160)
- Classics, PhD (p. 161)

Courses

Courses include the following:

- Classics (p. 153)
- Greek (p. 155)
- Latin (p. 157)

Classics

Visit online course listings to view semester offerings for L08 Classics.

L08 Classics 500 Independent Work
Intended for students who wish to do informal work on advanced problems in classical studies without employing Greek or Latin texts in their original languages.. PREREQUISITE: GRADUATE STANDING AND PERMISSION OF THE INSTRUCTOR.
Credit variable, maximum 6 units.

L08 Classics 502 Research and Publication on the Greco-Roman World
An introduction to the profession of classical scholarship, in the form of a pro-seminar for all graduate students in the Department of Classics. The course provides an introduction to a variety of methods and aspects of the study of Greece and Rome. We will read samples of the scholarly literature in each area to explore what it means to pursue a career in Classics.
Credit 3 units.

L08 Classics 503 Classical Studies: Theories, Methods & Practice
An introduction to Classics, in the form of a proseminar for all graduate students in the Department of Classics. The course provides an introduction to a variety of methods and aspects of the field. We will read samples of scholarly literature in each area and explore what it means to pursue a career in Classics.
Credit 3 units.

L08 Classics 505 Seminar in Classics Pedagogy for Graduate Students
This course examines both perennial issues and ongoing developments in the teaching of Classical languages and cultures. Weekly readings in pedagogical scholarship and the history of the field will be complemented by discussion of members' current and anticipated teaching assignments. Members will give presentations and prepare a final project. Required of all PhD students in Classics; also open to Classics MA students.
Credit 3 units.

L08 Classics 5080 Sacred Ways and Holy Spaces: Athenian Religion and Topography

From seashore to mountain top, ancient Athens was famous for being a landscape rich with myth and religion. In order to worship their gods with processions, sacrifices, and other acts of devotion, Athenians moved through, across, and within space as defined by such things as sacred roads, monumental gateways and altars, and even places considered so holy that one was forbidden to enter. This course will introduce students to the study of place (topography) and to the methods and evidence by which we can determine where specific buildings and sites were, how they were used, and what they signified. We will explore major sites like the Acropolis as well as a variety of other temples, shrines, and holy sites across urban and rural landscapes alike, each of which structured space in itsr own way. By examining a wide range of archaeological and textual evidence (c. 800 BC-AD 400), we will develop an integrated understanding of Athenian religious belief and ritual in the context of architecture and space. While this course will concentrate on the topography of architecturally definable religious sites, we will also explore religious practices (e.g., magic, early Christianity) that employed the landscape in fundamentally different ways than other parts of the Athenian religious system.
Same as L08 Classics 408
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: ETH, IS EN: H

L08 Classics 510 Comparative Greek and Latin Grammar

A detailed study of Latin and Greek grammar facilitated through prose composition and study of linguistic history. The linguistic component will trace the development of each language from Proto-Indo-European to its classical form. PREREQUISITE: GRADUATE STANDING IN CLASSICS.
Credit 3 units.

L08 Classics 5230 The Reception of Egypt in the Graeco-Roman World

Ancient Greeks and Romans found Egypt to be an exceptionally enthralling world, in terms not only of its physical features but also of its people, monuments, and traditions. This course will explore how different views of Egypt emerged in the Graeco-Roman world; it will also investigate the possible reasons for the remarkable popularity and allure of Egypt and things Egyptian as reflected in the writings of Greek and Roman authors as well as in the art and architecture of the Mediterranean world in Classical antiquity. In this seminar, we will read primary literary sources (in translation) that focus on the reception of ancient Egypt and, more specifically, its history, religion, and customs. Several of these sources also offer a privileged viewpoint to investigate how the perception of notable Egyptian figures -- chiefly Cleopatra -- was shaped by Rome to suit a specific agenda. In addition to the written sources, we will look at the artistic and archaeological evidence that best showcases the impact of Egypt's legacy on Graeco-Roman traditions. The readings assigned for each class will also provide a broad sample of secondary sources, consisting of some of the most significant scholarship on the image of Egypt in Classical antiquity.
Same as L08 Classics 4230
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: IS EN: H

L08 Classics 5250 The Archaeology of Christian Monasticism

Same as L08 Classics 4250
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: AH, HUM EN: H

L08 Classics 5260 Ancient Athens

Athens was one of the great cities of antiquity. From lavishly decorated marble temples on the Acropolis, to public office buildings and inscriptions in the Agora (civic center), to the houses of the living and the monuments for the dead, the city has left a rich record of her material culture. These buildings and objects, together with an exceptionally large number of literary and historical texts, make it possible to paint a vivid picture of the ancient city. The course concentrates on the physical setting and monuments of Athens, as revealed by both archaeology and texts, and how they functioned within the context of Athenian civic and religious life. PREREQUISITES: CLA 345C, CLA 350, OR PERMISSION OF INSTRUCTOR.
Same as L08 Classics 426
Credit 3 units. A&S IQ: HUM, LCD BU: HUM

L08 Classics 5360 Topics in Ancient Studies

Study of one or more themes recurring in the traditions of Greek and Roman literature, history, and culture. Topic will vary each semester.
Same as L08 Classics 4361
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L08 Classics 5530 The Greek Symposion

This course explores the history, archaeology, material culture, and sociology of the symposion in ancient Greece. While we will focus mainly on the archaic and classical Greek symposion, we will also examine its reception in the Roman world. In this context, we will study art and literature produced for the symposion, as well as representations of the symposion in literature, especially in lyric poetry, drama, and philosophical prose.
Same as L08 Classics 453
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM, IS EN: H

L08 Classics 5620 Ancient Greek and Roman Music

Music played a vital role in Ancient Greece and Rome. New resources and perspectives now allow us to appreciate the ancients' music better than ever before. This course addresses the nature of ancient music (instruments, melody and rhythm, modes), ancient attitudes towards music, and its contribution to public and private life. The focus throughout will be on our ancient sources, both literary and archaeological.
Same as L08 Classics 462
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L08 Classics 5640 Ancient Madness

In this course we will ask what madness meant in Greek and Roman culture. We will find reading strategies that are sensitive both to ancient evidence and to the ethical demands of talking about, evaluating, and categorizing people treated as mad. While we will concentrate on literary (particularly tragic and epic), philosophical, and medical texts, we will also look at visual representations and evidence from ritual and cult. An important part of our project will involve tracing the afterlife of classical ideas: the history of melancholia will ground this aspect of the course. Finally, we will consider how antiquity informs psychoanalysis (Oedipus, Antigone, Narcissus), and how ancient madness might partake in a critique of contemporary understandings of mental illness.
Same as L08 Classics 4647
Credit 3 units. A&S IQ: HUM, LCD EN: H

L08 Classics 5700 Ancient Greek and Roman Gynecology

This course examines gynecological theory and practice in ancient Greece and Rome, from about the 5th century BCE to the 3rd century CE. The task is complicated by the nature of our evidence. Our surviving textual sources are authored exclusively by men, mainly physicians. They have a pronounced tendency to conceptualize the health and disease in terms of a single body, which was male by default. They distinguished female bodies from male primarily in reproductive aspects. How exactly did these physicians understand diseases of women and, as far as can be recovered, to what extent were their views represented among laypeople? What form did treatment take and what was the social status of practitioners, both that of our extant sources and female practitioners whose voices have largely been silenced by

the textual tradition? We will approach the study of Greek and Roman gynecology, first from the perspective of Greco-Roman medical views, then from the point of view of contemporary Western biomedicine. The limited nature of our sources will allow students to read the majority of surviving material. These primary readings will be accompanied by current secondary scholarship that explores these fascinating and often frustrating questions about the female body in ancient medical thought. All primary materials will be available in English translation. There will be an option for students with a background in Greek or Latin to form a satellite reading group. The course does not assume familiarity with Greek and Roman medicine more broadly.
Same as L08 Classics 4700
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L08 Classics 5760 Money, Exchange, and Power: Economy and Society in the Ancient Mediterranean World
From seaborne trade and banking to slavery and the impact of new technology, the economy of the ancient Mediterranean world constitutes a particularly dynamic field of study. To examine a society's underlying economics is to gain critical insight into those historical phenomena that are themselves the product of multiple, overlapping dimensions of human action and thought. This course engages directly with a fascinating array of primary evidence for economic behaviors, beliefs, structures, and institutions among the Romans, Greeks, and their neighbors. We will also explore the methodological challenges and implications of that evidence as well as a variety of modern theoretical approaches. This year our focus is mainly upon developments among the Greeks, ranging from the transformative invention of coinage to the rise of commercial networks centered around religious sanctuaries like Delos.PREREQ: CLA 341C OR 342C OR 345C OR 346C OR PERMISSION OF INSTRUCTOR.
Same as L08 Classics 476
Credit 3 units. A&S IQ: HUM, LCD BU: HUM, IS EN: H

L08 Classics 5770 Olympian Shadows: Macedon and its Neighbors in Antiquity
The home of both Alexander the Great and Aristotle, Macedon was pivotal to the course of ancient Greek and Roman history and yet stood apart as a culturally and politically distinct region. Macedonian dynasts dominated the Hellenistic world and deeply shaped Roman reception of Greek culture, while others profoundly affected the intellectual life of antiquity. We will explore topics ranging from ethnicity, religion, and the nature of kingship to urbanization and Macedon's emergence as a great power until its subsequent transformation at the hands of the conquering Romans. We will pay special attention to Macedon's neighbors, especially Thrace and Illyria, as well as to Macedon's relationships with the Persian Empire and the Greek coastal colonies. PREREQUISITES: AT LEAST ONE SEMESTER OF CLASSICS 341C, 342C, 345C, OR 346C, OR INSTRUCTOR'S PERMISSION.
Same as L08 Classics 4763
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM EN: H

L08 Classics 5800 Roman Coins and Their Stories
This course will provide insights into everyday life in Rome and its territories through the evidence of the coins minted from the Roman Republic until the collapse of the Western Roman Empire in AD 476 and beyond. We will discuss general numismatics, starting with the history of coins and coinage, and we will understand how these small objects became an intrinsic part of the Roman way of life and what evidence they provide for daily life in Rome, from ideology to religion and from politics and culture.
Same as L08 Classics 480
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM EN: H

L08 Classics 883 Master's Continuing Student Status

L08 Classics 884 Doctoral Continuing Student Status

L08 Classics 885 Masters Nonresident

Greek

Visit online course listings to view semester offerings for L09 Greek.

L09 Greek 500 Independent Work
PREREQUISITE: GRADUATE STANDING AND PERMISSION OF THE INSTRUCTOR.
Credit variable, maximum 6 units.

L09 Greek 505 Greek Comic Theatre
Comedy as a dramatic genre has its roots in ancient Greece, and other genres of Greek theater had laughter and merriment at their core. We will read together texts from four types of ancient Greek comic theater: satyr play, Old Comedy, New Comedy, and mime. Along the way, we will read and discuss works by modern scholars on various aspects of these genres and their performance.
Credit 3 units.

L09 Greek 507 Survey of Archaic and Classical Greek Literature
Readings in archaic and classical Greek literature. The course will include selections from poetry and prose (e.g Homer, Pindar, Aeschylus, Herodotus, Thucydides, etc.) as well as secondary literature on the subject matter.
Credit 3 units.

L09 Greek 510 Greek Epigraphy: An Introduction
This course will teach the fundamentals of the discipline (epigraphy) that constitutes the study of Greek texts inscribed on stone, metal, and other media. We will survey essential topics ranging from early alphabets and the relationship between script and phonology to the study of specialized branches of knowledge, such as onomastics and prosopography. We will pay special attention to the inscriptions' physical media and topographical context in conjunction with mastering the techniques of recording, reading, and interpreting their Greek texts. We will also closely engage with the rich and evolving scholarship of Greek epigraphy as well as the proper publication of inscriptions and related professional matters. Later weeks will focus on several discrete bodies of inscriptions, such as Attic decrees and sacred laws, that require substantial engagement with historical, legal, religious, and cultural context. This course will expose students to a wide array of ancient Greek dialects and will strengthen their command of non-literary as well as literary forms of Greek.
Credit 3 units.

L09 Greek 5160 Hesiod
In this course, we will read substantial passages from the works attributed to Hesiod, an archaic period Greek poet whose style and subject matter are often contrasted to Homer, and whose influence on Greek literary culture was second only to Homer's. Hesiod's two major poems - Theogony and Works and Days - form important evidence for the Greek rhapsodic tradition, and the mythological content and compressed styles of these mini-epics strongly influenced later Hellenistic Greek and Roman poets. Through discussion of readings from recent scholarship, we will consider topics including the authorship and dating of the Hesiodic corpus, Hesiod's Near-Eastern influences, oral poetics, mythography, genre studies, and

narratology. Preparation of substantial Greek reading assignments will be supplemented with frequent practice of scansion (both written and oral) and the parallel development of sight translation skills. Students will be responsible for the development of a portfolio consisting of written translations, creative and interpretive mini-projects, a commentary, and an original research project.
Same as L09 Greek 416
Credit 3 units. A&S IQ: HUM, LCD, LS BU: HUM EN: H

L09 Greek 520 Thucydides
Thucydides created a distinct and critically important tradition of historical writing with his incomplete but monumental history of the Peloponnesian War. We will read extensive passages of the Greek text and examine numerous questions of Greek history and historiography that arise from or intersect with Thucydides' work.
Credit 3 units.

L09 Greek 5210 Sophocles
In this course, we will read closely two plays by Sophocles: OEDIPUS REX and TRACHINIAN WOMEN.
Same as L09 Greek 421
Credit 3 units. A&S IQ: HUM, LCD, LS Art: HUM BU: HUM EN: H

L09 Greek 5220 Euripides
The tragedies of Euripides are among the most powerful dramas ever produced. In this class we will read one or more plays of Euripides in Greek as well as scholarly works on the tragedies. Among the topics discussed will be language and style, meter and music, mythological and historical backgrounds, elements of performance, and Euripides' influence in the modern world. PREREQUISITES: GREEK 318C OR PERMISSION OF THE INSTRUCTOR AND SOPHOMORE STANDING OR ABOVE.
Same as L09 Greek 422
Credit 3 units. A&S IQ: HUM, LCD, LS Arch: HUM Art: HUM EN: H

L09 Greek 5230 Aeschylus
This course will focus on Aeschylus' SEVEN AGAINST THEBES and on the PROMETHEUS BOUND; in addition, we will look at a few fragmentary plays. Readings will include relevant secondary literature.
Same as L09 Greek 423
Credit 3 units. A&S IQ: HUM, LCD, LS Arch: HUM Art: HUM EN: H

L09 Greek 5310 Thucydides

Same as L09 Greek 431
Credit 3 units. A&S IQ: HUM

L09 Greek 5320 The Attic Orators
More than mere prose, Attic oratory consists of a rich body of literature in which style was paramount to its persuasive aims, and provides vital evidence for Athenian culture, politics, mores, institutions, thought, and history. This course will survey a representative-and important-sample of forensic, epideictic, and symbouleutic speeches from classical Athenian oratory, and will give special attention to the social, legal and political context of these speeches. In addition, the class will focus on improving students' command of syntax, vocabulary and idiom as the basis for further development as well as the study of different orators and their style. Prerequisites: L09 317C & 318C or the equivalent.
Same as L09 Greek 432
Credit 3 units. A&S IQ: HUM, LCD, LS Arch: HUM Art: HUM EN: H

L09 Greek 5370 Topics in Greek Poetry
Reading in Greek and discussion of one or more texts by one or more ancient Greek poets. May be repeated for credit for study of different texts.
Same as L09 Greek 437
Credit 3 units. A&S IQ: HUM, LCD, LS Art: HUM EN: H

L09 Greek 5390 The Greek Novel:

Same as L09 Greek 439
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L09 Greek 540 Seminar: Imperial Greek Literature
Greek literature during the Roman Imperial period regularly defines itself in retrospective terms: antiquarianism, Atticism, and philological acumen were arenas in which proper understanding and control of the Greek past contributed to the cultural weight of present intellectual activity, all under the shadow of Imperial rule. This course will provide a thematic selection of Imperial Greek authors (1st-3rd centuries CE) along with associated secondary scholarship. Beyond facility with the course content, this seminar aims to train students further in academic writing and presentation. Authors may include Aelius Aristides, Athenaeus, Dio Chrysostom, Diogenes Laertius, Epictetus, Galen, Heliodorus, Longus, Lucian, Marcus Aurelius, Pausanias, Plutarch, and Sextus Empiricus. PREREQUISITES: GRADUATE STANDING IN CLASSICS, OR IN ANOTHER DEPARTMENT WITH PERMISSION OF INSTRUCTOR.
Credit 3 units.

L09 Greek 5400 Lucian
Lucian's TRUE HISTORIES is neither true, nor a history, but it is often called the first science fiction novel. Lucian's voice is one of the most distinctive in antiquity: wry, sarcastic, and too clever by half. He feels distinctly modern but is steeped in the literary tradition before him. In this class, we will read his TRUE HISTORIES and several other of his works, with a focus on his questions about truth and fiction, and his engagement with other genres of writing, including historiography, epic, philosophy, and rhetoric. We also read about the first journey to the moon.
Same as L09 Greek 440
Credit 3 units. A&S IQ: HUM, LCD EN: H

L09 Greek 544 Sophocles
We will read together two tragedies of Sophocles in Greek and the remaining five extant tragedies in English translation, and students will each choose an additional play to read in Greek on their own. We will discuss various aspects of the plays and of Sophoclean theater, including elements of performance, historical and cultural context, issues of interpretation, and Sophocles' legacy. Prerequisite: graduate standing in Classics or permission of the instructor.
Credit 3 units.

L09 Greek 545 Plutarch
Selections will be read from Plutarch's non-biographical works as well as relevant scholarship. PREREQUISITES: GRADUATE STANDING IN CLASSICS, OR IN ANOTHER DEPARTMENT WITH PERMISSION OF INSTRUCTOR.
Credit 3 units.

L09 Greek 5450 Greek Prose Composition
The tradition of writing in Attic Greek stretches from classical antiquity to the present. In this course, students will become connoisseurs of that tradition and enter into it themselves. In the process, they will become better Hellenists. Each week, students will review points of Greek grammar, compose Greek sentences illustrating those points,

read and analyze the style of a Greek passage, and write an original Greek composition of their own device. We will focus not only on grammatical and idiomatic accuracy but also on elegance of style. In this course, students will develop a more nuanced understanding of the Attic Greek language in all its many-splendored glory. They will thereby increase their ability to read ancient Greek with depth, ease, and pleasure. Prerequisite: Greek 317C and Greek 318C or equivalent and sophomore standing or higher. Note: This course is required for MA and PhD students in Classics.
Same as L09 Greek 445
Credit 3 units. A&S IQ: HUM, LCD, LS BU: HUM EN: H

L09 Greek 550 Aeschylus
Aeschylus' tragedies are of incomparable interest both as works of drama and as windows into ancient Greek thought. We will read together one tragedy, Agamemnon, very carefully in Greek. Along the way we will read and discuss works by modern scholars on various aspects of Greek tragedy, Aeschylus, and Agamemnon.
Credit 3 units.

L09 Greek 5510 Plato
This course will focus on a set of Plato's dialogues known as his Early Dialogues. We will read two and perhaps three of the Euthyphro, Protagoras, and Meno in Greek. We will accompany these readings with a relatively small sample of secondary scholarship in English that aims at contextualizing the dialogues in the broader scope of Plato's work. Our aim will be to gain familiarity with Plato as a prose author as well as a philosophical thinker.
Same as L09 Greek 451
Credit 3 units. A&S IQ: HUM EN: H

L09 Greek 5535 Medical Writing in the Greek Intellectual Tradition: Galen and the Hippocratic Corpus
This class will offer an introduction to the writings of the Hippocratic Corpus as well as their reception in the philosophico-medical work of Galen of Pergamum (2nd century CE), which is primarily responsible for the picture of Hippocrates and Hippocratic medicine that survives to the present. We will situate the texts of the Hippocratic Corpus in the intellectual context of the Classical period and examine how their proper interpretation became a contested site for intellectual authority in Hellenistic and Imperial discourse about texual authenticity, climate, the body, empiricism, and the role of theory in scientific endeavors.
Credit 3 units.

L09 Greek 560 Lysias
Of all the Attic orators, Lysias gives us perhaps the most vivid depiction of daily life among the Athenians. Active as a logographer c. 403-c. 380, Lysias' numerous speeches (and fragments thereof) also illuminate a vital period in the history of an Athens that experienced profound defeat in the Peloponnesian War and yet managed a remarkable resurgence once it overthrew the Thirty Tyrants. More than an eyewitness, Lysias thus provides us with vital evidence for the workings of Athenian society during a critical period. We will investigate the rhetoric and language of Lysias' speeches (which ensured his place among the canonical Attic orators) and we will also explore numerous questions of Athenian law, politics, institutions, economy, and religion where they arise in connection with his work. Students will also be expected to read all of the fragments and testimonia in Carey's edition of Lysias, regardless as to whether we discuss them in class.
Credit 3 units.

L09 Greek 5600 There Be Dragons: Greek Encounters with the Unknown in History and Legend
How did ancient Greeks imagine their world, both in terms of geography and ethnography? What did they know -- or think they knew -- about foreign cultures and faraway lands such as India, Persia, Africa, and the distant north? How have their representations of foreigners influenced European conceptions of the self and others, even into our own time? This course examines these questions by focusing primarily on two foundational authors: first, Herodotus, the "father of history," who provides a wealth of information about ancient geography and the customs and lifestyles of non-Greek peoples; and second, Apollonius of Rhodes, whose epic poem "The Argonautica" tells the legendary tale of Jason and the Argonauts' search for the Golden Fleece. We will read extensive passages of these books in ancient Greek and, we will read and discuss additional passages in English translation, along with modern scholarship and atlases with historical and modern maps.
Same as L09 Greek 460
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM, IS EN: H

L09 Greek 5710 Galen's "On Prognosis": A Social History of Medicine in Second-Century Rome
Galen of Pergamum was a Greek physician, philosopher, and intellectual active throughout most of the second century CE. He was also a voracious reader and writer of Greek literature; his surviving work far exceeds the extant output of any other Greek author before the third century CE. In this course, we will be reading Galen's treatise "On Prognosis," in which he recounts his career in the city of Rome, from his arrival in the early 160s through his tenure as an imperial physician to at least the emperors Marcus Aurelius and Commodus. While ostensibly a medical account, "On Prognosis" has little to say on technical medical issues. Rather, Galen's story is a carefully constructed professional autobiography that pivots from searing denouncements of Roman life to tense public performances of medical expertise and finally to intimate case histories of Rome's rich and powerful. The text presents us a fascinating window through which to examine not only the social practice of elite medicine in Rome of the second century but also the complicated experience of a Greek intellectual navigating the corridors of the Imperial court. Course goals include improving accuracy and speed in reading Greek prose, acquiring greater familiarity with intellectual discourse of the Imperial Period, and training in methods of research and writing.
Same as L09 Greek 471
Credit 3 units. A&S IQ: HUM, LCD, LS BU: HUM, IS EN: H

L09 Greek 590 Research
Credit variable, maximum 3 units.

L09 Greek 883 Master's Continuing Student Status

L09 Greek 885 Masters Nonresident

Latin

Visit online course listings to view semester offerings for L10 Latin.

L10 Latin 500 Independent Work
PREREQUISITE: GRADUATE STANDING AND PERMISSION OF THE INSTRUCTOR.
Credit variable, maximum 6 units.

L10 Latin 507 Survey of Roman Literature I
An overview of the literature of the Roman Republic. We will read selections from major authors, paying particular attention to individual style, intertextuality, the development of genres, and the relationship between Roman literature and Roman society.
Credit 3 units.

L10 Latin 508 Survey of Roman Literature II: The Empire
An overview of the literature of the Roman imperial period, for graduate students. We will read substantial excerpts from major texts and authors beginning with the Augustan era and extending at least two centuries. By encountering a range of genres and styles, students will develop important reading strategies, cover a substantial amount of the graduate Latin Reading Lists, learn about the history and contexts of literary production in the empire, and become confident users of the relevant bibliography and research tools. PREREQ: GRADUATE STANDING IN CLASSICS, OR IN ANOTHER DEPARTMENT WITH PERMISSION OF INSTRUCTOR.
Credit 3 units.

L10 Latin 510 The Roman Novel
This seminar is concerned with the two works of Latin prose fiction, which have been enormously influential in western narrative literature: Petronius' SATYRICON (a.k.a. SATYRICA) and Apuleius' Metamorphoses (a.k.a. GOLDEN ASS). We will read portions of these works in Latin, including their famous central episodes (the dinner of Trimalchio and the tale of Cupid and Psyche) to get acquainted with the style of the two authors and the content of the works. From secondary readings we will become conversant with the major issues and debates in the history of the field, and pursue further interpretation of these works through both literary and cultural lenses.
Credit 3 units.

L10 Latin 5160 Seneca
The tragedies of Seneca are fascinating works in themselves and have had a profound influence on modern theatre and literature. In this class we will read one or more plays of Seneca in Latin as well as scholarly works on the tragedies. Among the topics discussed will be the tradition of tragedy in Rome, questions of performance, and Seneca's responses to the politics and philosophy of his age. PREREQUISITES: LATIN 3171 and LATIN 3181 (OR EQUIVALENT) AND SOPHOMORE STANDING OR ABOVE.
Same as L10 Latin 416
Credit 3 units. A&S IQ: HUM, LCD, LS Arch: HUM Art: HUM EN: H

L10 Latin 520 Being a Roman Governor: Tacitus and Pliny
Credit 3 units.

L10 Latin 5201 Pliny the Younger
Pliny the Younger is the outstanding representative of almost all aspects of Roman intellectual life circa AD 100. He was Pliny the Elder's adopted son; he was taught by Quintilian; he corrected Tacitus's works; he moved in the same circles as poets like Martial, Statius, and Silius Italicus; he was a Roman advocate, senator, consul, and governor; he was a correspondent of Trajan. Always an object of interest for his value as a source for matters social and historical, in recent years he has begun to attract interest as a sophisticated literary artist in his own right. In this course we will read all of Pliny's surviving writings.
Credit 3 units.

L10 Latin 521 Terence and the Making of Roman Literature
This graduate seminar focuses on the comic plays of Terence (160s BCE), their original context, their afterlife, and the enigma that is their author's life story. Although he wrote comedies about family spats and young love, and complained of disrespect from his contemporaries, Terence occupied a pivotal place in Latin literature's development and in the formation of an archaic literary canon that valued both "pure" Latin style and edifying content. The author himself, reported to have been a native of Rome's great enemy Carthage, found a place not just in the Roman theatrical scene, but among the leading intellectuals and statesmen of his day. We will read from select plays in Latin, all the rest in English, and other relevant ancient texts. Graduate-appropriate assignments in secondary reading, presentations, and research will be given. PREREQUISITES: GRADUATE STANDING IN CLASSICS, OR IN A RELATED DEPARTMENT WITH PERMISSION OF INSTRUCTOR.
Credit 3 units.

L10 Latin 522 Petronius
In this course we will read what remains of Petronius' Satyricon (or Satyrica), an exuberantly comic "novel" probably dating to the Neronian period. We will have several goals: 1. To read and try to understand Petronius' text in its literary and cultural context. 2. To improve our ability to read Latin with ease, nuance, and pleasure. 3. To work collaboratively toward writing a group-authored academic paper. PREREQ: GRADUATE STANDING IN CLASSICS OR PERMISSION OF INSTRUCTOR.
Credit 3 units.

L10 Latin 523 Roman Comedy
The plays of Plautus and Terence are both incomparable sources for Roman cultural values and central documents in the history of Latin literature and European theater. In this course we will read together four plays: two of Plautus and two of Terence. In addition to issues raised by the individual plays, we will discuss various broader questions surrounding Roman comedy, including its relationship to its Greek predecessors, its connection with Republican Roman society and ideology, and aspects of performance. Prerequisites: Graduate standing in Classics or permission of the instructor.
Credit 3 units.

L10 Latin 531 Catullus
We will read the entire corpus of Catullus in Latin and scholarly works on Catullus and his poems, examining the sound and style of the poems, their literary and cultural background, their influence on later literature, and how various modern approaches can help us understand them.
Credit 3 units.

L10 Latin 532 Horace
Credit 3 units.

L10 Latin 5320 Horace
This course examines Roman poetry that illuminates ancient and still-influential ideas about the functions of literature. Horace's monumental Ars Poetica and his other literary-critical works will be the major texts. These works convey the complexity of contemporary debates about literature's role in society and history and about the merits of various genres (epic, tragedy, comedy, satire, epigram). Readings in secondary sources will help to fill out the picture of Horace's career and of the climate of literary production in early Imperial Rome.
Same as L10 Latin 432
Credit 3 units. A&S IQ: HUM, LCD, LS Arch: HUM Art: HUM BU: HUM EN: H

L10 Latin 533 Livy
This course is designed as an introduction to the AB URBE CONDITA of Livy. We will read extensive selections from the work in Latin and will discuss various questions, including Livy's relationship with earlier and later writers, his style and literary techniques, and his moral, political, and philosophical preconceptions.
Credit 3 units.

L10 Latin 534 Ovid
This seminar is a selective survey of the works of Ovid, one of the most prolific of the Latin poets, whose surviving oeuvre -- for example, "Amores," "Heroides," "Ars Amatoria," "Metamorphoses," "Fasti," and "Tristia" -- covers a diverse range of subjects and genres, most notably elegy and epic. Born just after Julius Caesar's assassination, Ovid was the youngest of the "Augustan" poets, and in many ways he was the first truly Imperial Latin poet. Ovid's edgy and provocative style likely contributed to his exile from Rome in 8 CE, and he continues to generate controversy over his depictions of rape and violence. We will study substantial selections from one or two of his works in their individual contexts and through discussion of their scholarly and popular reception. We will supplement weekly translation and scansion with sight translation, secondary readings, reports, and a final project based on preparing and presenting an SCS-style conference panel. Prerequisite: Graduate standing in Classics or permission of instructor.
Credit 3 units.

L10 Latin 535 Imperial Eloquence
Under the early Roman emperors, when the fiery political oratory of the republic was only a memory, oratory and rhetorical training remained highly important vehicles for advocacy of communities and indivduals, élite self-definition, communication of political and cultural values, literary expression, and even mass entertainment. Early imperial literary sources attest rhetoric's dominance of the educational curriculum, and this was only the beginning of an enduring institution. In this course we will study (in the original Latin) the description and prescription for rhetorical education written by Quintilian and Tacitus' discussion of the literary and political status of rhetoric in the imperial period, along with several other primary and secondary sources that flesh out our picture of the theory and practice of rhetoric.
Credit 3 units.

L10 Latin 536 The Well-Trodden Path: Hellenistic Poetry in Rome
Credit 3 units.

L10 Latin 541 Roman Satire
Study of the satiric poets Lucilius, Horace, Persius, and Juvenal; discussion of satire's literary qualities and its perspective on Republican and Imperial society. Substantial Latin reading load; regular secondary readings; research projects.
Credit 3 units.

L10 Latin 5420 Roman Theater
Theater was a vital part of Roman life, and Roman drama and theatrical practices have had a profound effect on the history of theater. We will read and discuss extant plays of Roman comedy (Plautus and Terence) and tragedy (Seneca) and fragments of lost works of tragedy, comedy, mime, and pantomime. Along the way we will read and discuss works by modern scholars on various aspects of these genres and their performance. We will pay particular attention to areas of continuity and development in the 1000-year history of ancient Roman theater.
Credit 3 units.

L10 Latin 5510 The Roman Historians
Same as L10 Latin 451
Credit 3 units. A&S IQ: HUM

L10 Latin 5596 Tacitus
Tacitus, the great historian and orator of the late 1st and early 2nd centuries CE, is one of our best sources for the early history of the Roman Empire. With his concise style and scathing political insight, Tacitus' writings influenced later authors from Ammianus Marcellinus to Macchiavelli. We will read selections from Tacitus' historical works, paying particular attention to: prose style; genre, rhetoric, and historiography; and Tacitus' critique of the Principate. PREREQUISITES: LATIN 3171 and LATIN 3181 (OR EQUIVALENT) AND SOPHOMORE STANDING OR ABOVE.
Same as L10 Latin 496
Credit 3 units. A&S IQ: HUM, LCD, LS Art: HUM EN: H

L10 Latin 571 Post-classical Latin
This course is designed for graduate students who require Latin proficiency in their study of medieval and early modern texts, or for other areas. Readings will be chosen according to the research interests of participants. Class time will focus on improving speed and accuracy of translation.
Credit 3 units.

L10 Latin 5710 Elegiac Poetry
In this course we will read a broad selection of the works of the Roman elegiac poets, focusing primarily on the works of Propertius, Tibullus, and Ovid. This course will emphasize the development of Roman elegy as a genre during the Augustan period, and will consider a range of literary topics related to elegy, including poetic voice and persona, fictionality, style, meter, intertextuality, and generic tropes, as well as the political, social, and cultural context(s) for these poems. Coursework will include translation and analysis of Latin texts, written assignments, and readings from scholarly literature on Roman elegy. Prerequisites: L10 3171 & 3181 or the equivalent.
Same as L10 Latin 471
Credit 3 units. A&S IQ: HUM, LCD, LS Arch: HUM Art: HUM EN: H

L10 Latin 580 Martial and Juvenal
This course examines the Epigrams of Martial and the Satires of Juvenal in their context (Rome and the Roman world of the 80s-120s CE). Near- contemporaries and acquaintances, these two poets have had a massive impact on modern perceptions of the state of Rome under Domitian, Nerva, Trajan, and Hadrian. The world they represent is actually as much a poetic world full of dramas and fictions as it is a real place. From our readings the poets and from sources on their work and times, we will gain an understanding of their literary agendas. Topics of discussion and research will include imperial politics, the poetic career and literary tradition, Roman public spaces, amicitia and its rituals, private life, and sexual behavior. We will relentlessly practice accurate and clear Latin translation and scansion of the meters used by the epigrammatist and satirist, and every student will conduct and present original research. PREREQ: Graduate student status in Classics, or permission of the instructor.
Credit 3 units.

L10 Latin 5870 Topics in Empire Latin
May be repeated for credit for study of different topics.
Same as L10 Latin 4961
Credit 3 units. A&S IQ: HUM, LCD, LS Arch: HUM Art: HUM EN: H

L10 Latin 590 Research
Credit variable, maximum 3 units.

L10 Latin 5940 Topics in Latin Literature
This course involves the study of selected problems, eras, or generic sequences; the specific topic for each semester can be found in the Course Listings. The course may be repeated for credit for the study of different topics.
Same as L10 Latin 494
Credit 3 units. A&S IQ: HUM, LCD, LS Art: HUM EN: H

L10 Latin 883 Master's Continuing Student Status

L10 Latin 885 Masters Nonresident

Classics, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36**
  - Classics follows the Arts & Sciences minimum grade requirement of C- or better for courses that apply to the program. Students are expected to maintain a cumulative grade point average of at least 3.0 on a 4.0 scale in courses that count toward their credit units.
- **Degree Length: 2 academic years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

AM in Classics

Candidates may obtain an AM degree in Classics by completing 36 graduate units of credit, completing a reading list, and taking a series of examinations. Students applying to continue in the Classics department's PhD program must also write a master's thesis. Others may choose to complete the AM with or without a thesis.

Courses

Total units required: 36 units, including the following:

Specific required courses: 9 units

Code	Title	Units
Classics 503	Classical Studies: Theories, Methods & Practice (a proseminar on materials, methods, and professional issues in Classics; offered every 2 years)	3
Greek 445	Greek Prose Composition (offered every 2 years; graduate-level course number: Greek 5450)	3
Latin 444	Latin Prose Composition (offered every 2 years; graduate-level course number: Latin 5440)	3
Total Units		**9**

Other course requirements: 27 units

- At least 6 units in Greek (L09) (two options are offered every semester)
- At least 6 units in Latin (L10) (two or more options are offered every semester)
- Students writing a master's thesis in their second year may enroll in 0, 3, or 6 research credits

Most remaining courses will be in Greek, Latin and Classics. All must be at the 500/5000 level or above. With the guidance of the director of graduate studies, students may take 3 course units outside of the Classics department.

Research credits: 6 units

The master's thesis counts for 6 units. Any student opting not to write a thesis will fulfill these units with additional courses.

Modern Language Competence

This competence can be in German, French or Italian. The requirement may be fulfilled by courses or examination.

Program Exams

- Greek Reading List
- Latin Reading List

Students not planning to go on to a PhD program in Classics may opt to take the Reading List exam in one language (Greek or Latin) only. Those who pursue this option must still complete at least 6 units in the other language at the 500/5000 level or above. The examination will require the student to demonstrate competence in translation and interpretation as well as in knowledge of the relevant scholarship.

Teaching Option

AM students may have the opportunity to assist faculty as paid student workers in undergraduate courses. They are also eligible to enroll in the department's graduate course in Classics pedagogy.

Contact:	Cathy Keane
Phone:	314-935-5198
Email:	classics@wustl.edu
Website:	https://classics.wustl.edu

Classics, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 60** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 6 academic years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Students must obtain a minimum grade of B- in graduate courses for them to count toward the degree. Students are expected to maintain a cumulative grade point average of 3.0 on a 4.0 scale.

PhD in Classics

The Classics PhD requires 60 graduate units of courses and research in combination. Up to 15 of these units may be transferred from an outside AM program in Classics at the discretion of the Graduate Committee. (Requirements listed below include requirements for the AM in Classics at Washington University.) All units must be at the 500/5000 level or above. With the guidance of the director of graduate studies, students may take up to 12 units outside of the Classics department to enhance their graduate study. Students may choose to pursue one of four special interdisciplinary specializations: Ancient Performance, Ancient Music, Ancient History, or Ancient Philosophy. Every PhD candidate also completes a teaching requirement through assignments as an assistant in instruction and an instructor of record.

Courses

Total units required: 60 units, including the following:

Specific required courses: 12 units

Code	Title	Units
Classics 503	Classical Studies: Theories, Methods & Practice (a proseminar on materials, methods, and professional issues in Classics; offered every 2 years)	3
Classics 505	Seminar in Classics Pedagogy for Graduate Students (offered every 2 years)	3
Greek 445	Greek Prose Composition (offered every 2 years; graduate-level course number: Greek 5450)	3
Latin 444	Latin Prose Composition (offered every 2 years; graduate-level course number: Latin 5440)	3
Total Units		**12**

Other course requirements: 27 units

- At least 12 units in Greek (L09) (two options are offered every semester)
- At least 12 units in Latin (L10) (two or more options are offered every semester)
- At least 3 units in ancient history (at least one course will be offered every two years)

Elective courses: 21 units

This requirement includes courses for individual specializations, optional independent studies in preparation for exams, and other courses to be chosen after consultation with the director of graduate studies.

Research Credits

While writing a master's thesis, PhD students may enroll in 0, 3, or 6 research credits.

Program Exams

- Greek Reading List
- Latin Reading List
- Comprehensive Exam
- Special Field Exam

Teaching

Six semesters of mentored teaching experiences are required, ordinarily with three courses as instructor of record.

Modern Language Competence

This competence can be in German and French or in German and Italian. The requirement may be fulfilled by courses or examination in each case.

Dissertation Requirements

- Dissertation prospectus
- Dissertation prospectus colloquium
- Dissertation
- Dissertation defense

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts &

Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Contact:	Cathy Keane
Phone:	314-935-5198
Email:	classics@wustl.edu
Website:	https://classics.wustl.edu

Comparative Literature and Thought

The following graduate degrees are available from the Department of Comparative Literature and Thought:

- Comparative Literature, PhD (p. 171)
- Data Science in the Humanities, Graduate Certificate (p. 174)
- Early Modern Studies, Graduate Certificate (p. 175)
- German and Comparative Literature, PhD (p. 176)
- German and Higher Education Administration, AM (p. 178)
- Germanic Languages and Literatures, AM (p. 179)
- Germanic Languages and Literatures, PhD (p. 179)
- Translation Studies, Graduate Certificate (p. 183)

See the home department for information about the dual PhD programs, including the following:

- East Asian and Comparative Literatures, PhD (p. 201) (East Asian Languages and Cultures)
- English and Comparative Literature, PhD (p. 251) (English)
- French and Comparative Literature, PhD (p. 397) (Romance Languages and Literatures)
- Hispanic Studies and Comparative Literature, PhD (p. 402) (Romance Languages and Literatures)

Contact:	Graduate Program Administrator: Comparative Literature and Thought
Phone:	314-935-5170
Email:	complitandthought@wustl.edu
Website:	https://complitandthought.wustl.edu/

Faculty

Chair

Matt Erlin
Professor of German
PhD, University of California, Berkeley

Director of Graduate Studies

Caroline Kita
Associate Professor of German
PhD, Duke University

Directors of Undergraduate Studies

André Fischer
Assistant Professor of German
PhD, Stanford University

Joseph Loewenstein
Professor of English
PhD, Yale University

Department Faculty

Jami Ake
Teaching Professor
PhD, Indiana University

Aylin Bademsoy
Assistant Professor of Germanic Languages and Literatures
PhD, University of California, Davis

Nancy E. Berg
Professor of Modern Hebrew Language and Literature (Affiliated Faculty)
PhD, University of Pennsylvania

J. Dillon Brown
Associate Professor of English (Affiliated Faculty)
PhD, University of Pennsylvania

Jianqing Chen
Assistant Professor (Affiliated Faculty)
PhD, University of California, Berkeley

Jiayi Chen
Assistant Professor of East Asian Languages and Cultures (Affiliated Faculty)
PhD, University of Chicago

Lingchei Letty Chen
Professor of Modern Chinese Literature (Affiliated Faculty)
PhD, Columbia University

Rebecca Copeland
Professor of Japanese Language and Literature (Affiliated Faculty)
PhD, Columbia University

Tili Boon Cuillé
Professor of French (Affiliated Faculty)
PhD, University of Pennsylvania

Matthias Goeritz
Professor of Practice of Comparative Literature
PhD, Washington University

Robert E. Hegel
Liselotte Dieckmann Professor Emeritus of Comparative Literature in Arts & Sciences (Emeritus Faculty)
PhD, Columbia University

Robert K. Henke
Professor of Drama and Comparative Literature
PhD, University of California, Berkeley

Mona Kareem Husain
Assistant Professor of Jewish, Islamic, and Middle Eastern Studies (Affiliated Faculty)
PhD, State University of New York at Binghamton

Ignacio Infante
Professor of Spanish and Comparative Literature
PhD, Rutgers University

Carol Jenkins
Lecturer in Germanic Languages and Literatures
PhD, Washington University in St. Louis

Hyeok Hweon Kang
Assistant Professor East Asian Languages and Cultures (Affiliated Faculty)
PhD, Harvard University

Catherine Keane
Professor of Classics (Affiliated Faculty)
PhD, University of Pennsylvania

Tom Keeline
Associate Professor of Classics (Affiliated Faculty)
PhD, Harvard University

Katherine Kerschen
Lecturer in Germanic Languages and Literatures
PhD, Penn State University

Gabi Kirilloff
Assistant Professor of English (Affiliated Faculty)
PhD, University of Nebraska-Lincoln

Stephanie Kirk
Professor of Spanish (Affiliated Faculty)
PhD, New York University

Sarah Koellner
Assistant Professor of German Languages and Literatures
PhD, Vanderbilt University

Naomi Lebowitz
Hortense and Tobias Lewin Distinguished Professor Emerita in the Humanities
PhD, Washington University

Ji-Eun Lee
Associate Professor of Korean Language and Literature (Affiliated Faculty)
PhD, Harvard University

Tabea Linhard
Professor of Spanish (Affiliated Faculty)
PhD, Duke University

Frank Lovett
Professor of Political Science
PhD Columbia University

Paul Michael Lützeler
Rosa May Distinguished University Professor Emeritus (Emeritus Faculty)
PhD, Indiana University

Marvin Marcus
Professor Emeritus of Japanese (Emeritus Faculty)
PhD, University of Michigan

Erin McGlothlin
Professor of German
PhD, University of Virginia

William McKelvy
Associate Professor of English (Affiliated Faculty)
PhD, University of Virginia

Stamos Metzidakis
Professor Emeritus of French and Comparative Literature (Emeritus Faculty)
PhD, Columbia University

Timothy Moore
John and Penelope Biggs Distinguished Professor (Affiliated Faculty)
PhD, University of North Carolina

Jamie Newhard
Associate Professor of Japanese (Affiliated Faculty)
PhD, Columbia University

Anca Parvulescu
Liselotte Dieckmann Professor of Comparative Literature (Affiliated Faculty)
PhD, University of Minnesota

Dolores Pesce
Avis Blewett Professor Emerita of Music (Emeritus Faculty)
PhD, University of Maryland

Philip Purchase
Senior Lecturer
PhD, University of Southern California

Jessica Rosenfeld
Associate Professor of English (Affiliated Faculty)
PhD, University of Pennsylvania

Wolfram Schmidgen
Professor of English (Affiliated Faculty)
PhD, University of Chicago

Michael Sherberg
Professor Emeritus of Italian (Emeritus Faculty)
PhD, University of California, Los Angeles

Vincent Sherry
Howard Nemerov Professor in the Humanities (Affiliated Faculty)
PhD, University of Toronto

Zoe Stamatopoulou
Associate Professor of Classics (Affiliated Faculty)
PhD, University of Virginia

Alexander Stefaniak
Associate Professor of Music (Affiliated Faculty)
PhD, Eastman School of Music

Harriet Stone
Professor of French (Affiliated Faculty)
PhD, Brown University

Lynne Tatlock
Hortense and Tobias Lewin Distinguished Professor in the Humanities
PhD, Indiana University

Gerhild Scholz Williams
Barbara Schaps Thomas and David M. Thomas Professor Emerita in the Humanities (Emeritus Faculty)
PhD, University of Washington

Degree Requirements

- Comparative Literature, PhD (p. 171)
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- Early Modern Studies, Graduate Certificate (p. 175)
- German and Comparative Literature, PhD (p. 176)
- German and Higher Education Administration, AM (p. 178)
- Germanic Languages and Literatures, AM (p. 179)
- Germanic Languages and Literatures, PhD (p. 179)
- Translation Studies, Graduate Certificate (p. 183)

Courses

Courses include the following:

- Comparative Literature (p. 165)
- Germanic Languages and Literatures (p. 168)
- Interdisciplinary Project in the Humanities (p. 170)

Comparative Literature

Visit online course listings to view semester offerings for L16 Comp Lit.

L16 Comp Lit 500 Independent Work
Prerequisites: senior standing and permission of chair of the committee.
Credit variable, maximum 3 units.

L16 Comp Lit 502 Introduction to Comparative Literature
Credit 3 units.

L16 Comp Lit 5051 Gender and Sexuality
This course will provide the conceptual and analytical frame for critically examining literary and cultural production in the Hispanic world from the perspective of gender and intersections with race, ethnicity, class, religion, nationality, and (dis)ability. The course will engage readings in theory, criticism, and historiography crucial to the scholarly investigation of gender and sexuality in the field of Hispanic studies. We will address how the consideration of gender has transformed literary and cultural analysis; in particular, the ways in which scholars of feminist and gender studies have challenged traditional assumptions about how knowledge and subjectivities are produced. The students will come out of the course having acquired: 1) a knowledge of fundamental concepts in feminist and gender studies; 2) an understanding of how feminist/gender studies scholars identify and frame research questions; 3) an introduction to the critical debates related to gender and sexuality; 4) a knowledge of feminist cultural history; 5) the ability to apply relevant concepts in feminist and gender studies to your own research in a historically-grounded fashion.
Same as L38 Span 5051
Credit 3 units.

L16 Comp Lit 512 Seminar
Credit 3 units.

L16 Comp Lit 513C Seminar: The Renaissance of Doubt

Same as L14 E Lit 513
Credit 3 units.

L16 Comp Lit 517 Translation & Imitation in 18th-Century PO
Credit variable, maximum 3 units.

L16 Comp Lit 518 19th-Century Seminar
Credit 3 units.

L16 Comp Lit 519 Contemp Text Settings
Credit 3 units.

L16 Comp Lit 5199 Milton
Major poems and prose works in relation to literary and intellectual currents of the 17th century.
Same as L14 E Lit 494
Credit 3 units. A&S IQ: HUM Art: HUM EN: H

L16 Comp Lit 520 Seminar in Medieval Literature
Credit 3 units.

L16 Comp Lit 520B Topics in Literature: The Novel and Globalization
Comparing the literatures -- readings in the literature and theory of English and American Literature. Topics vary according to semester offerings.
Same as L14 E Lit 420
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L16 Comp Lit 5219 Seminar in Reformation and Humanism: Strange Encounters: Travel in the Literature of the Early Moder

L16 Comp Lit 523 The 20th Century
Credit 3 units.

L16 Comp Lit 5241 Seminar
Seminar topics vary according to semester offerings.
Same as L14 E Lit 5241
Credit 3 units.

L16 Comp Lit 524A International Modernism/World Literature

Same as L14 E Lit 524
Credit 3 units.

L16 Comp Lit 524C Seminar: The 20th Century

Same as L14 E Lit 524
Credit 3 units.

L16 Comp Lit 525 Seminar in Romanticism: German Romanticism--Novels and Stories

Same as L21 German 525
Credit 3 units.

L16 Comp Lit 527 Seminar in Comparative Literature
Credit 3 units.

L16 Comp Lit 527A Sem. in 20th-Century Literature: Between Transmission and Transgression - Representing the Holocaust

Same as L21 German 527
Credit 3 units.

L16 Comp Lit 528 Literary Seminar

Same as L21 German 528
Credit 3 units. EN: H

L16 Comp Lit 529 Seminar in Cultural Theory: The Philosophical Discourse of Modernity
Graduate-level seminar. Topics vary by semester.
Same as L21 German 529
Credit 3 units.

L16 Comp Lit 5300 Data Manipulation for the Humanities
The course will present basic data modeling concepts and will focus on their application to data clean-up and organization (text markup, Excel, and SQL). Aiming to give humanities students the tools they will need to assemble and manage large data sets relevant to their research, the course will teach fundamental skills in programming relevant to data management (using Python); it will also teach database design and querying (SQL). The course will cover a number of "basics": the difference between word processing files, plain text files, and structured XML; best practices for version control and software "hygiene"; methods for cleaning up data; regular expressions (and similar tools built into most word processors). It will proceed to data modeling: lists (Excel, Python); identifiers/keys and values (Excel, Python, SQL); tables/relations (SQL and/or data frames); joins (problem in Excel, solution in SQL, or data frames); hierarchies (problem in SQL/databases, solution in XML); and network graph structures (nodes and edges in CSV). It will entail basic scripting in Python, concentrating on using scripts to get data from the web, and the mastery of string handling.
Same as L93 IPH 430
Credit 1 unit. EN: H

L16 Comp Lit 531 Seminar in Comparative Literature I
Credit 3 units.

L16 Comp Lit 5320 Programming for Text Analysis: Introduction to Literary Text Mining in R
This course will introduce basic programming and text-analysis techniques to humanities students. Beginning with an introduction to programming using the Python programming language, the course will discuss the core concepts required for working with text corpora. We will cover the basics of acquiring data from the web, string manipulation, regular expressions, and the use of programming libraries for text analysis. Later in the course, students will be introduced to larger text corpora. They will learn to calculate simple corpus statistics as well as techniques such as tokenization, chunking, extraction of thematically significant words, stylometrics and authorship attribution. We will end with a brief survey of more advanced text-classification terminology and topics from natural language processing such as stemming, lemmatization, named-entity recognition, and part-of-speech tagging.
Same as L93 IPH 432
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L16 Comp Lit 536 Spanish Cultural Studies
In this course we will examine different approaches to postcolonial studies (Edward Said, Gayatri Spivak, Dipesh Chakrabarty, Ella Shohat, Walter Mignolo) in relation to texts focusing specifically on Spain's cultural and religious pluralism (Américo Castro, Daniela Flesler, Susan Martin-Márquez, Eduardo Subirats, Alfredo Campoy-Cubillo). We will also discuss the theoretical foundations of such concepts as "Convivencia," "Orientalism," "Transatlantic Studies," and "Mediterranean Studies." We will begin the semester by discussing the end of Spanish empire in the nineteenth century and then move across the violent twentieth century and into the twenty-first century in order to assess the ways in which colonial, postcolonial, and neo-colonial discourses shape contemporary culture in Spain and the nation's former colonies. Primary texts may include novels (Ana María Matute's PRIMERA MEMORIA, Juan Goytisolo's DON JULIAN), films (Chus Gutiérrez's films PONIENTE [2001] and RETORNO A HANSALA [2008], Iciar Bollaín's films FLORES DE OTRO MUNDO [1999] and TAMBIÉN LA LLUVIA [2012]), and more recent depictions of and approaches to migration, multiculturalism, and memory in Spain in times of crises. All texts are available in translation.
Same as L38 Span 536
Credit 3 units.

L16 Comp Lit 541 Craft of poetry: Poetry in Translation/Poetry and Translation

Same as L13 Writing 541
Credit 3 units.

L16 Comp Lit 549 Topics in Comparative Literature: Writing from the Periphery: The Question of Chineseness
In this course, we will read a broad range of literary works written by ethnic Chinese from various parts of the world. We will examine the notion of "Sinophone," primarily its implications to the challenge of cultural identity formation to those Chinese who are not traditionally identified as "Chinese" because of war, migration, immigration, colonialism, among others. We will also examine the meaning of being on the margins of geopolitical nation-states. Finally we will discuss the notions of hybridity and authenticity vis-a-vis literary representation. We will read works by ethnic Chinese writers from the United States, France, Taiwan, Hong Kong, Singapore, Malaysia, Mongolia, Tibet, and so on. This course is limited to seniors and graduate students only. All readings will be in English. Active class participation is required.
Same as L16 Comp Lit 449
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L16 Comp Lit 550 Methods of Literary Study
The seminar deals with recent theories of Modernism, Postmodernism, New Historicism, Multiculturalism, and Postcolonialism. We will read and discuss books and articles by Calinescus, Lyotard, Hutcheon, Greenblatt, Taylor, Habermas, Ashcroft/Tiffin, and Grossberg/Nelson/Treichler. Readings in Enlish. Prerequisite: graduate standing 6 units of literature, or permission of instructor.

Credit 3 units.

L16 Comp Lit 550A Workshop in Literary Translation (Spanish to English; English to Spanish)

Same as L38 Span 550
Credit 3 units.

L16 Comp Lit 550B Interdisciplinary Topics in the Humanities

Same as L93 IPH 450A
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L16 Comp Lit 550E Masterworks of Early Japanese Literature: The Tale of Genji and its Afterlives

This course is an intensive study of one of the central texts of classical Japanese literature. Selection of texts rotate among works including: The Tale of Genji, court diaries, poetry anthologies, Noh drama, The Tale of the Heike, setsuwa collections, and medieval memoirs. In addition to exploring the historical, literary, and cultural significance of the work from its genesis to the present age, students engage in a close reading of the text and an investigation of the primary theoretical issues and approaches associated with the work both in Japan and abroad. Prior knowledge of early Japanese literature or history is recommended. Texts will be read in English translation. Prerequisite: junior level or above or permission of instructor.
Same as L05 Japan 450
Credit 3 units. A&S IQ: HUM, LCD EN: H

L16 Comp Lit 551 Methods of Literary Study: The Theory and Practice of Literary Translation

This course combines a review of translation theories with a study of translation practices. We will investigate how translations reflect changing literary and cultural values. In addition, we will examine how the nuances of language and culture (source and target) influence the translator's choice of whom and what kind of text to translate. Guest translators will be invited to discuss their work. Requirements: Class presentation of a literary translation of your choice; to be turned into a paper. You must choose a text that has at least two previous translations, which you will evaluate and critique as you work on your own translation and which will be part of your paper. Poetry is preferable; should you choose prose, you must select a challenging text. The paper must include an outline/brief discussion of your methodological assumptions.
Credit 3 units.

L16 Comp Lit 551A Reading the "Right To Have Rights": Borders, Mobilities, and Memories

Taking Hannah Arendt's notion of the "right to have rights" as a starting point, this course centers on the connections between the Humanities and Human Rights. We will discuss a variety of literary texts in relation to theoretical works from such fields as Border Studies, Critical Refugee Studies, Mobility Studies, and Memory Studies. This will allow us to examine different histories of displacement, spanning from the early twentieth century to the present. In addition to contextualizing the historical and legal significance of such terms as "refugee," "asylum," "sanctuary," "non-refoulement," or "forced displacement," our discussions will also allow us to engage with the broader meanings of concepts that include hospitality, identity, belonging, and citizenship. A majority of the literary texts on the syllabus stem from the Hispanophone world; all are available in translation. Students will have the opportunity to add material to the syllabus and may base their final projects on their main areas of study, providing they are relevant to the theme and materials of the course.
Same as L38 Span 551
Credit 3 units.

L16 Comp Lit 552 Methods of Literary Study: The Theory and Practice of Literary Translation II

A review of translation theories and the study of cultural translation across different time periods and areas of the world. A more general approach to translation and cultural exchange in a globalizing world than Part I (Comp Lit 551), with specific examples to be drawn from Europe, Asia, Latin America and various cultural and literary exchanges between these regions. Topics will include the ideological and ethical underpinnings of translation, the political uses of language in intercultural communication, translation and comparative poetics, the impact of digital technology, and the role of translation in a postcolonial and multicultural world. We will consider not only written texts, but also film and new media as the objects of our critical inquiry. Students will choose a work that has already been translated for critique, in addition to producing their own translation and a critical response to their translation. Requirements: presentations, response papers, final translation project. Prerequisite: native or near-native competence in English and another language. This class is required for students completing the Graduate Certificate in Translation Studies. Open to graduate students in Comparative Literature, English, foreign languages and literatures, as well as any other program across the Humanities with an interest in Translation Studies.
Credit 3 units.

L16 Comp Lit 5521 Translation Module 1

The first of a series of three 1-unit courses devoted to the practice of translation. The student will translate a published text of 20-30 pages (or, exceptionally, an unpublished text) from either literature, literary criticism, or literary theory related to the course material, pre-approved by the faculty member teaching the class, due at the end of the semester in which the class is taught.
Credit 1 unit.

L16 Comp Lit 5522 Translation Module 2

The second of a series of three 1-unit courses devoted to the practice of translation. The student will translate a published text of 20-30 pages (or, exceptionally, an unpublished text) from either literature, literary criticism, or literary theory related to the course material, pre-approved by the faculty member teaching the class, due at the end of the semester in which the class is taught.
Credit 1 unit.

L16 Comp Lit 5523 Translation Module 3

The third of a series of three 1-unit courses devoted to the practice of translation. The student will translate a published text of 20-30 pages (or, exceptionally, an unpublished text) from either literature, literary criticism, or literary theory related to the course material, pre-approved by the faculty member teaching the class, due at the end of the semester in which the class is taught.
Credit 1 unit.

L16 Comp Lit 554 Seminar on East Asian Print Culture and Society: Women in Print

This team-led seminar examines developments in the history of publishing and reading in Japan, Korea, and to some extent China from the 17th to the 20th centuries, with particular attention to material that focuses on women as readers or as objects of discourse. Specific topics include periodicals and books written for, about, and by women; the role of print and publishing in early modern and modern construction of gender roles; literacy, education, and habits of reading; the role of women readers and female-targeted publications in the development of literary culture. The course will consider both commonalities

and divergences in the construction of women as readers in each country in light of their interrelated but distinct historical and cultural conditions. The course will also include an introduction to digital humanities scholarship. Common readings will be in English, but seminar participants who are able to use Japanese or Korean sources will be expected to do so. Prerequisite: graduate standing or permission of instructors.
Same as L81 EALC 554
Credit 3 units.

L16 Comp Lit 560 Special Topics Seminar in Lit of China
Credit variable, maximum 3 units.

L16 Comp Lit 560C Literary Pedagogy
Permission required by the Department.
Same as L14 E Lit 560
Credit 3 units.

L16 Comp Lit 561 Seminar: Lit & Cult of Early China to Han
Credit 3 units.

L16 Comp Lit 563 Literary Criticism: From Critique to Postcritique

Same as L14 E Lit 563
Credit 3 units.

L16 Comp Lit 5652 Seminar
Graduate seminar for graduate students only. Varied Topics.
Same as L14 E Lit 5651
Credit 3 units.

L16 Comp Lit 569 Seminar: Literature of Japan Since Meiji
Credit 3 units.

L16 Comp Lit 5690 Essays on Continentalization: Literature, Thought, Art, Politics
Nation states and their cultures have been changed by globalization. Within this process continentalization has played an important role. The European Union is only half a century old, but continental unity has been discussed and demanded by European writers and thinkers for hundreds of years. We will read essays on Europe (its identity, its cultural diversity, and its cultural roots, contemporary problems, and future goals) by writers such as Coleridge, Madame de Staël, Novalis, Chateaubriand, Heine, Nerval, Hugo, Thomas Mann, Ernst Jünger, T.S. Eliot, Klaus Mann, Kundera, Enzensberger, Frischmuth, and Drakulic, as well as by philosophers such as the Duke of Sully, the Abbé de Saint-Pierre, Kant, Hegel, Nietzsche, Ortega y Gasset, and de Madariaga. Other points to be considered will be the mythological figure of Europa and her resurrections in the world of art; the portraits of Napoleon and their political messages; and the Nazarene painters of the early 19th century in Rome. We will study how "Europe discourse" has been a reaction to the great wars, as connected to a goal of a pacified and united continent. We will also examine the importance of comparisons made between Europe and the United States and between the Occident and the Orient. Readings will be accompanied by the study of theoretical contributions in the area of collective identity formation.
Credit 3 units.

L16 Comp Lit 5692 Shakespeare and Performance
How were Shakespeare's plays performed in their own day--in the Globe theater, with boy actors, and with very short rehearsal times? How, for the actor, did performance work on the outdoor stage, with the Globe's wide and deep acting platform and its intimate relationship to the audience? How might one stage Shakespeare today in an outdoor environment without lighting and with minimal sets, and with the capacity to move easily from one outdoor venue to another? From what social types in Renaissance England-such as merchants, prostitutes, aristocrats, constables, beggars, and princes-did Shakespeare draw? How can evolving ideas about race, gender, and sexuality inform the way we perform Shakespeare today? Addressing these questions and others, the course weaves together performance and literary, critical, and historical study. Topics include blank verse, performing Shakespeare's prose, playing with figures of speech, working the Globe stage, engaging an outdoor audience, acting from a written "part" rather than an entire script, performing types, exploring Shakespeare's sources as performance alternatives, making Shakespeare new- and more. Students will rehearse and perform sonnets, scenes, and monologues based on social figures from Shakespeare's England. The course assumes a willingness to perform but not specialized acting training.
Same as L15 Drama 4692
Credit 3 units. A&S IQ: HUM EN: H

L16 Comp Lit 5710 Topics in Japanese Culture: Reminiscences of Childhood and Youth
Topics course on Japanese culture. Subject matter varies by semester; consult current semester listings for topic.
Same as L81 EALC 4710
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L16 Comp Lit 581 Problems in Medieval French Literature
Credit 3 units.

L16 Comp Lit 583 Seminar in Aesthetics
Credit variable, maximum 3 units.

L16 Comp Lit 590 Research
Credit variable, maximum 9 units.

Germanic Languages and Literatures

Visit online course listings to view semester offerings for L21 German.

L21 German 500 Independent Study
Requires a paper or a written examination. Prerequisites: permission of the student's adviser and the department.
Credit variable, maximum 6 units.

L21 German 5012 Advanced Pedagogy Seminar: Integrating Technology into Language Instruction
Seminar offers professional development in language pedagogy with a focus on enhancing the teaching of the four skills (listening, speaking, reading, writing) and culture through technology. Participants will develop critical skills for assessing, creating, and integrating multimedia courseware into the language classroom. Course formats include readings, discussion, demonstrations, and hands-on sessions with multimedia technologies (e.g., software, WWW, CD-ROM, video). Open to advanced graduate students in all language departments who have completed their required classes. Students with questions regarding eligibility should consult with the instructors.
Credit 3 units.

L21 German 505 Seminar in the Teaching of German
A practical and theoretical introduction for the new teacher of college-level German. Includes basic linguistic principles, classroom management, teaching of smaller units, testing principles, teaching methodologies, professional orientations, and use of multimedia. Extensive observation and the preparation and delivery of a cultural teaching unit.
Credit 3 units.

L21 German 5051 Introduction to the Teaching of German
This course will introduce students to basic teaching strategies employed in the German department at Washington University and allow students to evaluate these personally by means of required observations of German 102. Discussions and research will call upon students to understand how basic language learning fits into the overall curriculum on a departmental and university level at Washington University as well as in other programs. The examination and evaluation of language textbooks will introduce students to market issues as well as differences in methodology/philosophy represented by the textbook and new issues involving technology.
Credit 1 unit.

L21 German 5052 Teaching Practicum
This course supports beginning university instructors during their first German courses at Washington University. It will be comprised of activity composition, discussion and microteaching with a focus on the following topics: a review of processing instruction, the national standards and the four skills in a cultural context, technology in the foreign language classroom, and appropriate strategies for feedback, assessment and motivation.
Credit 1 unit.

L21 German 5053 Theory and Practice of Foreign Language Pedagogy
This third course in the pedagogical series takes a look back and forward to inform future language instruction. Instructors in their second semester of teaching German at Washington University will consider various theories that have been employed for the purpose of second/foreign language acquisition and how these have been incorporated into or overlooked in contemporary SLA methodology. Students will be introduced to important journals as well as professional organizations that assist language instructors at all levels and will present one journal article of their choice to the class. They will also have an opportunity to begin construction of the materials portfolio - gathering exemplary syllabi, lesson plans and evaluations, and creating their first drafts of a statement of teaching philosophy to start them on these aspects of job market preparation. The course will be comprised of active class discussion and group and individual document development.
Credit 2 units.

L21 German 5061 Apprenticeship in the Teaching of Literature and Culture I
Apprenticeship in teaching literature and culture in English. For students who have completed at least 1 year of teaching at Washington University.
Credit 1 unit.

L21 German 5062 Apprenticeship in the Teaching of Literature and Culture II
Apprenticeship in teaching literature and culture in German. For students who have completed at least 1 year of teaching at Washington University.
Credit 1 unit.

L21 German 5071 German Reading Knowledge for Graduate Students I
The first part of a two-semester course sequence in reading and translating German. For graduate students in the humanities, social sciences, and natural sciences. May not be taken for graduate credit.
Credit 3 units.

L21 German 5081 German Reading Knowledge for Graduate Students II
Mastery of more specialized vocabulary and of complex German sentence structure. Emphasis on tools and strategies for researching German language texts. Students who complete L21 5071 and 5081 should be able to read German academic texts proficiently. Prerequisite: L21 5071 or equivalent.
Credit 3 units.

L21 German 512 Literature in the Making

Same as L16 Comp Lit 512
Credit 3 units.

L21 German 520 Seminar in Medieval Culture
The Middle High German era from 1150 to 1350 produced the first great literary works in the German language. The syllabus will be organized around what may well be the key concept of the period, minne. Minne predominately refers to courtly love, a class-specific set of erotic practices or attitudes--even an ethical system--that characterize the courts of medieval Germany and Europe. Far less research, however, has been conducted on the equally powerful legal and theological meanings of minne as conflict resolution by means of reconciliation. Our seminar will inquire whether classic German texts such as Hartmann's Iwein, Walther's lyrics, or the Nibelungenlied (as a negative exemplum) deploy the multiple meanings of minne to argue for a more peaceful society based on love rather than warfare and vengeance. Since most courtly love literature assumes or creates heterosexual norms, gender relations will be a theoretical and thematic aspect of our thinking. Why would heterosexual love serve well as the allegory for peace? We will consider non-literary texts in prose such as sermons, chronicles, and legal compilations; plus some late medieval selections, especially from the Minnereden. The historical and legal research on medieval conflict resolution by Gerd Althoff, Stephen D. White, William Ian Miller, and Fredric L. Cheyette and others will constitute the interdisciplinary context of our reading and discussion. Readings in MHG as far as possible but translations will also be available.
Credit 3 units.

L21 German 521 Seminar in Reformation & Humanism
Credit 3 units.

L21 German 522 Seminar in Baroque
Credit 3 units.

L21 German 523 Seminar in the Early 18th Century
Credit 3 units.

L21 German 524 Seminar in the Late 18th Century
Credit 3 units.

L21 German 525 Seminar in Romanticism
Credit 3 units.

L21 German 526 Seminar in the 19th Century
Credit 3 units.

L21 German 527 Seminar in the 20th Century
Credit 3 units.

L21 German 527A Seminar: Literature in the Making III
This seminar is designed for graduate students enrolled in the International Writers PhD Track in German and Comparative Literature to put their creative work into conversation with their studies in German language, culture, and literature with an eye to the long-term goal of the hybrid dissertation. Participants will read and discuss practical criticism, present their current creative projects and hone their skills as writers, translators and readers by engaging with a living literature as it evolves. At the conclusion of the course, students will have the choice of presenting a polished work of translation, a piece of original writing (in English or in German), or an essay on one or more of the works read during the semester. German students not officially in the International Writers Track are not eligible to take this course.
Credit 3 units.

L21 German 528 Literary Seminar
Credit 3 units. EN: H

L21 German 529 Seminar in Cultural Theory
Graduate-level seminar. Topics vary by semester.
Credit 3 units.

L21 German 5382 Contemporary Literature
This seminar deals with contemporary German literature of the last three decades. Prerequisite: graduate student standing. Max Kade Writer/Critic course taught each Spring Semester. Topics vary by year/semester.
Credit 2 units. Arch: HUM Art: HUM EN: H

L21 German 551 Methods of Literary Study: The Theory and Practice of Literary Translation
This course combines a review of translation theories with a study of translation practices. We will investigate how translations reflect changing literary and cultural values. In addition, we will examine how the nuances of language and culture (source and target) influence the translator's choice of whom and what kind of text to translate. Guest translators will be invited to discuss their work. Requirements: Class presentation of a literary translation of your choice; to be turned into a paper. You must choose a text that has at least two previous translations, which you will evaluate and critique as you work on your own translation and which will be part of your paper. Poetry is preferable; should you choose prose, you must select a challenging text. The paper must include an outline/brief discussion of your methodological assumptions.
Same as L16 Comp Lit 551
Credit 3 units.

L21 German 553 Theories of Literary and Cultural Analysis: Narrative Theory - A Critical and Analytical Toolbox
This seminar familiarizes graduate students with concepts and methodologies that are foundational for research in the humanities. Our discussions will be organized around a range of conceptual categories that have constituted the focus of scholarly reflection in the past few decades, categories such as text, genre, image, medium, discourse, discipline, subjectivity, gender, race, culture, politics, and history. Our consideration of these categories will also require us to examine key currents in recent literary theory and cultural criticism, including (post)structuralism, psychoanalysis, Marxist theory, feminism and gender theory, postcolonial studies, cognitive science, book history, visual studies, and media theory. Although this seminar does not aim to offer an intellectual history, seminar members will acquire a sense of some of the key trends in cultural theory since 1945, as well as an awareness of the limits and possibilities that characterize each of them. The course also includes an introduction to the tools of scholarly research. Readings and discussions in English. Prerequisite: permission of the Director of Graduate Studies for undergraduates.
Credit 3 units.

L21 German 563 Literary Criticism: From Critique to Postcritique

Same as L14 E Lit 563
Credit 3 units.

L21 German 580 Master's Thesis Research
Credit variable, maximum 6 units.

L21 German 590 Doctoral Dissertation Research
Credit variable, maximum 9 units.

Interdisciplinary Project in the Humanities

Visit online course listings to view semester offerings for L93 IPH.

L93 IPH 525 Humanities by the Numbers: Essential Readings in Digital Humanities
To what extent can computational techniques that draw on statistical patterns and quantification assist us in literary analysis? Over the semester, we will juxtapose the close reading of historical documents or literary works with the "distant reading" of a large corpus of historical data or literary texts. We will ask how the typically "human" scale of reading that lets us respond to literary texts can be captured on the "inhuman" and massive scales at which computers can count, quantify and categorize texts.While this class will introduce you to basic statistical and computational techniques, no prior experience with technology is required. Prerequisites: two 200 level or one 300-level course in literature or history. This is a topics-type course and the specific documents and works examined will vary from semester to semester. Please see semester course listings for current offerings.
Same as L93 IPH 425
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L93 IPH 530 Data Manipulation for the Humanities
The course will present basic data modeling concepts and will focus on their application to data clean-up and organization (text markup, Excel, and SQL). Aiming to give humanities students the tools they will need to assemble and manage large data sets relevant to their research, the course will teach fundamental skills in programming relevant to data management (using Python); it will also teach database design and querying (SQL). The course will cover a number of "basics": the difference between word processing files, plain text files, and structured XML; best practices for version control and software "hygiene"; methods for cleaning up data; regular expressions (and similar tools built into most word processors). It will proceed to data modeling: lists (Excel, Python); identifiers/keys and values (Excel, Python, SQL); tables/relations (SQL and/or data frames); joins (problem in Excel, solution in

SQL, or data frames); hierarchies (problem in SQL/databases, solution in XML); and network graph structures (nodes and edges in CSV). It will entail basic scripting in Python, concentrating on using scripts to get data from the web, and the mastery of string handling.
Same as L93 IPH 430
Credit 1 unit. EN: H

L93 IPH 531 Statistics for Humanities Scholars: Data Science for the Humanities
A survey of statistical ideas and principles. The course will expose students to tools and techniques useful for quantitative research in the humanities, many of which will be addressed more extensively in other courses: tools for text-processing and information extraction, natural language processing techniques, clustering & classification, and graphics. The course will consider how to use qualitative data and media as input for modeling and will address the use of statistics and data visualization in academic and public discourse. By the end of the course students should be able to evaluate statistical arguments and visualizations in the humanities with appropriate appreciation and skepticism. Details. Core topics include: sampling, experimentation, chance phenomena, distributions, exploration of data, measures of central tendency and variability, and methods of statistical testing and inference. In the early weeks, students will develop some facility in the use of Excel; thereafter, students will learn how to use Python or R for statistical analyses.
Same as L93 IPH 431
Credit 3 units. A&S IQ: HUM, AN EN: H

L93 IPH 532 Programming for Text Analysis
This course will introduce basic programming and text-analysis techniques to humanities students. Beginning with an introduction to programming using the Python programming language, the course will discuss the core concepts required for working with text corpora. We will cover the basics of acquiring data from the web, string manipulation, regular expressions, and the use of programming libraries for text analysis. Later in the course, students will be introduced to larger text corpora. They will learn to calculate simple corpus statistics as well as techniques such as tokenization, chunking, extraction of thematically significant words, stylometrics and authorship attribution. We will end with a brief survey of more advanced text-classification terminology and topics from natural language processing such as stemming, lemmatization, named-entity recognition, and part-of-speech tagging.
Same as L93 IPH 432
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L93 IPH 550 Interdisciplinary Topics in the Humanities: The Emotional Life of Work

Same as L93 IPH 450
Credit 3 units. A&S IQ: HUM, LCD, WI Arch: HUM Art: HUM EN: H

L93 IPH 550A Interdisciplinary Topics in the Humanities

Same as L93 IPH 450A
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L93 IPH 590 Digital Humanities in the Classroom
For declared DASH Graduate Certificate students. See DASH Director for enrollment.
Credit 3 units.

L93 IPH 599 Internship in Digital Humanities
A practicum in digital humanities. Graduate students will work on one or more faculty research projects sponsored by the Humanities Digital Workshop. While we will try to assign students to projects that align with their research interests, we will also aim for assignments that will help students extend their skills. Students seeking a DASH internship should consult with the director of the DASH program.
Credit variable, maximum 6 units.

Comparative Literature, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 60 units** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 6 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - The Department of Comparative Literature and Thought provides students admitted into the PhD in Comparative Literature program with full financial support for a minimum of five years as long as the student remains in good academic standing. Funding includes full tuition remission and a generous stipend. Our admission package also includes a health fee subsidy.

PhD in Comparative Literature

Comparative Literature appeals to the desire to transcend cultural borders in the study of literature and related media, both contemporary and historical. It supports sustained engagement with great imaginative works from around the globe deemed world literature as well as examines and critiques the intellectual and scholarly traditions that have yielded these judgments. It lends particular attention to encounters between literary cultures as they borrow, adapt, exchange, and translate cultural materials and to the pathways and modes by

which these transformations take place. PhD students in Comparative Literature are expected to have deep knowledge of one language in addition to English and reading knowledge in yet another language, languages pertinent to their transcultural engagements.

Required Courses

The PhD in Comparative Literature program requires 60 units of course credit plus a dissertation. Course distribution normally entails the following: at least 12 credits in core comparative literature seminars, including Comp Lit 502 Introduction to Comparative Literature (3 units). PhD students put together a course of study with at least two areas of concentration, which include the remaining 48 units of elective course credit.

Minimum Grade Requirement: B-

Core Seminar Courses

- Comp Lit 502 Introduction to Comparative Literature (3 units)
- A course in any three of the following four categories (9 units), one of which must be a 5000-level seminar home-based in or cross-listed with Comparative Literature. In rare cases, subject to approval, a course outside of Comparative Literature might fulfill one of these categories:

Category I: Transcultural Studies

Transcultural Studies brings a cross-disciplinary and cross-regional perspective to the study of cultural artifacts and their mobility. Courses in this category therefore study the circulation of subjects, ideas, and texts in specific historical and geographical contexts and provide students with the theoretical and conceptual tools to analyze depictions and narratives of cultural exchanges and conflicts.

Category II: Translation Studies

Translation as practice and as theory has become central to Comparative Literature. With its interest in crossing the borders between languages, cultures, and national literatures, Comparative Literature is implicitly committed to performing and also to assessing theoretically the function and value of “translation” in the widest sense of the term. Courses include review of translation theories, study of translation practices of various literary forms and media, and ideological underpinnings of translation, the political uses of languages in intercultural communication, and the multiple uses of translations of all kinds of literature in a multicultural world.

Category III: Literature, Politics, and Society

Raising basic questions about writing in, for, and about the world, studies in category III are based in the premise that literature has historically mattered and continues to matter to lived human experience and human communities and that it addresses, engages in, produces, and is produced by power relations and social formations worldwide across languages, cultures, and nations. Studies in this area also investigate literature itself as the product of social, economic, and political formations and their attendant pressures.

Category IV: Media Ecologies, Media Histories, Media Poetics

Courses in this category facilitate broad, theoretically informed, and historically grounded thinking about the effects of media transformation on both production and consumption, on the self-conceptions of authors (artists, composers), producers, and consumers (readers/viewers/listeners). Courses in this category address both moments in which transformations in media constitute a crisis, becoming the objects of reflection, and periods in which media do their work "quietly" and surreptitiously, evading reflection. Courses explore how media not only “mediates” but structures knowledge, cultural exchange, artistic expression, perception, and indeed experience itself, asking timely questions about the aesthetics, ethics, and politics of media.

With permission from the Office of Graduate Studies, students who pursue this area in depth might supplement their theoretical and historical study with praxis by taking select courses in the making of media objects.

International Writer's Track

Students admitted in the International Writer's Track take 4 semesters of Comp Lit 512 Literature in the Making (3 units), or the equivalent, as one area of concentration.

Electives

Electives include areas of concentration and should show some evidence of clustering to prepare for comprehensive exams.

Language Requirement and Details

At a minimum, students need to demonstrate — in addition to superior skills in English — superior ability in at least a second language and reading skills in a third language. Beyond the minimum, the choice and number of languages required correspond to each student's areas of concentration. Each language, including English, will be verified by an expert in that language.

Students participating in a Mentored Teaching Experience (MTE) may teach in Comparative Literature and/or in one of our allied programs, including language instruction. Those teaching for the first time at Washington University will be required to fulfill the pre-semester pedagogy requirement. To be qualified to serve as an assistant in instruction in a language department, students may be required to take the relevant course in language pedagogy. The program strives to give students a variety of teaching experiences that prepare them for the academic market in their areas of concentration.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program,

which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way/ In Lieu of a PhD

Program Requirements

- **Total Units Required: 36 units**
- **Degree Length: 2 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

The AM in Comparative Literature may be earned along the way to the PhD ONLY; Comparative Literature normally does NOT admit students to a terminal AM program.

Required Courses

The AM in Comparative Literature requires 36 units of course credit, including Comp Lit 502 Introduction to Comparative Literature (3 units) and three additional courses (9 units) in Comparative Literature on the graduate (5000) level. The remaining 24 units may be pursued in Comparative Literature or in affiliated departments or programs. These 36 units count toward the PhD in Comparative Literature requirements.

Language Requirement and Details

All students earning an AM in Comparative Literature must demonstrate superior skills in English and, at a minimum, reading ability in one additional language pertinent to their areas of interest. Students participating in a Mentored Teaching Experience (MTE) may teach in Comparative Literature and/or in one of our allied programs, including language instruction. To be qualified to serve as an assistant in instruction in a language department, students may be required to take the relevant course in language pedagogy. The program strives to give students a variety of teaching experiences that prepare them for the academic market in their areas of concentration.

Portfolio and Defense

Students present a portfolio of their work in their second year and participate in an oral defense. The submission of the portfolio will be followed by a one-hour conversation with the committee, at which time the student will receive feedback on the portfolio and advice about future steps. Once this defense and portfolio are approved by the Portfolio Committee, the Portfolio Advisor will email the Director of Graduate Studies for submission to the Office of Graduate Studies.

Contact:	Graduate Program Administrator: Comparative Literature and Thought
Phone:	314-935-5170
Email:	complit@wustl.edu

Data Science in the Humanities, Graduate Certificate

Certificate Candidacy

To earn a graduate certificate at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. Graduate certificates are not standalone programs and are only available to current students in applicable graduate programs. Thus, graduate certificates are conferred at the same time as the student's primary graduate program.

Program Requirements

- **Total Units Required: 15**
- **Certificate Length: 1 year during PhD study**
  - PhD students in good standing should apply before the end of their second year. AM students are not eligible.
    - Applicants should write a letter detailing their interest in data science or digital humanities as well as any relevant background; their letter should be supplemented by a letter of support from the Director of Graduate Studies of the home doctoral program.
    - In addition, applicants must complete the Application for Admission to a Graduate Certificate Program, which includes the projected date of completion of the major degree as well as student, home department chair, and DASH certificate program director signatures.
  - In order to receive the DASH Graduate Certificate, students must fulfill all the PhD requirements of their home department. The certificate is granted to the student upon completion of their PhD program.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Data Science in the Humanities (DASH) Graduate Certificate

In response to increasing graduate involvement in the Humanities Digital Workshop (HDW) and its associated faculty-led projects, we offer a graduate certificate combining traditional humanities inquiry with computational methods and analysis. All graduate students in the humanities, regardless of home PhD program, are welcome to pursue this certificate. A data-driven approach can complement and enrich any humanities field, and the certificate features appreciable cross-disciplinary engagement. Recent projects have been supervised by faculty in fields as diverse as History, Music, German, East Asian

Languages and Cultures, American Studies, Philosophy-Neuroscience-Psychology, Women Gender and Sexuality Studies, and English. Our goal is to enrich the analytic skills that students can bring to bear on research in their home disciplines, and to enable them to contribute thoughtfully and resourcefully in other disciplines of the humanities.

The curriculum addresses data management, statistics, text analysis, geospatial analysis, digital prosopography, data visualization and information design. This curriculum will acquaint any PhD student with new methodologies and techniques, and will foster an awareness of the theoretical implications of using them.

This certificate program emphasizes both collaborative research and pedagogical training. You will work on a faculty project in the HDW, a requirement most often filled through participation in the HDW summer workshop, an 8-week program that pairs faculty with a small group of graduate and undergraduate fellows. The collaborative work environment, combined with weekly project meetings and skills workshops, make these immersive summer programs an unusual counterpoint to traditional graduate work. The DASH Certificate also requires the completion of the 3-unit course IPH 590 Digital Humanities in the Classroom, thus ensuring that pedagogical training accompanies more traditional course work.

Required Courses

15 units are required to complete the DASH graduate certificate. Most students are able to count 6 units dually between the requirements of the certificate and the doctoral degree requirements. Students should consult with their doctoral advisor and the DASH graduate certificate advisor to determine which courses may be applied to both degrees.

Minimum Grade Requirement: B-

DASH Pedagogy (3 units)

- IPH 590 Digital Humanities in the Classroom (3 units)
  - This requirement includes assisting in a course from the DASH core (see below) or in IPH 3123 Introduction to Digital Humanities.
  - **Note:** This is *not* an MTE. Graduate Students taking this course must contact Comparative Literature and Thought staff to be added to the Canvas and course pages.

DASH Core (at least 3 units and up to 7 units)

- IPH 530 Data Manipulation for the Humanities (1 unit)
- IPH 531 Statistics for Humanities Scholars: Data Science for the Humanities (3 units)
- IPH 532 Programming for Text Analysis (3 units)

DASH Pedagogy via Internship (at least 2 units and up to 6 units)

- IPH 599 Internship in Digital Humanities (1-6 units)
  - This course may be repeated for up to 6 credits. Students intern on a faculty Digital Humanities research project through the Humanities Digital Workshop either during the academic year or in the summer.

Electives:

If students do not earn the necessary 15 units within the courses listed above, electives may be taken to achieve 15 units with the permission of the DASH Program Director. See the Course Descriptions page on the Interdisciplinary Project in the Humanities website for the updated list.

- **Note:** Graduate students must use the 500/5000 level and above designation of each course to count for program credit per Office of Graduate Studies requirements. Consult the DASH Program Director for details.

Contact:	Joseph Loewenstein
Phone:	314-935-9344
Email:	jfloewen@wustl.edu

Early Modern Studies, Graduate Certificate

Certificate Candidacy

To earn a graduate certificate at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. Graduate certificates are not standalone programs and are only available to current students in applicable graduate programs. Thus, graduate certificates are conferred at the same time as the student's primary graduate program.

Program Requirements

- **Total Units Required: 12 units**
- **Certificate Length: 2 semesters**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Graduate Certificate in Early Modern Studies

The Graduate Certificate in Early Modern Studies enables students to develop interdisciplinary and transnational expertise outside of their home departments; such expertise can generate innovative work at the dissertation level and beyond. Through courses, reading groups, summer seminars, conferences, and teaching opportunities, certificate students will come into a wider intellectual community of early modern faculty and graduate students from several departments.

Students who satisfy certificate requirements will earn the Graduate Certificate in Early Modern Studies along with a PhD in their home department. The certificate takes advantage of two long-standing strengths in Early Modern Studies at Washington University: a long tradition of interdisciplinary work and a commitment to cross national

and geolinguistic boundaries. In particular, Comparative Literature and Thought — where the certificate is housed — has created strong cross-departmental links between Eastern and Western departments and programs.

Required Courses

Courses counting for the interdisciplinary requirement or the extra-department requirements require prior approval by the Early Modern Studies Graduate Certificate Director.

Methods Course

A methods course will introduce students to the interdisciplinary field of early modern studies and some of its current organizing principles and issues. This course will rotate among different faculty members and will be offered every other year, unless demand makes a more frequent schedule necessary.

Interdisciplinary Course

A course that models early modern interdisciplinary inquiry is required. This will either be taught by one faculty member, who will invite other faculty in for guest sessions during the course of the semester, or it will be team-taught.

Extra-Departmental Courses

Students must complete two early modern courses outside of their home department.

Other Requirements

Regular attendance and active participation in either the Early Modern Reading Group or the Eighteenth-Century Interdisciplinary Salon.

The goal is to promote professionalization and give certificate students an opportunity to form collegial relationships with faculty and fellow graduate students outside their primary field and to present their work to these interdisciplinary groups.

All courses must be a "B" or better grade.

Contact:	Robert Henke
Phone:	314-935-9336
Email:	rhenke@wustl.edu

German and Comparative Literature, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 63 units** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 6 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - The Department of Comparative Literature and Thought provides students admitted into the Joint PhD in German and Comparative Literature program with full financial support for a minimum of five years as long as the student remains in good academic standing. Funding includes full tuition remission and a generous stipend. Our admission package also includes a health fee subsidy.

Joint PhD in German and Comparative Literature

The total number of units of course work required for the joint degree is a minimum of 63 units, exclusive of comprehensive examinations and dissertation.

The joint PhD degree in German and Comparative Literature requires study of German literature and culture, over the course of which the student virtually duplicates the courses and other preparations expected of a doctoral candidate in the German. Students additionally complete the 12-unit core requirement for the Comparative Literature PhD program, which includes Comp Lit 502 Introduction to Comparative Literature. For a description of this core, see the PhD in Comparative Literature (p. 171).

Required Courses

- Four courses comprising the Comparative Literature core requirement, including Comp Lit 502 Introduction to Comparative Literature and three additional courses distributed among designated categories (Refer to the PhD in Comparative Literature (p. 171) for the listing of designated categories.)
- Courses as required for the PhD in Germanic Languages and Literatures (Refer to the PhD in Germanic Languages and Literatures (p. 179) for the listing of course requirements.)

Minimum Grade Requirement: B-

Languages Requirement

Students must meet the language requirements of the PhD in Germanic Languages and Literatures.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Joint PhD Comparative Literature degree students will take the comprehensive examinations required in the PhD in Germanic Languages and Literatures program. At least one of these examinations must entail a comparatist element; this element is to be identified and negotiated with the examination committee, which will include at least one faculty member representing Comparative Literature.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

Note: The dissertation committee should include at least one faculty member representing Comparative Literature. The dissertation itself should — in its theoretical grounding, approach, transnational or transcultural scope, and/or interdisciplinarity — speak to the field of Comparative Literature as currently constituted.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Contact:	Graduate Program Administrator: Germanic Languages and Literatures
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German and Higher Education Administration, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin*.

Program Requirements

- **Total Units Required: 26**
- **Degree Length: 2 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Minimum Grade Requirement: B-

Master of Arts (AM) in German and Higher Education Administration

The AM in German and Higher Education Administration (HEA) offers qualified students with a strong background in German the opportunity to combine advanced study of German language, literature and culture with courses in higher education administration. In its fusion of discipline-specific postgraduate study with practical career-oriented preparation in a rapidly growing area of higher education, the program enables students to develop new career paths while further expanding their knowledge of German language, literature and culture.

Course Requirements

The AM requires 24 graduate-level course units in German language and culture and at least 12 units of higher education administration and other relevant courses in psychological and brain sciences, statistics, education, business, social work, nonprofit management and other disciplines. Courses will be supplemented by internships with academic and administrative units on the Washington University campus and with other higher education institutions in North America or the German-speaking world. During the final semester of courses, students complete a capstone project.

Suggested Sequence of Courses

(Note that the actual course progression may follow a different schedule.)

Fall semester, 1st year:

- Two graduate-level German courses (6 units)
- One course in higher education administration or related areas (3 units)

Spring semester, 1st year:

- Two graduate-level German courses (6 units)
- One course in higher education administration or related areas (3 units)
- Internship

Fall semester, 2nd year:

- Two graduate-level German courses (6 units)
- One course in higher education administration or related areas (3 units)
- Internship

Spring semester, 2nd year:

- Two graduate-level German courses (6 units)
- Capstone project (3 units)
- Internship

Higher Education Administration Electives

These electives must be chosen from an approved list of courses in psychological and brain sciences, statistics, education, business, social work, nonprofit management and other disciplines. At least one of the chosen electives must focus on management/leadership, financial management or legal issues in the field.

Semester Internships

Students in the program intern in various units on campus, which results in a total of three Washington University internship experiences over the course of the degree. These internships in units such as Student Affairs, Residential Life, Admissions, and the College of Arts & Sciences entail approximately 10 to 15 hours of mentored engagement per week.

Capstone Project

During their last semester, each student produces an individual project (e.g., a research paper, a proposed initiative or program) under the guidance of a faculty member. Although this project does not have the same length or scope as a traditional AM thesis, it is considered a significant and meaningful capstone experience.

Contact:	Graduate Program Administrator: Germanic Languages and Literatures
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Germanic Languages and Literatures, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 30**
- **Degree Length: 1 year**
  - This program is only for graduate exchange students from the University of Cologne. 9 units of transferred credit hours will be applied for students to work towards the 30 unit requirement: 21 units will be obtained over 2 semesters of study at Washington University.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
- **Minimum Grade Requirement:** B-

Required Courses

Code	Title	Units
German 5052	Teaching Practicum	1
German 5053	Theory and Practice of Foreign Language Pedagogy (or equivalent)	2
German 580	Master's Thesis Research	3

See Thesis Requirements/Details (p. 179) below for more information.

German Seminar Courses

Students are required to take 4 additional 500/5000-level German Seminar courses (12 units)

Transfer Credits

The student will transfer 9 units of credit from their previous coursework from the University of Cologne, as determined by the Director of Graduate Studies in Germanic Languages and Literatures.

Thesis Requirements/Details

Both semesters, students in AM in Germanic Languages and Literatures are required to participate in German 580 Master's Thesis Research (3 units) for a total of 6 units in order to prepare the thesis and defense.

Students will deliver their thesis to a three member Thesis Committee for approval and in anticipation of the oral defense.

Contact:	Graduate Program Administrator: Germanic Languages and Literatures
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Germanic Languages and Literatures, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 51** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 5 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - The Department of Comparative Literature and Thought provides students admitted into the PhD in German and Comparative Literature program with full financial support for a minimum of five years as long as the student remains in good academic standing. Funding includes full tuition remission and a generous stipend. Our admission package also includes a health fee subsidy.

Required Courses

The PhD requires 51 units of courses that are home-based in German. Students who complete interdisciplinary graduate certificates will be required to enroll in additional units as specified by the certificate-granting department or program. Students may not exceed 72 units of course credit.

These rules regarding required courses taken at Washington University apply to students joining the department with a bachelor's degree. Students entering with a master's degree may already have fulfilled some of these requirements. The fulfillment of Washington University requirements with courses completed elsewhere should be discussed with the Director of Graduate Studies, who will make a determination about the transfer of credits.

Minimum Grade Requirement: B-

Students are encouraged to take a thematic and historical spread of courses in German-language literature and culture; these courses should be chosen in consultation with the Director of Graduate Studies. In addition, the following courses are required of all students.

Theory and Methods

- One seminar addressing theories of literary and cultural analysis (German 553 or equivalent)

Pedagogy

Code	Title	Units
German 5051	Introduction to the Teaching of German (normally taken during the second semester of the first year at Washington University)	1
German 5052	Teaching Practicum	1
German 5053	Theory and Practice of Foreign Language Pedagogy	2
German 5061	Apprenticeship in the Teaching of Literature and Culture I	1
German 5062	Apprenticeship in the Teaching of Literature and Culture II	1
Total Units		**6**

Thematic and Methodological Areas

At least one seminar must be taken from any **three** of the following four categories. In rare cases, subject to the approval of the department chair and the Director of Graduate Studies, a course from outside of German might fulfill one of these categories. Course descriptions for each seminar offered in the department will indicate which of these categories is covered in the seminar.

Category I: Translation Studies

Translation theory and practice are central to literary and cultural studies. With its interest in the cross-cultural exchange and circulation of texts, themes, motifs, genres, and ideas, Germanic Languages and Literatures is committed to performing and assessing theoretically the function and value of "translation" in the widest sense of the term, including both interlingual translation and other forms of textual transformation and adaptation.

Category II: Media Studies

Courses in this category facilitate broad, theoretically informed, and historically grounded thinking about the effects of media transformation on cultural production and consumption as well as on the self-conceptions of authors (artists, composers), producers, and consumers (readers/viewers/listeners). They explore how media — including manuscripts, books, periodicals, photography, radio, television, film, digital media, and other forms — not only "mediate" but also structure knowledge, cultural exchange, artistic expression, perception, and indeed experience itself. They also build on the frameworks of media theory, critical theory, and media ecology to ask timely questions about the aesthetics, ethics, and politics of media. Attention may be given to competitions between media; to remediation, intermediality, and the mutual incorporations of media; and to the ways that new media reconfigure the conception, function, and imagined provenance of older media, both in the past and in the 21st century.

Category III: Nationalism, Ethnicity, and Race

Courses in this category examine the concepts of nationalism, ethnicity, and race — and, more broadly, historical and contemporary mechanisms, ideologies, and processes of group formation — through the historically contextualized study of literature, film, and other cultural artifacts, agents, and institutions. Perspectives examined could include those of insiders as well as those of outsiders or the deliberately excluded. Courses may focus on historical and contemporary cases and/or on the cultural and aesthetic responses to them. Possible topics include historical and theoretical perspectives on race and ethnicity; the experiences of Jews in German-speaking Europe, including acculturation, antisemitism, and the Shoah; relations between the Habsburg and Ottoman Empires; German emigration to the United States and related aesthetic responses; contemporary immigration and immigrant communities in the German-speaking world; and new subcultures, new power relations, and new ideas of citizenship created by patterns of migration.

Category IV: Digital Humanities

Digital humanities is a diverse and evolving field that uses digital tools and computational methods both to answer existing research questions and to generate new questions in humanistic disciplines. Courses in this area may address topics ranging from the construction of digital archives to the analysis of macroscopic trends in cultural change, and they will often employ techniques from the field of data science. Courses in this category may also reflect on the broader impact of information technology on society and culture, including the ways in

which new technologies can reshape our conventional understandings of key aesthetic, political, and anthropological categories such as authorship, creativity, privacy, influence, agency, and even the category of the human itself.

International Writer's Track

Students admitted in the International Writer's Track take 4 semesters of Comp Lit 512 Literature in the Making (3 units), or the equivalent, which count towards the 51 credit total.

Interdisciplinary Studies

Graduate students may wish to take courses in areas other than German. Of special interest are graduate offerings in art history; comparative literature; English; the digital humanities; film and media studies; higher education administration; history; music; philosophy; romance languages; and women, gender, and sexuality studies.

Students interested in completing one of our interdisciplinary certificates are generally required to complete additional seminars.

Foreign Language Requirement

Students planning to work primarily on post-1700 materials must display reading proficiency in at least one language other than German and English. In most cases this language will be French, and the requirement may be satisfied by examination or by enrolling in and successfully completing French 400 and French 401. If a language other than French is particularly relevant to a student's research interests and planned dissertation topic, the foreign language requirement may be fulfilled by the achievement of an equivalent level of reading proficiency in that language, upon approval by the Director of Graduate Studies.

Students planning to work on pre-1700 materials must pass a reading exam in Latin. Reading knowledge of French is also strongly encouraged.

Examinations

Master's Examination

Students who enter with a bachelor's degree must complete an oral and written master's examination at the end of their second year. A student's performance on both the oral and written exams is one important element affecting the faculty's decision about whether the student will receive permission to proceed with their graduate studies.

Qualifying Examinations and Dissertation Prospectus

Students taking qualifying exams should display general knowledge and understanding of the primary materials, historical contexts, scholarly questions and theoretical frameworks that are likely to drive their future dissertations. The qualifying exam is usually taken during the fourth year of study for students entering with a bachelor's degree and during the third year for students entering with a master's degree. The qualifying exam process consists of four phases:

Phase 1: Development of a bibliography for the exams; filing of the Research Advisory Committee Form, which must be submitted to the Office of Graduate Studies, Arts & Sciences, no later than the end of the third year of graduate study

Phase 2: Preparation for and completion of two exams, each of which consists of a written portion and an oral portion

Phase 3: Creation and defense of a dissertation prospectus

Phase 4: Preparation and circulation of the dissertation abstract; filing of the Title, Scope and Procedure Form, which must be submitted to the Office of Graduate Studies, Arts & Sciences, no later than at the start of the fifth year of graduate study.

For the **first exam**, students are required to situate their primary materials and their author(s) in their respective historical contexts and periods with specific points of emphasis to be determined together with the exam committee. The **second exam** serves to frame the student's primary materials in theoretical terms; it is meant to discuss in general terms one of the methodological approaches for the planned dissertation. The order of the exams may be reversed.

Teaching

Doctoral candidates are required to complete a minimum of six semesters (or the equivalent) of mentored teaching experiences (MTEs) within the German department in order to be eligible for the degree; some students may have the opportunity to complete additional MTEs in other departments. Most of our students (particularly students who do not enter with a master's degree in German and with experience teaching German at the university level) will complete eight semesters of MTEs (the maximum allowable number) in order to prepare themselves for the rigorous demands of the job market in German.

For information beyond what is presented here, please contact german@wustl.edu.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which

the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way/ In Lieu of a PhD

- **Total Units Required: 36**
- **Degree Length: 2 years**

See the Master's Examination section above for more information.

Contact:	Graduate Program Administrator: Germanic Languages and Literatures
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Translation Studies, Graduate Certificate

Certificate Candidacy

To earn a graduate certificate at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. Graduate certificates are not standalone programs and are only available to current students in applicable graduate programs. Thus, graduate certificates are conferred at the same time as the student's primary graduate program.

Program Requirements

- **Total Units Required: 15**
- **Certificate Length: 2 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - This program is offered to PhD students only.

Translation Studies Graduate Certificate

With its interest in crossing the borders between languages, cultures, and national literatures, the discipline of comparative literature implicitly performs and assesses theoretically the function and value of "translation" in the widest sense of the term. The Graduate Certificate in Translation Studies offered by Comparative Literature and Thought explicitly supports both the practical turn to translation and the critical and theoretical assessment of translation in the context of globalization, multiculturalism, cultural hybridity, postcolonial theory, and interdisciplinarity.

Admission

Admission into the Translation Studies Graduate Certificate program require completion of the Application for Admission along with a listing of courses the student plans to take in anticipation of obtaining the Translation Studies Graduate Certificate. The student must bring these materials to a discussion with the Director of Translation Studies for acceptance into the program.

Required Courses

The certificate requires 15 course credits overall, 6 of which may count toward both the certificate and the PhD degree and 9 of which may be allocated only to the certificate. Applicants must already be enrolled in a PhD program at Washington University.

Minimum Grade Requirement: B-

Requirement 1

Students complete two core courses, which may be taken in order of preference and which also integrate translation practice:

- Comp Lit 551 Methods of Literary Study: The Theory and Practice of Literary Translation
  This course is a review of translation theories, with a study of translation practices of various literary forms (prose, poetry, drama) and media. Prerequisite native or near-native competence in English and another language. Also open to qualified students not in the Certificate program.
- Comp Lit 552 Methods of Literary Study: The Theory and Practice of Literary Translation II
  This course offers a review of translation theories and the study of translation practices of various literary forms (prose, poetry, drama) and media. Prerequisite native or near-native competence in English and another language. A more general approach to translation and cultural exchange in a globalizing world than Part I. Topics will include the ideological underpinnings of translation, the political uses of language in intercultural communication, and the multiple uses of translations of all kinds of literature in a multicultural world. Students will choose a text that has already been translated for critique in addition to producing their own translation; students will be expected to report orally on the process and the product of this project several times during the semester.

Requirement 2

Students complete three 1-unit translation modules in sequence: Comp Lit 5521 Translation Module 1; Comp Lit 5522 Translation Module 2; and Comp Lit 5523 Translation Module 3.

Modules are designed for the student to gain further experience translation; texts may be in Arabic, Chinese, English, French, German, Greek, Ancient Greek, Italian, Japanese, Latin, Persian, and Spanish.

Students may elect to substitute a semester of Comp Lit 512 Literature in the Making for the three translation modules, with permission from the Director of Translation Studies Graduate Certificate.

Registration

After completing Requirement 1, the student will meet with the Director of the Translation Studies Certificate in consultation with the DGS in Comparative Literature and Thought, and will verify that all requirements have been met. In preparation for this meeting, the student must complete the Module Enrollment Form, indicating their translation project scope and faculty mentor. Once approved by the Director of the Translation Studies Certificate, the student will be authorized to enroll in Comp Lit 5521 Translation Module 1, Comp Lit 5522 Translation Module 2, or Comp Lit 5523 Translation Module 3 for completion of the translation modules. **Note:** Each translation module enrollment requires its own Module Enrollment Form and permission.

Requirements

The student will translate a published text (or, exceptionally, an unpublished text) of 10 to 15 pages from either literature, literary criticism, or literary theory preapproved by the appropriate faculty mentor.

Organization

The student will translate a published text (or, exceptionally, an unpublished text) of 10 to 15 pages from either literature, literary criticism, or literary theory, preapproved by the appropriate faculty member. The student should additionally write a brief introduction to accompany the translation. (The introduction should consist of a brief review of the sociohistorical context of the original, the methodologies employed, and the challenges encountered and addressed)

- The student will consult the faculty member about an appropriate text for translation. The student's choice of text must be approved by the faculty member who will read and grade the translation upon its completion.
- The student may choose to complete on or each of these modules in conjunction with a 500-/5000-level literature or theory course/courses appropriate for producing a translation.

Translation Guidelines

The translation for foreign language-based literature or theory classes will be organized as follows:

1. A native speaker of English might translate a text from a national (foreign) literature into English.
2. A student whose native/national language is not English, might translate an English text into that national language, or a text from his/her national/native language into English.
3. Translation from a language other than English to a second language that is not English can only be done with permission of the Director, DGS, and the appropriate faculty members.

Evaluation

The evaluation of the translation produced in each module will be done by the faculty member who has agreed to supervise the translation. When this is not possible, the evaluation of the student's work will be done by the appropriate professor from a list of faculty approved by the Translation Certificate Director and available from the DGS of Comparative Literature and Thought (see list below). The Comparative Literature DGS in conjunction with the Director of the Translation Certificate may also designate another member of the graduate faculty in the corresponding national literature program to certify the exam.

Requirement 3

Students complete two electives (6 units) selected from the course listings available on the Translation Studies website.

A major translation project (30+ published pages plus introduction) conducted under faculty supervision (Comp Lit 500 Independent Work, 3 units) can be taken to replace one of the courses from the list of elective courses identified under Requirement 3. Normally, this option can be undertaken only as the last element in work toward the Certificate; any student wishing to carry out a project of this scope would need the approval of the Translation Studies Certificate Director.

Contact:	Graduate Program Administrator: Comparative Literature and Thought
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Earth, Environmental, and Planetary Sciences

The Department of Earth, Environmental, and Planetary Sciences offers a PhD with a master's along the way. This department is one of the few departments in the country with an integrated program of graduate instruction and research that treats Earth as a planet and that makes direct use of knowledge gained by exploring the solar system. Our field is changing rapidly and becoming more interdisciplinary as links emerge among geology, geochemistry, geophysics, and geobiology. New opportunities are developing as research in natural hazards, energy sources, and the environment become more important to the global economy and as new space missions are developed to explore the solar system. The relatively small size of the department engenders a friendly and personal place that offers a lot of personal interaction with faculty and researchers. Our graduate students have the opportunity to use cutting-edge laboratory equipment, high-speed parallel computers, and the latest planetary mission data throughout the course of their research. They travel to field sites around the world and publish research in the leading scientific journals.

The PhD program is open to qualified students who have previously specialized in Earth sciences, physics, chemistry, biology, environmental science, soil science, mathematics, or engineering. Both students with traditional degrees in geoscience areas and students with diverse academic backgrounds regularly enroll in our program because of the inherently interdisciplinary nature of our field. Doctoral education has a strong research emphasis that begins immediately upon arrival and that emphasizes modern, quantitative approaches to studying Earth, planetary, and environmental systems. Graduate research may involve field and laboratory studies as well as theory and advanced computation. Students earn the AM degree during the first phase of the PhD program; the department generally does not admit students for terminal AM degrees. After degree completion, our graduates go on to careers in academia, research laboratories, government agencies, and the private sector, serving as leaders in the field of earth, environmental, and planetary sciences.

Website:	https://eeps.wustl.edu/

Faculty

Chair

David A. Fike
Glassberg/Greensfelder Distinguished University Professor of Earth, Environmental, and Planetary Sciences
PhD, Massachusetts Institute of Technology

Director of Graduate Studies

Alexander S. Bradley
Associate Professor
PhD, Massachusetts Institute of Technology

Director of Undergraduate Studies

Philip A. Skemer
Associate Chair and Professor of Earth, Environmental, and Planetary Sciences
PhD, Yale University

Department Faculty

Paul Byrne
Associate Professor
PhD, Trinity College, Dublin

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Director of Environmental Studies
PhD, Standford University

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Professor
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PhD, South Dakota School of Mines and Technology

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Assistant Professor
PhD, Stanford University

Rita Parai
Assistant Professor
PhD, Harvard University

William Hayden Smith
Professor
PhD, Princeton University

Viatcheslav S. Solomatov
Professor
PhD, Moscow Institute of Physics and Technology and the Schmidt Institute of Physics of the Earth

Kun Wang
Associate Professor
PhD, Washington University in St. Louis

Douglas A. Wiens
Professor
Robert S. Brookings Distinguished Professor
PhD, Northwestern University

Michael E. Wysession
Professor
PhD, Northwestern University

Degree Requirements

- Earth, Environmental, and Planetary Sciences, PhD (p. 190)

Courses

Visit online course listings to view semester offerings for L19 EEPS.

L19 EEPS 5004 Special Topics
The content of this course varies each time it is offered, as announced by the Department. With permission of the advisor, this course may be repeated for credit. Variable credit.
Same as L19 EEPS 400
Credit variable, maximum 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 5014 Earth Systems Science
This is a quantitative introduction to physical and chemical interactions among the atmosphere, oceans and solid earth. Topics covered include terrestrial atmospheric chemistry, geochemical cycles, inventories, and reservoirs of carbon, nitrogen, & sulfur, and bulk composition of the Earth. Prerequisite: EEPS 340.
Same as L19 EEPS 401
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 5074 Remote Sensing
Use of different parts of the electromagnetic spectrum (visible, ultraviolet, infrared, and radio wavelengths) for interpretation of physical and chemical characteristics of the surfaces of Earth and other planets. Digital image systems and data processing. Prerequisite: Phys 192.
Same as L19 EEPS 407
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 5084 Earth's Atmoshpere & Global Climate
Structure and dynamics of Earth's atmosphere. Basic factors controlling global climate of Earth. Quantitative aspects of remote sensing of atmosphere. Remote sensing instrumentation. Prerequisites: Math 232 and Phys 191.
Same as L19 EEPS 408
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 509 Surface Processes
How do landscapes evolve? This course focuses on the physical processes of erosion and deposition that shape Earth and planetary surfaces. Course aims (1) understanding emergent landscape patterns, (2) reconstructing past conditions using the sedimentary record, and (3) predicting landscape change under climate scenarios. Review of relevant climatic and tectonic processes, followed by detailed discussion of rivers and deltas, hillslopes, weathering, glaciers, and coasts. Prerequisites: EEPS 353 or Physics 191.
Same as L19 EEPS 409
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L19 EEPS 5104 Earth Remote Sensing Methods and Instrumentation
Detection of electromagnetic radiation reflected,scattered, or emitted by components of the Earth system. Spectroscopy of remote sensing. Interpretation of received radiation via radiative transfer within a context of real measurements. Theory of instruments and detectors. Comparison of realized equipment to theoretical models.
Same as L19 EEPS 410
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L19 EEPS 511 Minerals in Aqueous Environments
Systematic mineralogy and crystal chemistry of common low-temperature minerals, including clays, zeolites, carbonates, oxides of aluminum, iron, and manganese, and metal sulfides. Reactions between minerals and aqueous solutions, including growth and dissolution, surface complexation, and redox reactions. Role of these reactions in chemical weathering, contaminant fate, microbe-mineral interactions, and biomineralization. Focus will be on processes and mechanisms. Common analytical methods introduced.
Credit 3 units.

L19 EEPS 5134 Introduction To Soil Science
Physical, chemical, and biological processes that occur within soil systems. Types of soils and their formation. Major components of soil, including soil water, minerals, organic matter, and organisms. Soils in wetlands and arid regions. Mapping of soils and their spatial variability. Cycling of nutrients and contaminants in soils. Sustainable use of soils and their role in climate change. Prerequisites: EEPS 202 and EEPS 323 or CHEM 106 or CHEM 112.
Same as L19 EEPS 413
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 517 Soil Science
Physical, chemical, and biological processes that occur within soil systems. Types of soils and their formation. Major components of soil, including soil water, minerals, organic matter, and organisms. Soils in wetlands and arid regions. Mapping of soils and their spatial variability. Cycling of nutrients and contaminants in soils. Sustainable use of soils and their role in climate change. Prerequisites: EEPS 202 or EECE 210 or BIOL 2950.
Same as L19 EEPS 317
Credit 3 units. A&S IQ: NSM

L19 EEPS 5224 Sedimentary Geology
Survey introduction to sedimentary processes and materials, including description, formation, and interpretation. Sedimentary materials account for most of the Earth's crust, and much of our understanding of Earth history comes from their examination. Many of our economic resources, such as coal, oil, and natural gas, and many environmental problems, are related to or derive from sediments. Goals: understanding and identifying sediments and processes and using them to interpret stratigraphic, paleoenvironmental, and tectonic information; obtaining the understanding of sedimentology that is relevant to environmental issues; increasing scientific literacy and critical thinking. Prerequisite: EEPS 202. Mandatory field trips.
Same as L19 EEPS 422
Credit 4 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 5280 Hydrology
Survey of principles that govern the flow of water in river and groundwater systems in deep geologic environments. Basic equations of fluid flow, dynamics, and the characteristics of drainage basins, rivers, floods, and important aquifers. Exploitation of ground water systems. Prerequisite: EEPS 353 or Physics 191.
Same as L19 EEPS 428
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 5304 Environmental Mineralogy
Topics connected with environmental mineralogy, some selected by students. Topics may include: mineral dust such as asbestos, containment materials for nuclear waste disposal, environmental ramifications of the processing and use of phosphate fertilizers, lead in the environment, acid mine drainage, microbial mediation of sulfide oxidation, minerals in the human body, weathering of building materials, materials engineering, and engineering of materials for more effective recycling. Three class hours and one two-hour laboratory a week. Participation in discussions, term paper, two field trips required. Most readings from primary sources.
Same as L19 EEPS 430
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 5374 Igneous & Metamorphic Petrology
Classification, origin, mineralogy, and geological occurrence of major igneous and metamorphic rocks. Laboratory emphasis on identification of rocks and minerals in hand specimens and in thin sections. Three class hours and one two-hour laboratory a week.
Same as L19 EEPS 437
Credit 4 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 542 Chemical Petrology
Application of chemical data to the petrogenesis of selected metamorphic, igneous, and sedimentary rock suites. Topics include: abundance and distribution of elements in crustal materials; crystal-chemical controls on elemental fractionations; elemental mobility and immobility in crustal metamorphic processes; uses and abuses of discriminant diagrams; secular trends in crustal composition. Two class hours and one two-hour discussion period a week.
Credit 3 units.

L19 EEPS 5425 Aqueous Geochemistry
Introduction to the geochemistry of natural waters and the processes that alter their composition. Key principles of aqueous geochemistry are introduced and then used to describe the main controls of the chemistry of pristine and polluted soil, surface, and ground water environments. Topics covered include mineral solubility, complexation, acids and bases, carbonate chemistry, rock weathering and clay formation, adsorption and ion exchange, redox reactions, microbial

energetics and redox zonations, the geochemistry of iron, sulfur, trace elements, and radionuclides, and geochemical kinetics. Geochemical modeling will be introduced. Prerequisites: EEPS 323 or Chem 105 or Chem 111A.
Same as L19 EEPS 442
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L19 EEPS 5441 Introduction to Geochemistry
Application of the principles of nuclear and physical chemistry to problems of the composition and differentiation of the Earth. Introduction to nucleosynthesis of the elements, stellar evolution, the periodic properties of the elements, chemical bonding and ionic substitution, geochronology and stable isotope geochemistry, and the age and composition of the Earth, Moon and meteorites. Prerequisites: EEPS 202 and Chem 106 or Chem 112.
Same as L19 EEPS 441
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 545 Radiogenic Isotope Geochemistry
Applications of variations in abundance of daughter isotopes of major natural radionuclides. Topics include the use of isotopes such as 87Sr, 143Nd, 206-207-208Pb, 40Ar, 4He, etc. as isotopic tracers in petrogenetic studies, and as sources of constraints on the evolution of the Earth's mantle, crust, and atmosphere.
Credit 3 units.

L19 EEPS 5454 Organic Geochemistry
Introduction to the composition and analysis of organic material in the environment and geological record. Molecular to global-level perspective of organic matter cycling, reactivity, and fluxes; formation and classification of organic matter, its preservation potential, diagenesis, catagenesis, and kerogen formation; coal, petroleum, and gas formation and accumulation; biomarkers in Earth history; genetics and phylogeny of biomarker compounds; overview of analytical techniques including both structural and isotopic aspects; oceanographic and paleoenvironmental applications of organic biomarkers; contaminants and residue analysis. Prerequisites: EEPS 202 and Chem 106 or Chem 112.
Same as L19 EEPS 445
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 5460 Stable Isotope Geochemistry
Applications of equilibrium and kinetic isotope fractionation and material balance principles to the distribution of oxygen and hydrogen isotopes in natural systems. Geothermometry and paleotemperatures, mass spectrometry, isotope hydrology and ice cores, fluid-rock interaction, igneous rocks and meteorites. Prerequisites: EEPS 441 and MATH 233.
Same as L19 EEPS 446
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 5524 Introduction to Seismology
Introduction to earthquake and exploration seismology. Seismic wave propagation, data analysis and processing, earthquake mechanisms, seismic contraints on the structure of the Earth, relationship of seismicity to plate tectonics. Prerequisites: EEPS 353 and Math 217.
Same as L19 EEPS 452
Credit 3 units. A&S IQ: NSM Art: NSM

L19 EEPS 553 Geophysical Data Analysis
Survey of geophysical data analysis techniques with applications to seismology, geodynamics, and remote sensing. Time series analysis techniques, including Fourier transforms, convolution and deconvolution, and filters. Linear and non-linear geophysical inverse problems, including discussion of solution uncertainty and uniqueness.
Credit 3 units.

L19 EEPS 5535 Interior of the Earth
Composition and temperature of Earth's mantle and core, determined by geophysical methods. Inferences about mantle and core dynamics, especially interactions. Current understanding and history of interior in fields of seismology, geomagnetism, mineral physics, geodynamics.
Prerequisite: EEPS 353
Same as L19 EEPS 453
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 5544 Exploration and Environmental Geophysics
Basic geophysical techniques used in exploration and environmental geophysics, emphasizing seismic and electromagnetic methods. Basic theory, field procedures, and interpretation of data. Use of geophysical instruments on field trips, followed by reduction and analysis of acquired data. Two class hours and one two-hour laboratory a week, and approximately four one-day field trips during the semester.
Prerequisites: EEPS 353 and Phys 191 and Math 132.
Same as L19 EEPS 454
Credit 4 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 555 Mathmatical Methods in Earth, Environmental, and Planetary Sciences
This course introduces a variety of mathematical approaches commonly used in Earth, environmental, and planetary sciences. The course is structured to progress in difficulty throughout the semester, starting with dimensional analysis, order-of-magnitude estimates, and basic analytical methods, then advancing to numerical solutions of differential equations. Throughout the course, students will gain programming experience with MATLAB. Examples of problems that can be considered include population growth, radioactive decay, landscape evolution, carbon cycle, thermal and chemical diffusion, wave phenomena, groundwater flow, glacier dynamics, magma transport, thermal convection, and secular cooling of Earth and planets. The specific methods and problems may vary from year to year, tailored to students' interests and needs. A key element of the course is developing the ability to effectively communicate quantitative concepts. This includes presenting the material in a clear and concise manner, both orally and in writing, as well as creating compelling visualizations of quantitative information.
Credit 3 units.

L19 EEPS 5594 Geodynamics
Fundamental physical processes necessary to understand plate tectonics and a variety of geological phenomena. Heat flow, gravity, elasticity and flexure, rheology of Earth materials. Prerequisites: EEPS 353 and Math 217.
Same as L19 EEPS 459
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 5604 Introduction to Structural Geology
The landforms that surround us are being modified constantly by tectonic forces. Structural geology provides a framekwork for investigating, describing, and quantifying these changes. This course provides an introduction to the structures that form at all scales, from millimeter-sized fractures to plate-boundary-scale rifts. Topics

include descriptive analysis of microscopic and macroscopic structures, field methods, the physical basis for rock deformation, and global tectonics. Three hours of lecture and one two-hour laboratory a week. Prerequisites: EEPS 340 and EEPS 353.
Same as L19 EEPS 460
Credit 4 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 561 Advanced Seismology
Advanced treatment of seismology theory and computational methods, including: ray theory, plane waves, cylindrical waves, attenuation, anisotropy, seismic waves in laterally heterogeneous media, surface waves, free oscillations of the earth. Calculation of synthetic seismograms using several methods.
Credit 3 units.

L19 EEPS 564 Multidisciplinary Study of Subduction Zones
Earth is a dynamic planet, and the most geologically hazardous areas on Earth are subduction zones. Activity in subduction zones may be sudden and violent, often with dramatic societal consequences. In addition, subduction zones are crucial for understanding Earth as a planet as they control the circulation of material from the surface back into the mantle. This course is a graduate-level survey intended for students concerned with Earth processes at subduction zones. The course integrates principles of geology, geophysics, geochemistry, experimental petrology, mineral physics, geodynamics, and seismology. It will review the current state of scientific knowledge for subduction on Earth. Topics range from the physics and chemistry of downgoing slabs from the surface to the deep mantle, mantle flow and structure in the wedge, earthquakes and deformation, melting and volcanism at arcs, and the geology of subduction initiation.
Credit 3 units.

L19 EEPS 565 Mantle Geochemistry
This is a graduate-level seminar-style course on fundamentals of mantle geochemistry. The course will use important papers in the scientific literature to introduce key topics in this field, including ocean island basalt and mid-ocean ridge basalt geochemical systematics, crust-mantle chemical exchange, and early Earth processes. The course will provide a foundation for high-temperature geochemical studies of the Earth's interior and a basis for understanding geochemical ties to adjacent disciplines such as geodynamics and seismology. Some introductory lectures will supplement discussions of readings. A substantial portion of the course will involve student-led discussions and development of scientific communication skills.
Credit 3 units.

L19 EEPS 566 Advances in Stable Isotope Geochemistry
The development of non-traditional isotope geochemistry in the past decade has greatly expanded our understanding of many facets of Earth and planetary sciences. Over 1000 papers have been published using non-traditional isotopes to study the origin of the solar system, the formation of planetary bodies, the differentiation of mantle and core, the evolution of the crust, the changes of paleo-climate, the global geochemical cycle of elements, and the genesis of natural resources. This course will survey these new isotope systems in either high-temperature igneous differentiation or low-temperature environments. It aims to help students understand the wide applications of these new isotopes in tracing chemical, biological and physical processes. The course is divided into three parts. Part I will first introduce the principles and theories of non-traditional isotopic fractionation and then it will review analytical methods that are primarily used for non-traditional isotopes such as MC-ICP-MS, TIMS and SIMS. Part II will dive into individual isotopic systems (Li, Mg, Si, Cl, Ca, Fe, Ni, Cu, Zn, Ge, Se, Mo, Hg, Tl and U stable isotopes) and it will focus on one or two of their main applications. Part III will be carried out in the instructor's lab for the last three weeks of the class. The instructor and the students will decide together on the one topic of the final project carried out all class members. The scope of the final project will depend on the students' own research interests and the instructor's role is to help the students to identify useful non-traditional isotope tools to advance the students' main research goals.
Credit 3 units. Arch: NSM Art: NSM

L19 EEPS 567 Planetary Materials
In-depth look at suites of materials from the Moon, Mars, Vesta, and selected other achondrite meteorite groups. Mineralogy, geochemistry, petrography, and petrology of samples and their geologic settings. Relationships between samples and orbital mineralogical and geochemical data. Comparative planetology and origins.
Credit 3 units.

L19 EEPS 568 Scientific Exploration of the Moon
Detailed look at scientific exploration of the Moon, focusing on surface and orbital experiments and results: landers, astronauts, and rover activities, photogeology, surface processes, what has been learned from Apollo exploration and samples, geophysical experiments, petrology and origin of lunar rock suites, impact craters and basins, lunar meteorites, results from recent missions, and plans for future missions. Origin and geologic history of the Moon, potential resources, and the role of the Moon for understanding planetary and solar system processes and history.
Credit 3 units.

L19 EEPS 5680 Geospatial Field Methods
This course is an introduction to field geospatial surveying using high-precision GNSS systems and UVA's (drones) outfitted with a variety of sensors such as cameras, multispectral sensors, and lidar. Coursework will cover basic principles as well as provide hands on experience. Most of the course is project based, and students will complete a series of exercises designed to familiarize them with the effective use of field equipment. Students will design data collection strategies, collect data, and become familiar with data processing pipelines and visualization techniques. After completing the course, students will be prepared to safely and effectively conduct independent GNSS and drone surveys, and use the data for studies in Earth, environmental, and planetary science, archaeology, environmental science, ecology, landscape architecture, urban design, agriculture and a variety of other field-based disciplines. Prerequisites: Previous 300+ level coursework in Earth sciences, archaeology, ecology, or other coursework for which these methods are relevant.
Same as L19 EEPS 468
Credit 3 units. A&S IQ: NSM Art: NSM

L19 EEPS 569 Thermodynamics & Phase Equilibria
Basic equilibrium thermodynamics relevant to geological systems, including derivation of reaction log K as f(T,P) and activity-composition models for various minerals and co-existing gas/fluid phase. These principles are applied to calculation of phase diagrams for simple systems and interpretations of phase relations for more complex systems determined by experiment and topological constraints.
Credit 3 units.

L19 EEPS 570 Planetary Geophysics & Dynamics
Relationships between solar system dynamics and planetary evolution, with emphasis on orbital mechanics, gravity fields of planets and satellites, heat transfer in planetary interiors, and tidal interactions. Topics include resonant orbits and rotation rates, effects of large-body impact, volcanism on Io, and the origin of the Moon.
Credit 3 units.

L19 EEPS 5730 Planetary Geology
Discussion of the evolution of the terrestrial planets and the outer-planet satellites as evidenced by the geologic records left on the surfaces of these bodies. Focus on major processes affecting planetary surfaces:impact cratering, volcanism, tectonism, and erosion and sedimentation by wind and water. Prerequisite: EEPS 353
Same as L19 EEPS 473
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 5744 Planetary Geochemistry
A survey of the geochemistry of the planets and their satellites using data from Earth-based, Earth-orbital, and spacecraft observations.
Same as L19 EEPS 474
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L19 EEPS 576 Advanced Planetary Geology: Ice Worlds
Discussion of icy bodies and terrains in the solar system. Water and other ices as geologic materials, including remote sensing of ices, impacts into ice, cryovolcanism, and ice tectonics. Focus on major satellites of Jupiter and Saturn (Europa, Ganymede, Callisto, and Titan), midsized icy satellites, and the martian polar caps.
Credit 3 units.

L19 EEPS 579 Planetary Stratigraphy and Sedimentation
Geomorphic and geologic mapping approaches for moons and terrestrial planets. Basic methodologies, use of remote sensing and geographic information system technologies for map generation and display. Selected case studies for the Moon, Venus, and Mars that focus on surface processes such as impact, volcanism, and sedimentation.
Credit 3 units.

L19 EEPS 580 Deformation of Planetary Materials
Theoretical bases for brittle and plastic processes, covering all significant planetary materials. Stress and strain, thermodynamics, elasticity, crystalline defects, plastic deformation, microstructures, brittle fracture, rock friction. Applications to geology, geodynamics, seismology, and planetary sciences.
Credit 3 units.

L19 EEPS 585 Earth History
Introduction to the concept of "deep time" and the parallel biological evolutionary and environmental changes that have occurred throughout Earth history. Topics include early evolution of life, rise of atmospheric oxygen, global glaciation, mass extinctions. Prerequisite: EEPS 202
Same as L19 EEPS 385
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L19 EEPS 586 The Earth's Climate System
This course introduces an integrative view of the Earth's climate system and its coupled components - the atmosphere, the oceans, the cryosphere, the biosphere, and the geosphere - and how they interact with each other. The goal is to provide the physical scientific background that is needed to understand climate variability and climate change, both natural and anthropogenic. Topics include energy balance; general circulation of the atmosphere and the oceans; the greenhouse effect; modes of variability such as El Nino; geologic-scale climate change in the geologic past; climate models; climate change detection and attribution; projection of future climates; and societal impacts. In addition to lectures, students will gain hands-on experience analyzing and interpreting real datasets through inquiry-based "practicum" exercises and in-class discussions.
Credit 3 units. Arch: NSM Art: NSM BU: SCI

L19 EEPS 5864 Paleoclimatology
The history of Earth's changing climates and environments on timescales from decades to millions of years. Key concepts in paleoclimatology include: external factors affecting the climate system (e.g., orbital cycles, volcanic eruptions, greenhouse gases); internal feedbacks, such as with monsoons and the El Nino- Southern Oscillation; abrupt versus gradual change; interactions with the biosphere (including hominins/humans); and comparison to present-day climate change. Current controversies in paleoclimate. Pre-requisite EEPS 386
Same as L19 EEPS 486
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L19 EEPS 587 Geospatial Science
This course introduces students to the interdisciplinary field of geospatial science, which bridges the fields of geographic information systems (GIS), remote sensing, data science, and spatiotemporal analysis. This course will provide an overview of the fundamental concepts of geospatial science, including: visualizing and analyzing raster and vector datasets within a GIS database; coordinate systems, reference frames, and projections; the Geoid and geodetic techniques; remote sensing methods; image acquisition and interpretation; spatiotemporal analysis of geospatial data; sampling, interpolation, and time series analysis; uncertainty, error, accuracy, and precision. This course will be available at both the upper-level undergraduate and the graduate levels. Material will be covered through lectures, assignments, and computer exercises that will give students hands-on experience analyzing and interpreting real geospatial datasets. Exercises for students enrolled in the 587 option will be more in-depth and will require some basic programming experience and familiarity with quantitative techniques. These exercises will provide students with a sampling of geospatial science applications, such as environmental studies, cryospheric science, wildlife management, contagious disease monitoring, demography, and human geography. Students will complete a final project of their choosing that synthesizes the concepts and themes learned in this course; students enrolled in the 587 option are encouraged to develop a project proposal that aligns with their own research interests. Students particularly interested in GIS and remote sensing are further encouraged to also consider EnSt 380 and EEPS 407, respectively.
Same as L19 EEPS 387
Credit 4 units. A&S IQ: NSM, AN

L19 EEPS 590 Independent Study
Independent study for graduate students, supervised by a faculty member. Prerequisite: graduate standing and permission of instructor.
Credit variable, maximum 12 units.

L19 EEPS 592 Research
Individual research work under the direct supervision of a faculty member. Open only to graduate students. May be repeated for credit.
Credit variable, maximum 12 units.

L19 EEPS 595 Seminar
Weekly discussions to orient first-year students to graduate school. Topics to be covered include an introduction to the Department, program requirements, time management, working with a supervisor, ethics, the scientific literature, written and oral communication skills, scientific publishing, grant writing, and professional development. Required for all first-year graduate students in EEPS.
Credit variable, maximum 1 units.

Earth, Environmental, and Planetary Sciences, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36**
- **Degree Length: Five years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

PhD in Earth, Environmental, and Planetary Sciences

The degree requirements for a PhD in Earth, Environmental, and Planetary Sciences are intended to ensure that all students develop independence and originality of thought and that they acquire knowledge of sufficient breadth and depth to be scientific leaders in the field. Students are required to complete eight courses, five of which must be taken in the Department of Earth, Environmental, and Planetary Sciences. Students entering with an AM degree in a closely related field may waive two of these course requirements if approved by the faculty.

Students begin research early in the program, completing a small project during their second semester. At this time, each student selects a faculty member to serve as their major advisor as well as two additional faculty members to provide further guidance; these three faculty members comprise the student's Research Advisory Committee. During their second year, students continue their research as they work toward the oral examination that occurs at the end of their second year, which requires the preparation of a research paper, an oral presentation of research results, and a question-and-answer session with the student's Research Advisory Committee. Students are also required to obtain experience in teaching during their studies. The PhD program culminates in the writing of a dissertation and its defense in an oral presentation.

Required Courses

It is recognized that students entering the program will bring a diverse background in their undergraduate course work. An adequate general foundation would be three semesters of calculus, a year of general physics, and a year of general chemistry; prior course work in biology is encouraged for students interested in the field of geobiology. Students have been successful in the program, depending on their discipline interests, with less than this level of preparation; however, two semesters of calculus constitutes a minimum mathematics background to be successful in the program. The first-year advisor and the Research Advisory Committee will determine a student's needs in physics, math, chemistry, and other fields and provide advice and direction on the means of removing deficiencies.

Students with no prior course work in Earth and planetary sciences are required to enroll in EEPS 202 Introduction to Earth, Environmental, and Planetary Science and EEPS 202L Introduction to Earth, Environmental, and Planetary Science Lab Section. Enrollment in EEPS 202 Introduction to Earth, Environmental, and Planetary Science will not fulfill a course requirement for the PhD or AM degrees. The PhD program is flexible in its course work requirement. It is not intended that a student will repeat her or his undergraduate experience. Those students with a strong background in Earth, environmental, and planetary sciences will be able to concentrate on research at a relatively early stage in the program.

The department requires the completion of eight courses, at least five of which must be in EEPS. All EEPS courses taken must be at the 500 level or above. For students entering without a degree in Earth, environmental, and planetary sciences or a closely-related field, EEPS 340 Minerals, Rocks, Resources and the Environment or EEPS 353 Earth Forces taken by enrolling in EEPS 590 Independent Study, will fulfill EEPS course requirements with advisor approval. In all other cases, EEPS 590 Independent Study will not meet a course requirement; EEPS 592 Research and EEPS 595 Seminar also do not fulfill course requirements. Courses taken outside the department are expected to be in the areas of science, mathematics, or engineering.

The student selects courses in consultation with her or his advisor and the Research Advisory Committee. The student and the advisor are responsible for ensuring that the selected courses provide breadth and depth of knowledge needed for the student to conduct graduate research and successfully finish the graduate program.

Students entering the graduate program who have previously received a master's degree in Earth, environmental, and planetary sciences or a closely related field may petition to waive up to two of the five required EEPS courses. This petition may be submitted no earlier than the second semester in residence and should contain a justification for the number of courses to be waived that identifies how previous course work is similar to that offered by the department. The waiver must be endorsed by the student's Research Advisory Committee and forwarded to the Director of Graduate Studies. The petition will then be considered for approval by the Graduate Studies Committee.

Code	Title	Units
EEPS 592	Research	variable; max. 12

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts &

Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Academic Performance

All students are expected to maintain satisfactory academic performance as defined on the Academic Information page (p. 33) of this *Bulletin.* This includes completing all PhD requirements except for the dissertation by the fourth year; maintaining a cumulative grade point average of at least 3.0 with a 3.0 or better in all courses (excluding courses taken through the English Language Program); not carrying at one time more than 9 semester hours for which grades I, X, or N are recorded; and submission of a dissertation proposal — in the form of a completed Title, Scope, and Procedure Form — before beginning the ninth semester (fifth year) of continuous enrollment. The department imposes additional criteria:

- Students are expected to maintain a cumulative grade point average of 3.0 or higher exclusive of hours taken for research (EEPS 592 Research).
- Students are expected to take and successfully pass the oral examination by July 31 of their second year.
- Students are expected to make timely progress toward degree completion through the conduct of scientific research and the production of scholarly work (for example, peer-reviewed journal articles, conference presentations) at the level of excellence expected of a Washington University PhD.
- Students are expected to complete the requirements of mentored teaching experiences.
- Students in the third year and beyond are expected to hold annual review meetings with the Research Advisory Committee.

Students who do not maintain satisfactory academic progress may be put on probation or, in rare cases, face dismissal as described in the department's Plan for Supervising Academic Progress and the Office of Graduate Studies in Arts & Sciences Policy on Probation and Dismissal for Academic Reasons.

Funding

Graduate students have guaranteed secured funding for five years. The maximum duration for financial support by any of the funding sources administered by the department is normally as follows:

- For AM Candidates: Four semesters
- For PhD Candidates: 10 semesters

For PhD students, support provided by the Office of Graduate Studies is not available after 10 semesters in the program, although support may be provided through research grants or other resources if available. AM students are not eligible for financial support after four semesters in the program. Tuition scholarships are provided by the Office of Graduate Studies for up to 72 units of graduate-level course work. Most financial awards, including the financial aid administered by the department, are contingent on the maintenance of satisfactory academic progress.

Website:	https://eeps.wustl.edu/

East Asian Languages and Cultures

The Department of East Asian Languages and Cultures (EALC) offers advanced degrees in the modern and traditional literatures and cultures of East Asia based on substantial knowledge of at least one East Asian language (Chinese, Japanese, or Korean). Students may specialize in one linguistic tradition or pursue transcultural or multidisciplinary studies. EALC offers the **Master of Arts (AM) in East Asian Languages and Cultures** as well as the **Doctor of Philosophy (PhD) in East Asian Languages and Cultures** and the **Joint PhD in East Asian and Comparative Literatures.**

The goal of these programs is to produce scholars who are well trained in their chosen languages, firmly grounded in the relevant linguistic and literary traditions, and thoroughly conversant with the critical discourses (indigenous and Western) relevant to their fields. With research strengths that cover modern and premodern literary studies, gender and sexuality, translation, material culture, identity, digital humanities, and more, our internationally recognized faculty is poised to offer graduate students careful and consistent mentoring. By admitting only a select number of graduate students each year, our programs allow for individualized guidance. After completing these programs at the PhD level, candidates have extended firsthand exposure to the modern societies whose languages, literatures, and cultures they study as well as significant teaching experience in both language and literature or culture classes.

Phone:	314-935-4448
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Faculty

Chair

Lingchei Letty Chen
Professor of Modern Chinese Language and Literature
PhD, Columbia University

Director of Graduate Studies

Ji-Eun Lee
Associate Professor of Korean Language and Literature
PhD, Harvard University

Director of Undergraduate Studies

Mijeong Mimi Kim
Teaching Professor of Korean Language
EdD, University of San Francisco

Department Faculty

Jianqing Chen
Assistant Professor of East Asian Languages and Cultures and of Film and Media Studies
PhD, University of California, Berkeley

Jiayi Chen
Assistant Professor of East Asian Languages and Cultures
PhD, University of Chicago

Wenhui Chen
Senior Lecturer in Chinese Language
MA, National Taiwan Normal University

Hea-Young Chun
Lecturer in Korean Language
MA, Seoul National University

Rebecca Copeland
Professor of Japanese Language and Literature
PhD, Columbia University

Beata Grant
Professor Emeritas
PhD, Stanford University

Robert Hegel
Professor Emeritus
PhD, Columbia University

Hyeok Hweon Kang
Assistant Professor of East Asian Languages and Cultures
PhD, Harvard University

Taewoong Kim
Lecturer in Korean Language
PhD, The University of Oklahoma

Jiyoon Lee
Lecturer in Korean Language
MA, University of Oregon, Eugene

Xia Liang
Teaching Professor of Chinese Language
MA, Beijing Normal University

Jue Lu
Lecturer in Chinese Language
PhD, Washington University in St. Louis

Zhao Ma
Associate Professor of Modern Chinese History and Culture
PhD, Johns Hopkins University

Marvin H. Marcus
Professor Emeritus
PhD, University of Michigan

Virginia S. Marcus
Professor of Practice Emerita of Japanese Language
MA, University of Michigan, New York University

Ayami Morita
Lecturer in Japanese Language
MA, University of Wisconsin-Madison

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PhD, Columbia University

Ke Nie
Senior Lecturer in Chinese Language
MA, Capital Normal University

Alessandro Poletto
Lecturer in East Asian Religions
PhD, Columbia University

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Lecturer in Japanese Language
MA, Purdue University

Ayuka Suemasa
Lecturer in Japanese Language
MA, University of Utah

Jingyi Wang
Senior Lecturer in East Asian Languages and Cultures
MA, Capital Normal University

Wei Wang
Teaching Professor of Chinese Language
PhD, Washington University in St. Louis

Mano Yasuda
Lecturer in Japanese Language
PhD, The University of Oklahoma

Degree Requirements

- East Asian and Comparative Literatures, PhD (p. 201)
- East Asian Languages and Cultures, AM (p. 203)
- East Asian Languages and Cultures, PhD (p. 204)

Courses

Courses include the following:

- East Asian Languages and Cultures (p. 194)
- Chinese (p. 196)
- Japanese (p. 197)
- Korean (p. 199)

East Asian Languages and Cultures

Visit online course listings to view semester offerings for L81 EALC.

L81 EALC 500 Independent Study
Prerequisites: senior or graduate level or permission of instructor or department. May be repeated.
Credit variable, maximum 3 units.

L81 EALC 520 Practicum in Literary Translation
The aim of this course is to enable advanced students of Japanese literature to improve their translation skills. Instruction, which rotates among the members of the Japanese literature faculty, entails the translation of a series of selected texts, including fiction, poetry, and essay. Students present their weekly translations for classroom discussion and critique. While focus is on the technical and stylistic problems presented by each text, students explore larger theoretical and methodological issues raised in the secondary literature. The major course requirement is the completion of a substantial translation project of publishable quality--presumably in the area of the student's specialization. This course is intended for graduate students in Japanese literature, but other students with sufficient preparation and interest may be admitted with permission of the instructor. Prerequisite: graduate level or permission of instructor.
Same as L05 Japan 520
Credit 3 units.

L81 EALC 525 Topics in Religion and Culture in East Asia: Women, Confucianism and Buddhism in East Asia
This reading seminar introduces students to texts on and by women in East Asia from the earliest extant writings to the nineteenth century. Texts covered in the first half of the course include philosophical and doctrinal writings that deal with the role of women in society, their fitness for self-cultivation, and their access to salvation. The second part of the course focus is on narrative texts, memoirs and diaries that portray women or that were written by women, drawn from the literary traditions of China, Korea and Japan. Some of the issues students will grapple with are: Are Confucianism and Buddhism, some of the great intellectual traditions of East Asia, inherently misogynistic? Or can they function as liberating forces for women in their search for agency and meaning? More broadly, how can boundaries and constraints contribute to self-cultivation, growth, and even salvation? Previous coursework on East Asia and/or Buddhism is strongly recommended, but no prior knowledge of Chinese, Korean, or Japanese language is required. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: junior level or above or permission of instructor.
Same as L81 EALC 425
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L81 EALC 530 Topics in Chinese Media Culture
Topics course in Chinese media culture. Subject matter varies by semester; consult current semester listings for topic.
Same as L81 EALC 430
Credit 3 units. A&S IQ: LCD BU: IS EN: H

L81 EALC 537 Contemporary Korean I: Language, History, and Musical Culture
This is an advanced to high-advanced level Korean course in standard modern Korean. Emphasis is placed on developing an advanced level of reading proficiency in Korean and writing ability in Korean for an academic or professional purpose. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L51 428 (grade of B- or better) or permission of instructor.
Same as L51 Korean 437
Credit 3 units. A&S IQ: LCD, LS BU: IS EN: H

L81 EALC 5410 Seminar in Korean Literature and Culture: Major Works
As a course intended primarily for graduate students, this course will examine debates and current issues in the field of Korean literature. While we read extensively on recently published monographs as well as some classics in the field, primary focus is on the modern era. Topics will include empire and colonialism, postcoloniality, translation, history and politics in literature, gender, and conditions of literary and artistic production.Reading knowledge of Korean is recommended but not required. Students without any prior background in Korean literature and/or history should consult with the instructor before registration. Prerequisite: graduate level or instructor's approval.
Credit 3 units.

L81 EALC 546 The Japanese Theater
This course is an investigation, using English materials, of the major developments and forms of the Japanese theater, from Noh and its antecedents to the rise of a modern drama. While less concerned with the performative aspects of theatrical arts (though these will be introduced via videos), emphasis is placed on the ways in which dramatic texts influenced and borrowed from the literary tradition. Readings are from major theatrical texts, secondary studies on Japanese theater, and literary sources. Prerequisite: junior level or above or permission of instructor.
Same as L05 Japan 446
Credit 3 units. A&S IQ: HUM, LCD, SD Art: HUM EN: H

L81 EALC 5491 Modern Japanese Women Writers
Japanese women have been scripted by Western (male) imagination as gentle, self-effacing creatures. From their (re)emergence in the late 19th century to their dominance in the late 20th, Japanese women writers have presented an image of their countrywomen as anything but demure. Struggling to define their voices against ever-shifting expectations and social contexts, the women they create in their fiction are valiant, if not at times violent. This course examines the various manifestations of the female image in female-authored modern Japanese fiction. Writers considered are Higuchi Ichiyo, Hirabayashi Taiko, Uno Chiyo, Enchi Fumiko, Yamada Eimi, and others. A selection of novels and shorter fiction are available in English translation, and students need not be familiar with Japanese. Prior coursework in literature/women's studies may be helpful. Prerequisite: junior level or above or permission of instructor.
Same as L05 Japan 4491
Credit 3 units. A&S IQ: HUM, LCD, SD EN: H

L81 EALC 550 Masterworks of Early Japanese Literature: The Tale of Genji and its Afterlives
This course is an intensive study of one of the central texts of classical Japanese literature. Selection of texts rotate among works including: The Tale of Genji, court diaries, poetry anthologies, Noh drama, The Tale of the Heike, setsuwa collections, and medieval memoirs. In addition to exploring the historical, literary, and cultural significance of the work from its genesis to the present age, students engage in a close reading of the text and an investigation of the primary theoretical

issues and approaches associated with the work both in Japan and abroad. Prior knowledge of early Japanese literature or history is recommended. Texts will be read in English translation. Prerequisite: junior level or above or permission of instructor.
Same as L05 Japan 450
Credit 3 units. A&S IQ: HUM, LCD EN: H

L81 EALC 5520 Studiolab: Knowing Through Objects: The World of an Antique Chinese Wedding Bed
Beds facilitates sleep and relaxation. Across cultures, beds marked social status and drew scrutiny from reformers interested in questions of gender, family, and sexuality. A historical bed might also capture other meanings: its pathways through production, circulation, and consumption illuminates global trading networks. It might allow us to imagine the transmission of craft knowledge, wealth accumulation (or dissipation), and social mobility. The class investigates and restores an antique Chinese wedding bed. This class will combine digital tools with humanistic research methods to facilitate a cultural history that engage questions of intimacy, nuptials, curation and conservation, and trade and cultural exchanges. Prerequisite: graduate standing
Credit 3 units.

L81 EALC 554 Seminar on East Asian Print Culture and Society: Women in Print
This team-led seminar examines developments in the history of publishing and reading in Japan, Korea, and to some extent China from the 17th to the 20th centuries, with particular attention to material that focuses on women as readers or as objects of discourse. Specific topics include periodicals and books written for, about, and by women; the role of print and publishing in early modern and modern construction of gender roles; literacy, education, and habits of reading; the role of women readers and female-targeted publications in the development of literary culture. The course will consider both commonalities and divergences in the construction of women as readers in each country in light of their interrelated but distinct historical and cultural conditions. The course will also include an introduction to digital humanities scholarship. Common readings will be in English, but seminar participants who are able to use Japanese or Korean sources will be expected to do so. Prerequisite: graduate standing or permission of instructors.
Credit 3 units.

L81 EALC 555 Topics in Korean Literature and Culture: Global Korean Music through a Cultural Lens
Topics course in Korean literature and culture; subject varies by semester. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: junior level or above or permission of instructor.
Same as L51 Korean 455
Credit 3 units. A&S IQ: LCD EN: H

L81 EALC 562 Special Topic in Modern Chinese Literature: Representation and Forgetting of the Mao Years
This course explores how generational memory functions in a narrative of trauma and how the signification of such interplay bears witness to historical calamities such as the Anti-Rightist Movement (1957-1959), the Great Leap Forward and the Great Famine (1958-1962), and the Cultural Revolution (1966-1976) of the Mao era in China. The course explores the possibility of a new interpretive framework that reads post-Mao literary works through the lens of generational memory of historical trauma. Students will tackle primary texts including fictional works, memoirs, reportage, documentaries, and films produced in post-Mao China, from the late 1970s onward. Students will read memory theories developed by Paul Ricoeur, Marc Augé, Marianne Hirsch, among others. A few questions that will be asked throughout the course: Who remember and why do they remember? How does the distance of time affect the perception of perpetration by the perpetrators themselves, by victims, and by outsiders looking in? What are the ethical implications and concerns of artistic representation of the agents of suffering and their infliction of cruelty? And finally, we will explore the idea of "archaeology of memory" as a means to reflect on the ethics of remembering and forgetting in today's memory production of the Mao years. All primary materials will be in their original Chinese language. This seminar is designed for graduate students only. Undergraduate students who wish to take this course must have approval of the instructor prior to registration. Prerequisite: graduate level or permission of instructor.
Same as L04 Chinese 562
Credit 3 units.

L81 EALC 564 Japanese Textual Analysis
This course introduces the advanced student of Japanese to a variety of prose narratives in the modern language. Readings, which include literary texts and topical essays on aspects of Japanese society and culture, reflect the needs and interests of the enrolled students. Focus is on close reading and syntactic analysis of the selected texts. Regular translation exercises gauge the mastery of grammar, syntax, and idiomatic usages. All readings are in Japanese, with class discussion conducted predominantly in English. A final translation project, to be chosen by the student in consultation with the instructor, is required. Prerequisite: permission of instructor.
Same as L05 Japan 464
Credit 3 units. A&S IQ: LCD EN: H

L81 EALC 567 Seminar in the Literature of Japan: Uno Chiyo and the Arc of Modernity
Uno Chiyo (1897-1996) was a writer, notorious femme fatale, magazine editor, fashion arbiter, and kimono designer. Her fiction offers a unique perspective on the historical sweep of the 20th century. In this course students will explore the different facets of "modernity" in Japanese literature through an overview of Uno's life and works. Topics include "the modern girl," "mass culture," and "tradition and nostalgia." Whereas Uno Chiyo will be the primary focus of the course, students will also examine the works of her contemporaries, such as Tanizaki Jun'ichirô, Kajii Motojirô, Kawabata Yasunari, Hirabayashi Taiko, and others. Readings will be in both Japanese and English. Accommodations will be made for those who do not read Japanese. Prerequisite: graduate level or permission of instructor.
Same as L05 Japan 567
Credit 3 units.

L81 EALC 5710 Topics in Japanese Culture
Topics course on Japanese culture. Subject matter varies by semester; consult current semester listings for topic.
Same as L81 EALC 4710
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L81 EALC 5750 Worldviews, World-Building, and World Literature: New Approaches to Chinese Literature (1500-1900)
This course explores how the multivalent notion of "world" creates new approaches for studying Chinese literature from the 16th century up to the early 20th century. It will consider the following questions: How did the Chinese people perceive, map, and write about the world prior to modernity? What are the strategies to construct fictional, virtual, or gameful worlds through literature and other media? How and why should we position Chinese literature as world literature? Issues covered in this course include premodern worldviews, literary and transmedia world-building, multilingualism, adaptation, and translation. One primary goal of this course for students is to learn how to critically apply theories from narratology, media studies, and comparative literature to study Chinese literature. To this end, the

first session will focus on a particular piece of theoretical work or relevant secondary scholarship, and in the second session students will conduct a case study with selected primary sources to practice employing, questioning, and complicating those theories and methods. All readings will be provided in English. Students with classical and modern Chinese skills will be encouraged to read materials in the original to the extent possible. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisites: junior level or above or permission of instructor.
Same as L81 EALC 4750
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L81 EALC 591 Thesis Research
Thesis research for master's student
Credit variable, maximum 6 units.

L81 EALC 592 Dissertation Research
Dissertation research for PhD students
Credit variable, maximum 6 units.

L81 EALC 596 Guided Readings in East Asian Languages and Cultures
Prerequisite: senior or graduate level or permission of instructor. May be repeated once.
Same as L81 EALC 496
Credit variable, maximum 3 units.

Chinese

Visit online course listings to view semester offerings for L04 Chinese.

L04 Chinese 500 Independent Study
Prerequisite: senior or graduate level, and permission of the instructor. May be repeated for credit.
Credit variable, maximum 3 units.

L04 Chinese 520 Third-Level Modern Chinese I
This course is an intermediate-advanced level modern Chinese language course, which is designed to help students achieve greater proficiency in the oral and written use of the language through reading, listening, speaking and writing. More attention will be concentrated on developing the natural flow of the language, expanding vocabulary, and producing written Chinese of paragraph length. It aims at transitioning from spoken language to formal language styles. Content covered includes contemporary China's social livelihood, changes since China's Reform and Opening, as well as various aspects of people's lives, such as pollution, transportation infrastructure, urban-rural gap, market economy and consumer products. Undergraduates enroll in the 300-level section; 500-level section is for graduate students only. Prerequisite: L04 212 (grade of B- or better) or placement by examination.
Same as L04 Chinese 360
Credit 4 units. A&S IQ: LCD, LS BU: HUM EN: H

L04 Chinese 5210 Third-Level Modern Chinese II
This course is the continuation of L04 360 Third Level Modern Chinese I. More attention will be concentrated on improving the natural flow of the language, expanding vocabulary, and producing written Chinese of essay length. The content of this course will cover contemporary China's social livelihood, changes since China's Reform and Opening, as well as various aspects of people's lives, such as transportation infrastructure, corruption issues, education problems in China, and the spiritual and cultural life of the Chinese people etc. Undergraduates enroll in the 300-level section; 500-level section is for graduate students only. Prerequisite: L04 360 (grade of B- or better) or placement by examination.
Same as L04 Chinese 361
Credit 4 units. A&S IQ: LCD, LS BU: HUM EN: H

L04 Chinese 5270 Fourth-Level Modern Chinese I
This course is designed for students who have successfully completed Third-Year Chinese or the equivalent. Based on their existing Chinese proficiency level, students will receive further training in all four language skills: listening, speaking, reading, and writing. The regular textbook will be supplemented with writings from Chinese newspapers, magazines, internet sources, and films. By the end of two semesters, students are expected to express themselves both orally and in written form on a variety of topics in humanities in depth and in a culturally appropriate manner. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L04 361 or L04 421 (grade of B- or better) or placement by examination.
Same as L04 Chinese 427
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L04 Chinese 5280 Fourth-Level Modern Chinese II
This course is a continuation of L04 427. Based on their existing Chinese proficiency level, students will receive further training in all four language skills: listening, speaking, reading, and writing. The texts are authentic materials from Chinese newspapers, magazines, internet sources, and films. Topics include changes in social values, technology and life, public policies, and popular culture etc. By the end of this semester, students are expected to conduct in-depth discussions on social issues and produce eight hundred-character essays. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L04 427 (grade of B- or better) or placement by examination.
Same as L04 Chinese 428
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L04 Chinese 5360 Methods and Materials for Research on Early Modern China
This seminar provides an introduction for graduate students to the methods and materials used in conducting research on early modern (or late imperial) China. Lectures, discussions, and exercises will present fundamental paradigms and problems specific to the study of early modern China, as well as familiarizing students with the vast body of print and web-based research tools necessary to work with original texts in Chinese. We will also explore how social, cultural, and literary historians have used various texts in their scholarly works. Students will be encouraged to use the course to pursue individual research interests as they explore the broader contexts, approaches, and questions central to the study of early modern China and introduces graduate students to important recent scholarly literature on the history of early modern (essentially Ming and Qing) Chinese history.
Same as L22 History 5360
Credit 4 units.

L04 Chinese 5426 Modern & Contemporary Chinese Art
This course will explore the ways in which Chinese artists of the 19th, 20th, and 21st centuries have defined modernity and tradition against the complex background of China's history. By examining art works in different media along with other documentary materials, we will also engage with theoretical issues in art history, such as modernity, cultural politics, and government control of art.
Same as L01 Art-Arch 3426
Credit 3 units. A&S IQ: HUM, LCD Art: AH, GFAH, HUM BU: HUM, IS EN: H

L04 Chinese 5600 Fifth-Level Modern Chinese I
This content-based language course is designed for advanced students expecting to improve their skills through conversation, reading and writing of essays, stories, and other types of creative writings in Chinese. The reading material consists of a variety of authentic literature texts (1930s to 2000s), including short stories, prose, and poetry. Narration and description are emphasized in both spoken and written forms. After taking this course, students will be familiar with masterpieces of contemporary Chinese literature and representative writers. In addition, students are expected to produce their own creative writings. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L04 428 or L04 411 (grade of B- or better) or placement by examination or by instructor's permission.
Same as L04 Chinese 460
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L04 Chinese 562 Special Topic in Modern Chinese Literature: Representation and Forgetting of the Mao Years
This course explores how generational memory functions in a narrative of trauma and how the signification of such interplay bears witness to historical calamities such as the Anti-Rightist Movement (1957-1959), the Great Leap Forward and the Great Famine (1958-1962), and the Cultural Revolution (1966-1976) of the Mao era in China. The course explores the possibility of a new interpretive framework that reads post-Mao literary works through the lens of generational memory of historical trauma. Students will tackle primary texts including fictional works, memoirs, reportage, documentaries, and films produced in post-Mao China, from the late 1970s onward. Students will read memory theories developed by Paul Ricoeur, Marc Augé, Marianne Hirsch, among others. A few questions that will be asked throughout the course: Who remember and why do they remember? How does the distance of time affect the perception of perpetration by the perpetrators themselves, by victims, and by outsiders looking in? What are the ethical implications and concerns of artistic representation of the agents of suffering and their infliction of cruelty? And finally, we will explore the idea of "archaeology of memory" as a means to reflect on the ethics of remembering and forgetting in today's memory production of the Mao years. All primary materials will be in their original Chinese language. This seminar is designed for graduate students only. Undergraduate students who wish to take this course must have approval of the instructor prior to registration. Prerequisite: graduate level or permission of instructor.
Credit 3 units.

L04 Chinese 567 The Chinese Theater
This course is a survey of the performance and literary traditions of the Chinese theater from their pre-Tang origins to the present day. The course focuses on three forms: 14th-century zaju plays, 16th- and 17th-century chuanqi plays, and recent films from China, Taiwan, and Hong Kong. Background in either China studies or theater in other cultures recommended. Prerequisite: junior level or above or permission of instructor
Same as L04 Chinese 467
Credit 3 units. A&S IQ: HUM, LCD, SD Arch: HUM Art: HUM EN: H

L04 Chinese 591 Thesis Research
Must be a current M.A. student in good standing.
Credit variable, maximum 6 units.

L04 Chinese 592 Dissertation Research
Must be a current Ph.D. student in good standing.
Credit variable, maximum 6 units.

L04 Chinese 598 Guided Readings in Chinese
This course is normally taken after successful completion of L04 428. Prerequisite: senior or graduate level or permission of instructor. May be repeated once.
Same as L04 Chinese 498
Credit variable, maximum 3 units.

Japanese

Visit online course listings to view semester offerings for L05 Japan.

L05 Japan 500 Independent Work
Prerequisites: senior or graduate level or permission of instructor or department. May be repeated.
Credit variable, maximum 3 units.

L05 Japan 512 Third-Level Modern Japanese I
This is the first semester of an academic-year course in pre-advanced Japanese. The course emphasizes the acquisition of all four language skills (listening, speaking, reading, and writing) through meaningful communication. Various projects will be assigned throughout the semester in addition to the course readings, conversation exercises and class discussion. After completing this course, students are able to communicate in Japanese in a linguistically and culturally appropriate manner, to read semi-authentic materials more extensively on topics about Japanese culture, and gather information about the topics of their interest by using a variety of resources. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L05 214 (grade of B- or better) or placement by examination. Credit 4 units for undergraduates, 3 units for graduate students.
Same as L05 Japan 412
Credit variable, maximum 4 units. A&S IQ: LCD, LS BU: HUM EN: H

L05 Japan 513 Third-Level Modern Japanese II
This is the second semester of an academic-year course in pre-advanced Japanese. The course emphasizes the acquisition of all four language skills (listening, speaking, reading, and writing) through meaningful communication. Various projects will be assigned throughout the semester in addition to the course readings, conversation exercises and class discussion. After completing this course, students are able to communicate in Japanese in a linguistically and culturally appropriate manner, to read semi-authentic materials more extensively on topics about Japanese culture, and gather information about the topics of their interest by using a variety of resources. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L05 412 (grade of B- or better) or placement by examination. Credit 4 units for undergraduates, 3 units for graduate students.
Same as L05 Japan 413
Credit variable, maximum 4 units. A&S IQ: LCD, LS BU: HUM EN: H

L05 Japan 520 Practicum in Literary Translation
The aim of this course is to enable advanced students of Japanese literature to improve their translation skills. Instruction, which rotates among the members of the Japanese literature faculty, entails the translation of a series of selected texts, including fiction, poetry, and essay. Students present their weekly translations for classroom discussion and critique. While focus is on the technical and stylistic problems presented by each text, students explore larger theoretical and methodological issues raised in the secondary literature. The major course requirement is the completion of a substantial translation project of publishable quality--presumably in the area of the student's

specialization. This course is intended for graduate students in Japanese literature, but other students with sufficient preparation and interest may be admitted with permission of the instructor. Prerequisite: graduate level or permission of instructor.
Credit 3 units.

L05 Japan 537 Proseminar: Methods and Materials Used in Conducting Research in Japanese Studies
This course provides an introduction for graduate students to the methods and materials used in conducting research in Chinese and Japanese studies. The course will present fundamental paradigms and problems specific to the study of East Asian languages, literatures, and cultures as well as familiarize students with the vast body of print and web-based research tools necessary to work with original texts in Chinese and Japanese from all periods. Students are encouraged to use the course to pursue individual research interests as they explore the broader contexts, approaches, and questions central to the study of East Asian cultures. Guest lectures by faculty and librarians in East Asian subjects. Prerequisite: graduate level or permission of instructor.
Credit variable, maximum 3 units.

L05 Japan 546 The Japanese Theater
This course is an investigation, using English materials, of the major developments and forms of the Japanese theater, from Noh and its antecedents to the rise of a modern drama. While less concerned with the performative aspects of theatrical arts (though these will be introduced via videos), emphasis is placed on the ways in which dramatic texts influenced and borrowed from the literary tradition. Readings are from major theatrical texts, secondary studies on Japanese theater, and literary sources. Prerequisite: junior level or above or permission of instructor.
Same as L05 Japan 446
Credit 3 units. A&S IQ: HUM, LCD, SD Art: HUM EN: H

L05 Japan 5491 Modern Japanese Women Writers
Japanese women have been scripted by Western (male) imagination as gentle, self-effacing creatures. From their (re)emergence in the late 19th century to their dominance in the late 20th, Japanese women writers have presented an image of their countrywomen as anything but demure. Struggling to define their voices against ever-shifting expectations and social contexts, the women they create in their fiction are valiant, if not at times violent. This course examines the various manifestations of the female image in female-authored modern Japanese fiction. Writers considered are Higuchi Ichiyo, Hirabayashi Taiko, Uno Chiyo, Enchi Fumiko, Yamada Eimi, and others. A selection of novels and shorter fiction are available in English translation, and students need not be familiar with Japanese. Prior coursework in literature/women's studies may be helpful. Prerequisite: junior level or above or permission of instructor.
Same as L05 Japan 4491
Credit 3 units. A&S IQ: HUM, LCD, SD EN: H

L05 Japan 550 Masterworks of Early Japanese Literature: The Tale of Genji and its Afterlives
This course is an intensive study of one of the central texts of classical Japanese literature. Selection of texts rotate among works including: The Tale of Genji, court diaries, poetry anthologies, Noh drama, The Tale of the Heike, setsuwa collections, and medieval memoirs. In addition to exploring the historical, literary, and cultural significance of the work from its genesis to the present age, students engage in a close reading of the text and an investigation of the primary theoretical issues and approaches associated with the work both in Japan and abroad. Prior knowledge of early Japanese literature or history is recommended. Texts will be read in English translation. Prerequisite: junior level or above or permission of instructor.
Same as L05 Japan 450
Credit 3 units. A&S IQ: HUM, LCD EN: H

L05 Japan 554 Seminar on East Asian Print Culture and Society: Women in Print
This team-led seminar examines developments in the history of publishing and reading in Japan, Korea, and to some extent China from the 17th to the 20th centuries, with particular attention to material that focuses on women as readers or as objects of discourse. Specific topics include periodicals and books written for, about, and by women; the role of print and publishing in early modern and modern construction of gender roles; literacy, education, and habits of reading; the role of women readers and female-targeted publications in the development of literary culture. The course will consider both commonalities and divergences in the construction of women as readers in each country in light of their interrelated but distinct historical and cultural conditions. The course will also include an introduction to digital humanities scholarship. Common readings will be in English, but seminar participants who are able to use Japanese or Korean sources will be expected to do so. Prerequisite: graduate standing or permission of instructors.
Same as L81 EALC 554
Credit 3 units.

L05 Japan 5549 Histories of the Japan Archipelago
This course seeks to provide graduate students with an understanding of the sweep of the Japanese past, from the early modern period through the twenty-first century. Students will engage in several key debates in Japanese historiography and learn how scholars of Japan have drawn on and contributed to important methodologies. This course is ideal for graduate students who plan to cultivate Japanese history as an area of research and teaching expertise, and who intend to use Japanese history as one of the three fields necessary for completing the qualifying exams required by the Department of History. Advanced undergraduates with an interest in the topic should contact the instructor for permission to enroll.
Same as L22 History 5549
Credit 4 units.

L05 Japan 558 Fourth-Level Modern Japanese I
This is the first semester of an academic-year course in advanced Japanese. The course emphasizes the acquisition of linguistic, pragmatic, and sociocultural competence in all four areas of the language as well as advanced level critical thinking skills. In addition to the textbook, more authentic materials such as movie clips, newspaper articles, etc. are selected for readings and discussion topics. Students will be assigned several projects in accordance with the interests and needs of participating students. After completing the course, students are able to manage various speaking styles according to the situational/relational context and express their opinions clearly and logically in speaking and writing. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L05 413 (grade of B- or better) or placement by examination.
Same as L05 Japan 458
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L05 Japan 559 Fourth-Level Modern Japanese II
This is the second semester of an academic-year course in advanced Japanese. The course emphasizes the acquisition of linguistic, pragmatic, and sociocultural competence in all four areas of the language as well as advanced level critical thinking skills. In addition to the textbook, more authentic materials such as movie clips, newspaper articles, etc. are selected for readings and discussion topics. Students will be assigned several projects in accordance with the interests and needs of participating students. After completing the course, students are able to manage various speaking styles according to the situational/

relational context and express their opinions clearly and logically in speaking and writing. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L05 458 (grade of B- or better) or placement by examination.
Same as L05 Japan 459
Credit 3 units. A&S IQ: LCD, LS EN: H

L05 Japan 560 Pre-Modern Japanese I
The language referred to as classical Japanese (or literary Japanese, kobun, kogo, bungo, bungotai, etc.) was in use from the Heian period to the 20th century, and traces of it remain even in modern Japanese. This course gives students a systematic introduction to the grammar of bungo, through readings in texts from the Heian and medieval periods. By the end of the semester students should be able to read reasonably straightforward passages of bungo with a dictionary. They will also have a deeper understanding of the grammar and structure of modern Japanese, and will become more skilled at using Japanese-Japanese dictionaries. Readings are drawn from Japanese classical literary texts using materials from standard modern annotated editions. Prerequisite: L05 412-413, or concurrent registration.
Same as L05 Japan 460
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L05 Japan 561 Seminar in the History and Literature of Japan: Meiji-Taisho Literary Survey
This seminar will explore representative literary texts of the Meiji-Taisho period, focusing on fictional works spanning 1885-1925. Authors will include Futabatei Shimei, Mori Ogai, Natsume Soseki, Shimazaki Toson, Nagai Kafu, Shiga Naoya, Akutagawa Ryunosuke, and Tanizaki Jun'ichiro. Close readings of the Japanese texts will aim to reinforce reading fluency and accuracy and enhance our appreciation and understanding of noteworthy literary narratives across a range of styles and themes. Advanced Japanese language proficiency required. Prerequisite: graduate level or permission of instructor.
Credit 3 units.

L05 Japan 5610 Pre-Modern Japanese II
This course is a continuation of L05 460 which reinforces and expands the student's understanding of classical Japanese grammar through close reading of texts drawn from the Heian, medieval and Edo periods, and introduces the basics of reading hentaigana, the cursive form of kana found in manuscript and woodblock print books. Readings are in classical literary texts using materials from standard modern annotated editions as well as the introduction of skills necessary for reading original texts, including kambun and hentaigana. Prerequisite: L05 413 or concurrent registration, or L05 460.
Same as L05 Japan 461
Credit 3 units. A&S IQ: LCD, LS EN: H

L05 Japan 564 Japanese Textual Analysis
This course introduces the advanced student of Japanese to a variety of prose narratives in the modern language. Readings, which include literary texts and topical essays on aspects of Japanese society and culture, reflect the needs and interests of the enrolled students. Focus is on close reading and syntactic analysis of the selected texts. Regular translation exercises gauge the mastery of grammar, syntax, and idiomatic usages. All readings are in Japanese, with class discussion conducted predominantly in English. A final translation project, to be chosen by the student in consultation with the instructor, is required. Prerequisite: permission of instructor.
Same as L05 Japan 464
Credit 3 units. A&S IQ: LCD EN: H

L05 Japan 567 Seminar in the Literature of Japan: Uno Chiyo and the Arc of Modernity
Uno Chiyo (1897-1996) was a writer, notorious femme fatale, magazine editor, fashion arbiter, and kimono designer. Her fiction offers a unique perspective on the historical sweep of the 20th century. In this course students will explore the different facets of "modernity" in Japanese literature through an overview of Uno's life and works. Topics include "the modern girl," "mass culture," and "tradition and nostalgia." Whereas Uno Chiyo will be the primary focus of the course, students will also examine the works of her contemporaries, such as Tanizaki Jun'ichirô, Kajii Motojirô, Kawabata Yasunari, Hirabayashi Taiko, and others. Readings will be in both Japanese and English. Accommodations will be made for those who do not read Japanese. Prerequisite: graduate level or permission of instructor.
Credit 3 units.

L05 Japan 592 Thesis Research
Must be a current M.A. student in good standing.
Credit variable, maximum 6 units.

L05 Japan 593 Dissertation Research
Must be a current Ph.D. student in good standing.
Credit variable, maximum 6 units.

L05 Japan 599 Guided Readings in Japanese
Prerequisites: Senior or graduate level and permission of the instructor. This course is normally taken after the successful completion of L05 459. May be repeated once.
Same as L05 Japan 499
Credit variable, maximum 3 units.

Korean

Visit online course listings to view semester offerings for L51 Korean.

L51 Korean 500 Independent Study
Prerequisites: senior or graduate level or permission of instructor. May be repeated.
Credit variable, maximum 3 units.

L51 Korean 517 Third-Level Modern Korean I
This course is designed for students who have completed L51 Korean 217 & 218 (Second Level Modern Korean I & II) or those with equivalent proficiency. The course aims to further develop students' communicative competence and proficiency in speaking, listening, writing, and reading while deepening their understanding of Korean culture at the high intermediate level. Throughout the course, students will develop the cultural and linguistic understanding necessary to communicate for various personal and social purposes. By the end of the course, students will be able to participate in detailed conversations on various familiar topics such as travel, leisure activities, health, traditions, holidays, and beliefs using complex sentences. Students can expect to read simple articles and write essays of 250-350 words. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L51 218 (grade of B- or better) or placement by examination.
Same as L51 Korean 417
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L51 Korean 518 Third-Level Modern Korean II
This course is intended for students who have completed L51 Korean 417 (Korean III) or have an equivalent level of proficiency. The primary goal of the course is to enhance students' communicative competence and proficiency in speaking, listening, writing, and reading while also deepening their understanding of Korean culture at the high intermediate level. By the end of the course, students will be able to participate in detailed conversations on various familiar and unfamiliar topics and social situations in a culturally appropriate manner. They will also be able to comprehend main ideas and supporting details in non-complex aural and written stories across various contexts and read articles, narrative, and descriptive texts. Students will also be able to describe, explain, and compare using structures and vocabulary items at the high intermediate level in writing and speaking. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L51 417 (grade of B- or better) or placement by examination.
Same as L51 Korean 418
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L51 Korean 527 Fourth-Level Modern Korean I
This course is intended for students who have completed the Third Level Modern Korean I & II or possess equivalent proficiency. The course's main objective is to develop student's language skills in speaking, listening, reading, and writing, with a greater emphasis on reading and writing while enhancing their understanding of Korean culture. The class explores various topics related to Korea and Korean culture, utilizing a primary textbook and a range of authentic materials such as newspaper articles, literature, films, and video clips that are relevant to the topics. Through these materials, students will be able to express their ideas convincingly and precisely in Korean on Korea-related topics. Additionally, students will work on improving their Korean proficiency in vocabulary and hanja (Chinese characters) at an advanced level and perfecting their sentence structure for oral and written communication in various formats. By the end of the course, students will have developed advanced-level language skills, a deeper understanding of Korean culture, and the ability to communicate their ideas in Korean effectively. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L51 418 (grade of B- or better) or placement by examination.
Same as L51 Korean 427
Credit 3 units. A&S IQ: LCD, LS BU: IS EN: H

L51 Korean 528 Fourth-Level Modern Korean II
This course aims to help students enhance their Korean language proficiency and knowledge of Korean culture, history, and society to an advanced level. Throughout the course, students will participate in various activities, such as discussions, presentations, and reading and writing exercises based on materials such as movies and readings that provide rich cultural, historical, and sociopolitical information about Korea. Additionally, using authentic materials throughout the course provides students with opportunities to be exposed to the authentic Korean language in various situations. Students will continue to expand their advanced-level vocabulary and hanja (Chinese character) knowledge and refine their sentence structure skills for effective oral and written communication in various formats. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L51 427 (grade of B- or better) or placement by examination.
Same as L51 Korean 428
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L51 Korean 537 Contemporary Korean I: Language, History, and Musical Culture
This is an advanced to high-advanced level Korean course in standard modern Korean. Emphasis is placed on developing an advanced level of reading proficiency in Korean and writing ability in Korean for an academic or professional purpose. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L51 428 (grade of B- or better) or permission of instructor.
Same as L51 Korean 437
Credit 3 units. A&S IQ: LCD, LS BU: IS EN: H

L51 Korean 538 Contemporary Korean II: Language, History, and Musical Culture
This is the continuation of Korean 437. It is an advanced to high-advanced level Korean course in standard modern Korean. Emphasis is placed on developing an advanced level of reading proficiency in Korean and writing ability in Korean for an academic or professional purpose. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: L51 428 (grade of B- or better) or permission of instructor.
Same as L51 Korean 438
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L51 Korean 5410 Seminar in Korean Literature and Culture: Major Works
As a course intended primarily for graduate students, this course will examine debates and current issues in the field of Korean literature. While we read extensively on recently published monographs as well as some classics in the field, primary focus is on the modern era. Topics will include empire and colonialism, postcoloniality, translation, history and politics in literature, gender, and conditions of literary and artistic production.Reading knowledge of Korean is recommended but not required. Students without any prior background in Korean literature and/or history should consult with the instructor before registration. Prerequisite: graduate level or instructor's approval.
Same as L81 EALC 5410
Credit 3 units.

L51 Korean 554 Seminar on East Asian Print Culture and Society: Women in Print
This team-led seminar examines developments in the history of publishing and reading in Japan, Korea, and to some extent China from the 17th to the 20th centuries, with particular attention to material that focuses on women as readers or as objects of discourse. Specific topics include periodicals and books written for, about, and by women; the role of print and publishing in early modern and modern construction of gender roles; literacy, education, and habits of reading; the role of women readers and female-targeted publications in the development of literary culture. The course will consider both commonalities and divergences in the construction of women as readers in each country in light of their interrelated but distinct historical and cultural conditions. The course will also include an introduction to digital humanities scholarship. Common readings will be in English, but seminar participants who are able to use Japanese or Korean sources will be expected to do so. Prerequisite: graduate standing or permission of instructors.
Same as L81 EALC 554
Credit 3 units.

L51 Korean 555 Topics in Korean Literature and Culture: Global Korean Music through a Cultural Lens
Topics course in Korean literature and culture; subject varies by semester. Undergraduates enroll in the 400-level section; 500-level section is for graduate students only. Prerequisite: junior level or above or permission of instructor.

Same as L51 Korean 455
Credit 3 units. A&S IQ: LCD EN: H

L51 Korean 597 Guided Readings in Korean
This course is normally taken after successful completion of Korean 418, or by instructor's permission. May be repeated once. Prerequisite: permission of instructor.
Same as L51 Korean 497
Credit variable, maximum 3 units. EN: H

East Asian and Comparative Literatures, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: Six years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - EALC assures funding for up to 12 semesters for full-time students in good academic standing.
  - This joint PhD degree requires study of East Asian literature and culture, over the course of which the student virtually duplicates the courses and other preparations expected of a doctoral candidate in East Asian Languages and Cultures. Students additionally complete the 12-unit core requirement for the Comparative Literature PhD program, which includes Comp Lit 502 Introduction to Comparative Literature. For a description of this core, see the PhD in Comparative Literature (p. 171).

Required Courses

Course requirements. All PhD candidates must complete a minimum of 12 graduate-level courses selected to yield a broad and deep familiarity with the literary and cultural history of the country of focus and a secondary area (or areas) of focus. Language courses will not count toward the 12 required courses.

For this joint degree, the 12 courses must include the following:

- Four courses in one East Asian literature, including two seminars at the 500/5000 level
- Four courses in a second literature or other field to be determined in consultation with the advisor
- Four courses comprising the Comparative Literature core requirement, including Comp Lit 502 Introduction to Comparative Literature and three additional courses distributed among designated categories (refer to PhD in Comparative Literature (p. 171) for the listing of designated categories).

Beyond these requirements, students may take up to three additional courses to fulfill requirements for a certificate or to supplement their training.

The minimum grade required for coursework to count toward the PhD is a B-.

Language requirements. All PhD students must demonstrate native or near-native competence in both the language of focus (Chinese, Japanese or Korean) and English. Course work in premodern forms of the language of focus may also be required. In addition, for this joint PhD, reading knowledge of a third language on at least the research level is required. Students should select these languages in consultation with their advisory committee.

- Upon joining the joint degree program, students must be competent in a minimum of two languages pertinent to their work and their objectives. Both languages will be evaluated by an expert in each language.

Competency in the third language must be demonstrated before students defend their dissertation prospectus by doing one of the following:

1. Earning at least a B in a 500/5000-level course that requires the use of the language in which students wish to develop competence. (For example, in the case of a 500/5000-level EALC course taught in English, the student's written work must incorporate research in and/or analysis of material in the original language in which the student seeks to demonstrate competency.)
2. In the case of an East Asian language, placing out of at least the third level of the language in the department's standard placement exam.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Qualifying evaluation. The Graduate Committee will conduct a screening of PhD students no later than the end of their second year. By November 15 of their third semester, students will submit a research statement (500 to 800 words) and a writing sample (complete seminar paper). During reading week, they will be expected to give a 10-minute formal presentation to the department faculty. By the end of the fall semester, primary faculty advisors will submit an evaluative report of progress for each of their advisees. The Graduate Committee will then assess each student's academic performance and either recommend or not recommend advancement. Regardless of the outcome of this assessment, all students meeting the requirements will be recommended for conferral of the AM degree. The second element of this qualifying evaluation assesses the student's progress in their primary language of focus (Chinese, Japanese, or Korean). This evaluation will be waived in the case of native speakers.

Comprehensive examinations. Comparative Literature Joint PhD degree students will take the comprehensive examinations required in the EALC department. At least one of these examinations must entail a comparatist element; this element is to be identified and negotiated with the examination committee, which will include at least one faculty member representing Comparative Literature.

The PhD comprehensive examinations are intended to test a student's general knowledge as well as mastery of their area or areas of focus. Near the end of formal courses, students begin preparing to complete three examinations, which include the following:

- Their major field, generally defined as modern or premodern literature/culture of China, Japan, or Korea
- Two minor fields, defined in consultation with and approved by the student's advisory committee. One minor field may be directly related to the student's dissertation research, but the second must demonstrate greater breadth in terms of period, discipline, or cultural-linguistic area. One of the minor fields may be comparative or theoretical.
- Students who have completed a certificate in Film and Media Studies; Women, Gender, and Sexuality Studies; Data Science in the Humanities; Early Modern Studies; or Translation may, with advisory committee permission, waive one of the minor exams.

In consultation with relevant faculty, students will prepare a comprehensive bibliography prior to each exam.

Students should expect to begin the exams before the start of the sixth semester and to have completed all three no later than the end of the eighth semester.

Dissertation prospectus. Following the successful completion of the three examinations and prior to starting their fifth year in the program, students will present their dissertation prospectus in a public forum before a panel of relevant faculty.

Dissertation. Students will complete a doctoral dissertation based on extensive research on a literary or cultural topic that produces new knowledge of publishable quality in the field of East Asian Studies. Dissertation research and writing is usually completed during the last two years of graduate study. For the joint degree, the dissertation must be of a comparative nature, and the dissertation committee must include at least one faculty member representing Comparative Literature. The dissertation itself should, in its theoretical grounding, approach, transnational or transcultural scope, and/or interdisciplinarity, speak to the field of Comparative Literature as currently constituted.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

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East Asian Languages and Cultures, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin*.

Program Requirements

- **Total Units Required: 30**
- **Degree Length: Two years**
  - **Note:** Students must be enrolled in at least 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Thesis Requirements/Details

The master's thesis is optional. More information can be found later on this page.

Required Courses

1. **A minimum of 10 graduate-level courses (30 units)**, chosen in consultation with the advisor. At least one course in theory or methodology, chosen in consultation with the advisor. Examples include GS 5976 Global Asias, Comp Lit 502 Introduction to Comparative Literature, Film 5420 Film Theory, Film 501 Advanced Moving Image Analysis and Criticism, and WGSS 5150 Feminist Literary and Cultural Theory.

    - Language study. Students must achieve third-year competence in one East Asian language (Chinese, Japanese, or Korean) by the end of the program. Students who place out of third-year course work via the placement exam or who attain that level after the first year in the program are expected to continue

with fourth-year, fifth-year, and/or classical language. Students who place beyond these levels or who are native speakers are encouraged to take up study of a second East Asian language. No more than four semester-long courses in language may count toward the 10 required courses. Note that courses numbered below the 500/5000 level (i.e., first- and second-level courses) must be taken as an overload.

- At least two courses outside of the country of focus or that involve the comparative treatment of more than one East Asian culture.
- At least two courses focused on the modern era and at least two courses focused on the premodern era.
- The minimum grade required for course work to count toward the AM is a B-.

2. One of the following:

   - Students who plan to continue their academic training at the PhD level should complete a master's essay or a master's thesis:
     - *Master's essay.* The essay will be based on a research paper written for one of the student's AM courses. Students will be expected to revise the paper in consultation with their advisor, lengthening the paper to provide appropriate context and explanation but also tightening, where necessary, to offer an incisive, analytical exploration of the topic. Essays should range from 8,000 to 10,000 words (34 to 40 pages). Students who elect this option may choose to register for 3 units of EALC 596 Guided Readings in East Asian Languages and Cultures and will graduate "Masters without thesis." Each student will assemble a committee of three faculty members who will read the essay; the student will meet with the committee for a short oral defense of the essay.
     - *Master's thesis.* The master's thesis option allows students to complete a longer master's thesis under the direction of a thesis advisor. The thesis must be based on original research in an area of interest. It generally runs at least 50 pages in length, and it must utilize sources in the relevant East Asian language. Upon completion of the thesis, students sit for a defense with three to four faculty members, chosen in consultation with the thesis advisor. Students who elect this option may choose to register for 3 units of EALC 591 Thesis Research and will graduate "Masters with thesis." Students writing a thesis must complete and return the Notice of Title, Scope, and Procedure form to the EALC office six months in advance of the intended graduation date.
   - Students who do not plan to continue their academic training at the PhD level may complete a comprehensive written examination focusing on two major areas to be determined by an advisory committee comprised of at least three faculty members. The examination is administered near the end of the candidate's term of study and followed by a short oral examination in which the student discusses the written examination with the advisory committee.

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East Asian Languages and Cultures, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: Six years**
  - **Note:** Students must be enrolled in at least 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - EALC assures funding for up to 12 semesters for full-time students in good academic standing.

Required Courses

Course Requirements

All PhD candidates must complete a minimum of 12 graduate-level courses selected to yield a broad and deep familiarity with the literary and cultural history of the country of focus and a secondary area (or areas) of focus. Language courses will not count toward the 12 required courses.

For the EALC degree, the 12 courses must include the following:

- At least two courses in literary and cultural theory, methodology, and pedagogy to be determined in consultation with the advisor.
- Two courses in the literary and cultural traditions of a second East Asian culture.
- For students focused on modern literature and culture, two courses focused on premodern East Asia, among which at least one must be in the major country. Students focused on premodern literature and culture must take at least two courses focused on modern East Asia.
- Two East Asia-focused courses offered through other departments and programs. Students may either focus on one discipline for their secondary area or take courses from several areas to broaden their expertise.
- The remaining four courses are elective courses that the student may choose in consultation with their advisor.

Beyond these requirements, students may take up to three additional courses to fulfill requirements for a certificate or to supplement their training.

The minimum grade required for course work to count toward the PhD is a B-.

Language Requirements

All PhD students must demonstrate native or near-native competence in both the language of focus (Chinese, Japanese, or Korean) and English. Course work in premodern forms of the language of focus may also be required. If it is required for research in the chosen area of focus, students must achieve proficiency in one or more languages in addition to the language of focus and English (normally French or German among the European languages or a second East Asian language).

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Qualifying Evaluation

The Graduate Committee will conduct a screening of PhD students no later than the end of their second year. By November 15 of their third semester, students will submit a research statement (500 to 800 words) and a writing sample (complete seminar paper). During reading week, they will be expected to give a 10-minute formal presentation to the department faculty. By the end of the fall semester, primary faculty advisors will submit an evaluative report of progress for each of their advisees. The Graduate Committee will then assess each student's academic performance and either recommend or not recommend advancement. Regardless of the outcome of this assessment, all students meeting the requirements will be recommended for conferral of the AM degree. The second element of this qualifying evaluation assesses the student's progress in their primary language of focus (Chinese, Japanese, or Korean). This evaluation will be waived in the case of native speakers.

Comprehensive Examinations

The PhD comprehensive examinations are intended to test a student's general knowledge as well as their mastery of their area or areas of focus. Near the end of formal courses, students begin preparing to complete three examinations, which include the following:

- Their major field, generally defined as the modern or premodern literature/culture of China, Japan, or Korea
- Two minor fields, defined in consultation with and approved by the student's advisory committee. One minor field may be directly related to the student's dissertation research, but the second must demonstrate greater breadth in terms of period, discipline, or cultural-linguistic area. One of the minor fields may be comparative or theoretical.
- Students who have completed a certificate in Film and Media Studies; Women, Gender, and Sexuality Studies; Data Science in the Humanities; Early Modern Studies; or Translation may, with advisory committee permission, waive one of the minor exams.

In consultation with relevant faculty, students will prepare a comprehensive bibliography prior to each exam.

Students should expect to begin the exams before the start of the sixth semester and to have completed all three no later than the end of the eighth semester.

Dissertation Prospectus

Following the successful completion of the three examinations and prior to starting their fifth year in the program, students will present their dissertation prospectus in a public forum before a panel of relevant faculty.

Dissertation

Students will complete a doctoral dissertation based on extensive research on a literary or cultural topic that produces new knowledge of publishable quality in the field of East Asian Studies. Dissertation research and writing is usually completed during the last two years of graduate study.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which

the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

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Economics

The Department of Economics at Washington University has a strong reputation for preparing high-quality PhD students for academic positions as well as for private- and public-sector jobs. We accept qualified students from any field who possess strong analytical abilities in mathematics and statistics to complete a challenging **Doctor of Philosophy (PhD) degree in Economics**. The department offers students financial support while they remain in good academic standing for the duration of the program length.

The Department of Economics also offers two standalone Master of Arts (AM) programs. The **Accelerated AM in Economics** is available only to qualified Washington University undergraduates. The **AM in Economics** is available to all qualified students from any field. These programs provide students with the analytical background to prepare them for a diverse set of careers, from positions in government, business, and nonprofit organizations to further graduate studies.

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Faculty

Chair

George-Levi Gayle
John H. Biggs Distinguished Professorship in Economics
PhD, University of Pittsburgh
Econometric theory; contract theory; labor economics; personnel economics; corporate governance

Associate Chair

Francisco (Paco) Buera
Sam B. Cook Professor of Economics
PhD, University of Chicago
Macroeconomics; macroeconomic development

Director of Graduate Studies — Doctoral Program

Jonathan Weinstein
Professor
Director Graduate Studies - Doctoral Program
PhD, Massachusetts Institute of Technology
Microeconomic theory, game theory

Director of Graduate Studies — Master's Program

Brian Rogers
Professor
PhD, California Institute of Technology
Microeconomic theory; fields of network formation; social learning; applied game theory

Associate Director of Graduate Studies — Master's Program

Grace J. Yan Johnson
Lecturer
PhD, Oklahoma State University

Director of Undergraduate Studies

John Nachbar
Professor
PhD, Harvard University
Economic theory

Department Faculty

Md Nazmul Ahsan
Lecturer
PhD, University of Southern California

Gaetano Antinolfi
Professor
Weidenbaum Center Research Fellow
PhD, Cornell University
Macroeconomics; monetary and international economics

Gaurab Aryal
Associate Professor
PhD, Pennsylvania State University
Industrial organization; empirical industrial organization

Costas Azariadis
Edward Mallinckrodt Distinguished Professor in Arts & Sciences
Weidenbaum Center Research Fellow
PhD, Carnegie Mellon University
Macroeconomic dynamics; economic development; monetary and fiscal policy

Ana Babus
Associate Professor
PhD, Erasmus University Rotterdam
Microeconomic theory; finance

Sudeshna Bandyopadhyay
Teaching Professor
PhD, University of Maryland

Marcus Berliant
Professor
PhD, University of California, Berkeley
Public finance; mathematical economics; urban economics

Michele Boldrin
Joseph Gibson Hoyt Distinguished Professor in Arts & Sciences
PhD, University of Rochester
Economic theory; economic growth; macroeconomics

Maria Canon
Senior Lecturer
PhD, University of Rochester

Steven Fazzari
Bert A. and Jeanette L. Lynch Distinguished Professor of Economics
PhD, Stanford University
Macroeconomics; Keynesian economics; investment and finance

Ian Fillmore
Assistant Professor
PhD, University of Chicago
Intersection of industrial organization; labor economics; econometrics; economics of education; education markets

Sanghmitra Gautam
Assistant Professor
PhD, University College London
Development economics; applied microeconometrics; public economics

Martín García-Vázquez
Assistant Professor
PhD, University of Minnesota
Labor economics; public finance; macroeconomics; econometrics

Limor Golan
Laurence H. Meyer Professor of Economics
PhD, University of Wisconsin–Madison
Labor economics; applied microeconomics; applied econometrics

Philipp Grübener
Assistant Professor
PhD, European University Institute
Quantitative macroeconomics; macro labor economics; macro public finance

Andrew Jordan
Assistant Professor
PhD, University of Chicago
Labor markets; discrimination; criminal justice

Sukkoo Kim
Associate Professor
PhD, University of California, Los Angeles
Economic history; urban and regional economics; trade and development

SangMok Lee
Associate Professor
PhD, California Institute of Technology
Microeconomics

Rodolfo Manuelli
James S. McDonnell Distinguished University Professor
Graduate Admissions Officer
PhD, University of Minnesota
Economic growth and development economics; macro and monetary economics

Molly Moore
Lecturer
PhD, Harvard University

Ismael Mourifié
Professor
PhD, University of Montréal
Microeconomics (theory and applications)

Werner Ploberger
Thomas H. Eliot Distinguished Professor in Arts & Sciences
PhD, Vienna University of Technology
Statistics; econometric methodology; time-series econometrics

Robert Pollak
Hernreich Distinguished Professor of Economics
PhD, Massachusetts Institute of Technology
Environmental economics; microeconomics/industrial organization; business and government; political economy

Yongseok Shin
Douglass C. North Distinguished Professor of Economics
PhD, Stanford University
Macroeconomics; economic growth

Ping Wang
Seigle Family Professor in Arts & Sciences
NBER Research Associate
PhD, University of Rochester
Growth/development; money/macro; economic theory; spatial/health economics

M. Bumin Yenmez
Professor
PhD, Stanford Graduate School of Business
Microeconomic theory, mechanism and market design, choice theory

Affiliated Faculty

Mariagiovanna Baccara
PhD, Princeton University

Scott A. Baker
JD, University of Chicago
PhD, University of North Carolina at Chapel Hill

Serdar Birinci
PhD, University of Minnesota

James Bullard
PhD, Indiana University

Maximiliano Dvorkin
PhD, Yale University

Philip H. Dybvig
PhD, Yale University

Miguel Faria-e-Castro
PhD, New York University

Leonard Green
PhD, State University of New York

Barton Hamilton
PhD, Stanford University

Julian Kozlowski
PhD, New York University

Oksana Leukhina
PhD, University of Minnesota

Glenn MacDonald
PhD, University of Rochester

Fernando Martin
PhD, University of Pennsylvania

Serdar Ozkan
PhD, University of Pennsylvania

Camillo Padoa-Schioppa
PhD, Massachusetts Institute of Technology

Paulia Restrepo-Echavarria
PhD, University of California, Los Angeles

Juan Sanchez
PhD, University of Rochester

Guillaume Vandenbroucke
PhD, University of Rochester

Michael Zdinak
PhD, Washington University in St. Louis

Professors Emeriti

Lee K. Benham
PhD, Stanford University

David Levine
John H. Biggs Distinguished Professor Emeritus
PhD, Massachusetts Institute of Technology

Wilhelm Neuefeind
PhD, Universität Bonn

Robert Parks
PhD, Purdue University

Bruce C. Petersen
Bert and Jeanette Lynch Distinguished Professor Emeritus
PhD, Harvard University

Degree Requirements

- Economics, Accelerated AM (p. 219)
- Economics, AM (p. 220)
- Economics, PhD (p. 222)

Courses

Visit online course listings to view semester offerings for L11 Econ.

L11 Econ 5001 Intermediate Microeconomic Theory
Analytic theory of consumer and producer behavior under perfect and imperfect competition. Coverage of demand theory (indifference curves and utility functions) and preferences under uncertainty, including expected utility and risk aversion. Development of general equilibrium under pure exchange, including the concepts of competitive equilibrium and Pareto efficiency. Discussion of the role of time as it pertains to interest rates, discounting and net present value. Analysis of standard monopoly and simple oligopoly problems. Development of non-cooperative game theory, including strategic and extensive-form equilibria and Nash and sub-game perfect equilibria. Thorough training in intermediate theory would require both Econ 4011and Econ 4021. Prerequisites: Econ 1011, Math 132, and concurrent enrollment in, or prior completion of, either Math 233 or Econ 493 ("Mathematical Economics").
Same as L11 Econ 4011
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 5002 Intermediate Macroeconomic Theory
National income and labor market measurement. Business cycle facts and consideration of alternative explanations for business cycle phenomena. Development of Solow growth model, along with theories of endogenous growth and an examination of reasons for differences in growth rates across counties. General equilibrium description of firms and consumers in labor and product markets. Implementation of monetary and fiscal policy, and exploration of the impact of policy changes on the macroeconomy. Prerequisites: Econ 1021 and Econ 4011.
Same as L11 Econ 4021
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 501 Macroeconomics I
The first of a two semester sequence on graduate macro theory. The focus is on determination of aggregate income, employment, and prices with emphasis on static theory and the microfoundations of macroeconomics, including consumption and investment behavior, static models of income and price determination, problems of unemployment and inflation, and alternative theories of the roles of fiscal and monetary policy.
Credit 3 units. EN: S

L11 Econ 5011 Macroeconomics (MA)
The objective of this course is to introduce you to the study of macroeconomics at the advanced level. This means that we will use rigorous models and employ (dynamic) optimization techniques to present and analyze macroeconomic theories. A common theme across the models we will study is that economic aggregates are the equilibrium result of the optimizing decisions made by rational agents at the individual level. We will employ this rigorous approach, not as an end in itself, but as a means to obtain disciplined insights into the important questions that trouble macroeconomists. The topics we will cover include economic growth, business cycle fluctuations, employment and unemployment, and fiscal and monetary policy. Prerequisite: Admission to the A.M. program in Economics or instructor permission.
Credit 3 units.

L11 Econ 502 Macroeconomics II
The second in a two-semester sequence on graduate macro theory. Dynamic problems are emphasized, particularly stability analysis, formal models of the business cycle, the role of macroeconomic policy in dynamic and stochastic models, and models of economic growth.
Credit 3 units.

L11 Econ 503 Microeconomics I
The first of a two-semester graduate sequence in microeconomic theory. The first semester considers production and costs, supply of output and demand for inputs, demands for final products, choice under uncertainty, introduction to market structure and game theory, time and capital. Prerequisite: Econ 508 (taught in August prior to the Fall term) and Econ 511 (to be taken concurrently), or with permission of instructor.
Credit 3 units. EN: S

L11 Econ 5031 Microeconomics (MA)
This course is designed to provide the foundational tools and theory of microeconomic analysis, presented at a graduate level. In the first half of the course, we will begin with consumer theory including utility theory, consumer demand, properties of demand systems, income and substitution effects, etc. We will then cover producer theory including profit maximization, cost functions, supply curves, and derived factor demand. We will then combine consumer and producer theory in the

context of competitive markets and monopoly. In the second half of the course, we will consider situations where strategic interactions are of central importance. Game theory is the primary tool that economists use for understanding strategic interactions. After covering the essentials of game theory, we will consider several applications of game theory in different economic settings. After covering a few more advanced topics in pricing, we will discuss decision-making under uncertainty. Finally, we will introduce general equilibrium theory. Prerequisite: Admission to the A.M. program in Economics or instructor permission.
Credit 3 units.

L11 Econ 504 Microeconomics II
The second of a two-semester sequence in microeconomic theory. The course surveys noncooperative game theory, imperfect competition, and information economics. The course also covers some topics in competitive general equilibrium theory. Prerequisite: Econ 511 or permission of instructor.
Credit 3 units.

L11 Econ 506 Topics in Advanced Economic Theory
The application of modern mathematical economics to the existence of a general equilibrium, the equivalence of competitive equilibrium and Pareto optimality, and problems in welfare economics, economic dynamics and uncertainty.
Credit variable, maximum 3 units.

L11 Econ 506A Topics in Advanced Theory I
Topics covered are chosen by the instructor from competitive general equilibrium and/or decison theory.
Credit 3 units.

L11 Econ 506B Topics in Advanced Theory II
Topics covered are chosen by the instructor from game theory and information economics.
Credit 3 units.

L11 Econ 507 Behavioral Economics
The course surveys research at the intersection of psychology and economics. Topics include: prospect theory, reference dependence, present-biased preferences, self control, other-regarding behavior, and mental accounting. The course devotes equal attention to theoretical models and their empirical applications, including both lab experimental methods and analysis using field data. Prerequisites: Econ 503 and Econ 504.
Credit 3 units.

L11 Econ 508 Mathematics for Economics
Elementary set theory and point set topology. Continuous functions: Weierstrass Theorem; Intermediate Value Theorem. Linear spaces and elementary linear algebra. Calculus of a single variable; Mean Value Theorem. Calculus of several variables; Inverse and Implicit Function Theorems. Convexity; separation theorems. Unconstrained optimization. Constrained optimization; Kuhn-Tucker Theorem.
Credit 3 units.

L11 Econ 511 Quantitative Methods I
Topics in mathematics of particular relevance for economics. The first half of the course provides an introduction to real analysis. The second half consists of modules on special topics. In recent years, modules have included: an introduction to Lebesgue measure and integration, support and separation theorems for convex sets, fixed point theorems, and monotone comparative statics.
Credit 3 units.

L11 Econ 512 Quantitative Methods in Economics II
Introduction to mathematical statistics designed to provide a background for the study of econometrics. Selection of topics will usually include the following: probability introduction to distribution theory, including limiting distributions and distributions of quadratic terms, Bayes Theorem, and hypothesis testing.
Credit 3 units.

L11 Econ 5121 Advanced Quantitative Methods in Economics
The main goal and requirement of this class is that each student develops, and ultimately applies, the necessary computational and statistical tools to study the quantitative implications of a structural model of choice. The second objective is to discuss important issues at the research frontier of the numerical solution and estimation of dynamic models. Specifically, we will study key challenges in the analysis of models with economic frictions. Finally, we will study recently developed robust algorithms and generalized asymptotic methods that give foundations to the simulation and testing of this type of model.
Credit 3 units.

L11 Econ 513 Introduction to Econometrics
Classical multiple regression analysis and an introduction to generalizations useful in empirical research in economics, including a framework for dealing with problems of multicollinearity, specification error, heteroskedasticity, serial and contemporaneous correlation, identification and consistent estimation in simultaneous equation models.
Credit 3 units.

L11 Econ 514 Advanced Topics in Econometric Theory
We will study the econometric methods that are used to solve estimation and measurement problems that arise in the analysis real world problems. The class will be mostly theoretical and will cover, asymptotic theory, estimation methods, and applications to linear and non-linear models including, discrete choice models, duration models, panel data models and cross-section linear models. We will also cover non-parametric techniques.
Credit 3 units.

L11 Econ 5141 Advanced Microeconometrics
The focus of the class is in identifying causal relations in social sciences. We revisit the linear model, its asymptotic properties and the usual tests of hypothesis researchers conduct in assessing the model. We also study robust inference; bootstrap methods; M-estimators and models with generated regressors; instrumental variables estimators; GMM and system linear estimators; models for panel data with emphasis in non-linear models; instrumental variables for non-linear models; semi-parametric and non-parametric estimators; models for sample selection and attrition and standard methods commonly used in the evaluation of program and policies: Randomized trials; randomized inference; matching methods; regression discontinuity design; difference-in-Differences and establishing bounds of parameters. We will emphasize the theory of each topic and we will also illustrate them discussing applications from papers published in the recent literature. Prerequisite: Econ 513
Credit 3 units.

L11 Econ 5145 Advanced Theoretical Econometrics
We will discuss two types of problems in this class: 1. Asymptotics: We will derive limiting distributions for ML and GMM estimators, and show that in certain cases these estimators do not have a Gaussian limiting distribution. We also will discuss techniques to use these distributions to get tests. 2. Optimality: We will use the limiting results to characterize admissible estimator or tests (A procedure is called admissible if it is not dominated for all values of the parameter). We will make use of concepts like contiguity to derive local results.
Credit 3 units.

L11 Econ 5146 An Introduction to the Theory and Application of Stochastic Calculus and Diffusion Processes
We will discuss the theory and some applications of stochastic calculus and the theory of diffusion processes. We will start with the basic theory of Martingales, and then investigate Brownian motions and other continuous Martingales. We will define the Ito-Integral and prove Ito's formula and applications. Like Girsanov's theorem. We will discuss stochastic differential equations and strong and weak solutions and the relation of the partial differential equations (Feynman-Kac formula). We will discuss some applications such as option pricing, Black-Scholes or other examples from economics or finance.

L11 Econ 515 Bayesian Econometrics
Survey of Bayesian statistical inference and its application to econometric models. Topics include an introduction to Bayesian inference and computations; applications to time series, discrete choice, regime-switching, SUR systems, and simultaneous equation.
Credit 3 units.

L11 Econ 5151 Applied Econometrics
Introduction to econometrics as it is applied in microeconomics. Emphasis is on hands-on implementation of the models covered in the course. Topics related to the analysis of microeconomic data include cross-section and panel data linear models and robust inference; instrumental variables estimation; simultaneous equation models; models for discrete choice; and truncation, censoring and sample selection models. Prerequisite: Econ 4011 and Econ 413 (Math 309 is recommended). Students should co-enroll in the "A" subsection.
Same as L11 Econ 4151
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 5160 Topics in Econometrics: Microeconometrics
This is a topics class in econometrics but with a strong focus on microeconometrics. This course has two main objectives: (i) Teach students various advanced theoretical econometric tools to the students and (ii) guide them through the process of writing a research paper that explores an empirical research question in economics using adequate econometrics tools. We will study theory and application of methods of data analysis developed for microdata pertaining to individuals, households and firms. More, precisely, We will study recent development of theory and methods for analyzing selective samples and analyzing discrete choice models. Prerequisites: Econ 4011 and (Econ 413, Econ 413W, or Econ 536). Math 309 recommended. Students should co-enroll in the "A" subsection. 3 units.
Same as L11 Econ 4160
Credit 3 units. A&S IQ: SSC

L11 Econ 5161 Applied Econometrics
Introduction to econometrics as it is applied in microeconomics and macroeconomics (modular). Topics related to the analysis of microeconomic data include maximum likelihood estimation and hypothesis testing; cross-section and panel data linear models and robust inference; models for discrete choice; truncation, censoring and sample selection models; and models for event counts and duration data. Topics related to the analysis of macroeconomic data include basic linear and nonlinear time series models; practical issues with likelihood-based inference; forecasting; structural identification based on timing restrictions and heteroskedasticity; and computational methods for hypothesis testing and model comparison. Prerequisite: Econ 512.
Credit 3 units.

L11 Econ 517 Applied Microeconometrics: Identification and Causality in Empirical Models
Econometric methods used to solve estimation and measurement problems that arise in real-world applied microeconomic problems. These include applications of regression analysis, instrumental variables estimators, panel data models, discrete choice models and duration analysis. We will emphasize both econometric theory and applications. We will also focus on how institutions and theory inform empirical specification, paying careful attention to identification of causality and structural relationships.
Credit 3 units.

L11 Econ 5175 Structural Microeconometrics
In the course you will learn how to use microdata to estimate the primitive parameters of structural econometric models. Methods for structural estimation are increasingly used in several areas of empirical microeconomics. Students interested in all applied areas in microeconomics are encouraged to take this class. Methods will be illustrated with applications drawing from several fields (Labor Economics, Family Economics, Development Economics, Empirical Industrial Organization, Health Economics, Law & Economics, Urban Economics, Empirical Public Economics, Environmental Economics, Economics of Education, etc). and representing the research interests of the audience. We will cover the estimation of static models, but we will emphasize the use of dynamic structural models. We will cover frontal methods (i.e., methods that involve solving the economic problem inside a estimation routine) as well as the methods that avoid the computational burden associated with a full-solution approach to estimation. We will also go over methods to estimate the parameters of static and dynamic games. There is no final exam. Grades are based on computational problem sets and research paper proposal using methods covered in class.
Credit 3 units.

L11 Econ 518A Seminar in Applied Econometrics I: Cross Section and Panel Data
Survey and application of econometric techniques and problems associated with the use of survey and panel data characterized by large numbers of micro observations, diffuse information sets, and qualitative responses. Topics include properties of binary and mixed binary-continuous independent variables; treatment of unobservables, error component models; sample selectivity bias; heterogeneity and state dependence; Markov and semi-Markov models; limited dependent variable functions; conditional multinomial, and simultaneous logit models; and path analysis. Students will undertake applied microeconometric projects utilizing the National Logitudinal Survey, Michigan Panel on Income Dynamics, and other panel data sets currently available at Washington University.
Credit 3 units.

L11 Econ 518B Seminar in Applied Econometrics II: Time Series Analysis and Macroeconometrics
Survey of time series econometric techniques, with applications in macroeconomics, international finance, and finance. Topics include ARMA models, the Box-Jenkins methodology, and forecasting; VARs and impulse response functions; time trends, unit roots, and structural breaks; spurious regressions; trend/cycle decomposition methods, including Kalman filtering; spurious cycles; cointegration; ARCH models of volatility, and Markov-switching models.
Credit 3 units.

L11 Econ 519 Empirical Research Seminar
Seminar to exchange ideas and improve the quality of empirical research. Each student will present research to the seminar at least once during the semester. The instructor and other students will comment on the technique and results of the work presented. Students are encouraged to present their own research, but students early in their graduate studies may present empirical work from relevant literature in an area of their interest. Students with interests in empirical topics in both macro and micro economics are welcome in the seminar.
Credit 3 units.
Credit 3 units.

L11 Econ 527 Graduate Seminar in Western Economic History
Emphasis is on description and explanation of the industrialization of Britain and the continental powers. Various arguments regarding development and economic growth are reexamined from the perspective of recent work of the new economic history, stressing increased use of formal economic reasoning and econometric tests.
Credit 3 units.

L11 Econ 528 Graduate Seminar in American Economic History
Explores the causes and consequences of industrialization in America from the perspective of recent developments in economic history. The course emphasizes the applications of explicit economic models and quantitative methods to the study of history.
Credit 3 units.

L11 Econ 529 Topics in New Institutional Economics
Focus on methodological principles underlying research in the New Institutional Economics (NIE) and their implications for improving our understanding of economies over time. Topics will include the relationship of the NIE to conventional economic theory, criticisms of the standard behavioral assumptions, the role of transaction costs, the importance of force, the evolution of institutions, the significance of time, and extensions of this work to economic history, political economy, and development.
Credit 3 units.

L11 Econ 5301 Financial Markets and the Macroeconomy
The objective of this class is to study the deep interconnections that link financial markets and the macroeconomy. We will cover three sets of topics: (1) Equilibrium asset pricing theory in endowment and in production economies. We will study issues such as (a) What is the relation between growth expectations and asset price movements?, and (b) Under what conditions can we see bubble-like phenomena? (2) Theories of long-run movements in the US stock market. Some of the questions we will consider are (a) Can technological revolutions generate stock market crashes?, and (b) How do changes in taxes and regulations impact stock market valuations? (3) Financial market frictions and their implications for economic fluctuations. We will investigate topics such as (a) How may shocks propagate through the financial system into the overall economy?, and (b) How do limited enforcement and informational asymmetries shape the debt and financial decisions of firms and individuals?
Credit 3 units.

L11 Econ 530A Financial Economics
This course provides an introduction to macro-finance and economic research. We start with the basic macro-finance frameworks and follow up with some topics such as bank runs, financial crisis, and liquidity. Prerequisites: admission to the master's program in Economics, or instructor permission.
Credit 3 units.

L11 Econ 531 Program Evaluation
We will study the econometric methods that are used to solve estimation and measurement problems that arise in the evaluation of program and policies. Although we will cover econometric methods, the focus of the class will be on applications. These include applications of regression analysis, matching techniques, randomized experiments and quasi-experiments, instrumental variables estimators, regression discontinuity designs and panel data models.
Credit 3 units.

L11 Econ 532 Monetary Theory
Theoretical and empirical analysis of the supply and demand for money and the channels through which monetary forces affect income and prices. Alternative perspectives of the influence and modelling of monetary influences including income-expenditure, monetarist, and new classical approaches. Topics related to the conduct of monetary policy include intermediate targets, alternative operating procedures for controlling the money supply, and reforms to enhance the effectiveness of monetary policy.
Credit 3 units.

L11 Econ 536 Econometrics
This course is an introductory econometrics course for the first-year master's students in economics. It is designed to teach students basic econometric methods while also developing a theoretical understanding of those methods. Econometrics bridges the gap between economic theories and the real data. With econometrics, we can test hypotheses about theories and policies, as well as forecast future economic activities. Our course begins with a review of basic statistics and probability, and then covers fundamentals of linear regressions. Further topics include regressions with panel data, a binary dependent variable, and instrumental variables. Students will use statistical software, such as STATA, for hands-on econometric exercises and research projects that are designed to provide experience working with the techniques covered in class. By the end of the course, the students should possess the skills and knowledge needed to understand applied economic research and to conduct their own empirical research. Prerequisites: admission to the master's program in Economics, or instructor permission.
Credit 3 units.

L11 Econ 5361 Computational and Empirical Methods in Economics
This course is divided into two parts. The first part focuses on learning about empirical methods and gaining familiarity with widely-used microeconomic data sources. Importantly, students will learn how to apply these methods and tools on microdata to establish empirical patterns and causal relationships. The second part focuses on learning about computational methods to solve macroeconomic models. The objective here is to gain theoretical insights that are testable against microeconomic data and useful to inform policy makers.
Credit 3 units.

L11 Econ 538 Economics of Education
This course deals with the economics of schooling and the accumulation of human capital. The sub-topics include public financing of education (e.g., vouchers), residential sorting based on school quality, income distribution, college loans and default rates.
Credit variable, maximum 3 units.

L11 Econ 539 Topics in Human Capital
This course deals with advanced research topics in human capital.
Credit 3 units.

L11 Econ 540 Bias and Decisions in Economics
In this course, we will read and discuss economic research on bias and the criminal justice system. There are two central questions in the course. First: how to define and uncover unwarranted bias in a strategically complex setting with information constraints. Second: how to apply these methods to the particular setting and data of criminal justice. In addressing these questions, we will weigh the value of different definitions of bias and different econometric approaches to the criminal justice system. Topics include: outcome tests, judge instruments, binary classification analysis, and modeling the incentives of citizens, police, prosecutors, judges, and parole/probation officers.
Prerequisite: Econ 503, Econ 504, Econ 512, Econ 5161.
Credit 3 units.

L11 Econ 542 Growth Theories and Growth Models
This is a course in growth theory, which means it is a course about coherent mathematical formalizations of how some people think economic growth has come around. There are too many theories, though, and most of them have little to do with anything we have ever observed in human history. Some theories are elegant and parsimonious, even beautiful, but they belong to the science fiction section: they talk about the economic growth that could have possibly happened on some planet, but did not happen on ours. One should learn about their existence, and make a memo to never again walk along those paths to try understanding economic growth on planet Earth. Other theories, e.g. those assuming exogenous growth, are really not theories but useful accounting frameworks from where one should start asking the modeling questions. The course is structured along a "history of economic thought" line: it begins with the classical economists (Ricardo, Malthus and Marx) as they had theories about the necessary absence of economic growth in the long run, and it ends with the current theories about increasing returns, widespread externalities and the weightless economy. The approach is fairly rigorous, but it assumes that participants read the original articles/books and go through the proofs themselves. As we go along we try to separate good theories from bad theories and, more important, we try to separate theories from models, the latter being theories that have some qualitative and quantitative consistency with observed facts. It is models, at the end, that we want to learn about.
Credit 3 units.

L11 Econ 543 Public Economics
Topics in welfare economics and public choice including classical welfare theorems, market failure and externalities, cost benefit analysis, public goods, Lindahl equilibrium, Coase's theorem, voting models of allocation, and other topics as time and interest allows.
Credit 3 units.

L11 Econ 544 Taxation
An economic analysis of principles and approaches to taxation, with emphasis on the major forms of taxation employed in the federal and state-local tax structures. Specific problems relating to efficiency, equity, shifting, and incidence are among the topics covered.
Credit 3 units.

L11 Econ 545 Social Choice and Welfare
Introduction to social choice theory which studies the aggregation of individual preferences in economic, political and social contacts, in an attempt to provide an integrated fromework with which to evaluate collective decision making. Applications of the theory in the formal modelling of economic and political choice. 3 class hours a week.
Credit 3 units.

L11 Econ 5451 Public Finance
The study of fundamental forms of market failure that provide the economic rationale for government action. The first third of the class examines market failure when an economy contains externalities and public goods and the general nature of public policies that address these issues. The second third addresses particular public policies, with a focus on their intended and unintended consequences and their costs. The final third addresses taxation. Topics include the measurement and evaluation of tax burdens, the federal personal income tax, tax evasion, and proposals for fundamental tax reform. We use a small amount of microeconomic theory and elementary calculus (all of which we review) to reveal the common core of ideas behind these discussions, but the focus of the course is on applications.
Prerequisite: Econ 401.
Credit 3 units.

L11 Econ 547 Empirical Public Finance
The course will consider empirical and institutional aspects of public finance. Topics in local public finance, such as intergovernmental relations, the Tiebout hypothesis, and property taxation will be studied from an applied point of view. Topics in national public finance include the personal income tax, corporate taxation, social security, and tax reform. Public deficits and debt will be examined, as will applied general equilibrium models.
Credit 3 units.

L11 Econ 551 Seminar in Political Economy
This research seminar will introduce the student to recent work on the political economy of democracy. We shall start with a historical account of the development of democratic institutions in Britain and the United States, and then continue with recent work on modeling elections. We shall compare elections in countries that make use of proportional electoral systems, such as Israel, with those like the United States and Britain that are highly majoritarian. Finally we shall discuss the forces of democratization and globalization. The required work for the seminar is a research paper approximately 20pp (double spaced) in length.
Same as L32 Pol Sci 4551
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 552 Contract Theory
This course will cover the major models used to analyze contracting behavior and contract law. As law professors, some attention will be paid to the legal rules governing enforcement and interpretation. The course is designed for advanced graduate students in economics, political science, and law. As a prerequisite, we require the initial sequence in microeconomics.
Credit 3 units.

L11 Econ 555 Economics of Industrial Organization I
Industrial organization is the study of competition between firms in the same industry. This course will survey topics in IO, including models of oligopoly and cartel behavior, pricing, vertical relationships, and antitrust policy. The course will also survey common empirical methods with an emphasis on their applications to questions in industrial organization. By the end of the course, students will begin to formulate and pursue their own research questions.

Credit 3 units.

L11 Econ 5551 Economics of Industrial Organization
Focus on economics and politics of regulation from theoretical and empirical perspectives. Concepts of strategic behavior, imperfect information and agency theory used to examine various regulatory issues and the incentives created by regulatory policy; evaluation of empirical papers which analyze the effects of regulation in different industries. Study of the impacts of political forces on the development, design and implementation of regulatory policy. Econ 555 is strongly recommended.
Credit 3 units.

L11 Econ 5552 Theory of the Firm
Course examines the theory and eveidence concerning the organization of firms and markets. We begin with the Ronald Coase paper on "Theory of the Firm" and follow the subsequent literature of various schools, including the works of Oliver Williamson, Armin Alchian, and Harold Demsetz. This course will focus heavily on research strategies to improve our knowledge of the institutions of market exchange.
Credit 3 units.

L11 Econ 5553 Topics in Empirical Industrial Organization
This course will focus upon empirical research investigating the relationships between the structure of industry, firm conduct, and industry performance. Topics will include the study and inference of firm costs, tests for market power and collusion, and the study of industries with differentiated products. Special attention will be paid to the actual implementation of relevant econometric techniques.
Credit 3 units.

L11 Econ 5554 Firms, Markets, and Institutions
We begin with the Ronald Coase paper on "Theory of the Firm" and follow the subsequent literature of various schools, including the works of Oliver Williamson, Armin Alchian, and Harold Demsetz. This course will focus heavily on research strategies to improve our knowledge of the institutions of market exchange.
Credit 3 units.

L11 Econ 558 Matching and Assignment
This course introduces you to formal modeling in two-sided matching and assignment problems and suggests some interesting directions for future research. We will discuss de- centralized matching markets (e.g., the marriage market), matching markets through institutions (e.g., medical labor market and school choice problem), and assignment problems (e.g., housing allocation). We study existing or new market institutions, understand their properties, and think about whether they can be reengineered or improved. This course assumes knowledge of the first-year economics PhD sequence, especially microeconomic theory.
Credit 3 units.

L11 Econ 5591 Elements of Experimental Methodology in Economics
The course will discuss: How experiments designed to falsify theory are on more solid ground than experiments designed to test alternative policies, with examples. How insights into subjects' divergence from theoretically predicted behavior may be related to replicable experience(s), as opposed to postulated nonstandard preferences. Aspects of how laboratory methodologies differ from field methodologies.
Credit 1 unit.

L11 Econ 568 Research Seminar in Health Economics
Introduction to research that uses economics to explore health and medical care. Overview of the major topics in health economics, including adverse selection, moral hazard, asymmetric information, health insurance, health outcomes and treatment effects, hospital organization, and Medicare/caid. Students will develop the ability to critique current research and policy proposals in the field. This objective will be accomplished through in-depth discussions of journal articles and a research project.
Credit 3 units.

L11 Econ 5711 Development Economics
This course covers advanced topics in development economics. We will integrate state-of-the art microeconometric tools and quantitative macro theory. First, we will discuss development facts from latest household cross-sectional and panel data from developing countries as well as macro development facts from aggregate data. Second, we will introduce consumption theory (intertemporal choice and PILCH models with borrowing constraints) and discuss its applications to development. Third, we will study consumption risk and insurance in village economies and introduce the cases of endogenous incomplete markets. Here, we will pay particular attention to Sub-Saharan African countries and China. Fourth, we will move beyond villages and make a first attempt to link individual risk and insurance to aggregate development. To do so we will introduce macro models with heterogeneous agents and show their solution under aggregate risk and non-stationary development processes. Specifically, we will analyze how to embed individual risk into models of structural transformation. Fifth, we will discuss missallocation issues arising from policies on firms, policies on land and gender-biased social norms. Sixth, we will revisit the relationship between fertility and income/land in developing countries. Seventh, we will study health behavior and risk to understand the effects of disease (e.g. HIV, malaria) and assess the role of prevention strategies and palliative policies. Eighth, we will study how to integrate field experiments and structural modeling to evaluate policy
Credit 3 units.

L11 Econ 572 Economic Growth
The objective of this course is to provide an introduction to the mathematical techniques necessary to study stochastic dynamic economies with particular emphasis on models of growth and asset pricing. The first part of the course will cover basic results in continuous time stochastic process, and develop the essentials of stochastic calculus. In the second part, those tools will be used to analyze a variety of issues related to growth and asset pricing. A partial sample of the questions that will be discussed includes: " The effects of policy and real instability on growth paths. " The impact of tax and fiscal policies on economic performance. " The equilibrium determination of asset prices and their relationship with real shocks. " The connection between aggregate quantities and the price of fixed income securities.
Credit 3 units.

L11 Econ 5725 Quantitative Macroeconomic Theory
This course follows the first year macro sequence: 501 and 502. Our goal in this course is to learn tools that help us to relate models to data, that is, we aim to learn how to answer quantitative questions and we will learn to do so via intensive computational work by students. We will learn how to construct and characterize equilibrium allocations of representative agent models, overlapping generations models and heterogeneous agents economies. We will learn the computational tools to solve those artificial economies in stationary and non-stationary environments such as business cycles or development processes taking good care of distributions and aggregate consistency.

Much emphasis of this course is on the calibration process: we will spend much time discussing the mapping from theory to data. The grade will be a weighted average of regular homeworks, class presentations and a referee report.
Credit 3 units.

L11 Econ 577 International Finance and Open Economy Macroeconomics
Graduate seminar in international macroeconomics. Topics include exchange rates, international trade and capital flows, monetary policy coordination, and currency unions.
Credit 3 units.

L11 Econ 578 International Macroeconomics
The aim of this course is to cover several topics related to international macroeconomics, such as open economy real business cycle models, small open economy models, sovereign default models, and models of international capital flows. The course is intended to provide students with a battery of tools that will help them to identify relevant questions and the right approach (methodology) to solving them; students will also learn different quantitative methods for solving the models that we study throughout the semester. For the student, the goals are to start thinking about possible research questions, to learn how to develop a research plan, and to transmit ideas in an effective way.
Credit 3 units.

L11 Econ 581 Seminar in Growth and Development
This course is designed to discuss frontier research in economic growth and development. Topics are chosen by the instructor from empirical and theoretical research in the areas. Issues to be studied vary but may include the foundation of modern theory, the dynamic process of industrial transformation, technological progress, human and physical capital accumulation, financial development, as well as the role of government and institutional factors in advancing a market economy. Student participation in class discussions of research papers is essential.
Credit variable, maximum 1.5 units.

L11 Econ 582 Seminar on Work, Family, and Public Policy
This course examines various topics in labor economics and the economics of the family, including but not limited to, the allocation of time, family bargaining, and the economics of health. The course meets once a week (every Monday, 12:00 - 1:30) for both the fall and spring semesters. To receive credit, students are required to attend all course meetings for both semesters. The course will be integrated with a biweekly workshop series. Thus, there will an outside speaker every other Monday. Students will be expected to read and report on papers in the literature. Students will also be expected to write a paper and present it during the spring semester.
Credit 3 units.

L11 Econ 582A Seminar on Work, Family, and Public Policy I
This course is a continuation of Econ 582, which examines various topics in labor economics and the economics of the family, including but not limited to, the allocation of time, family bargaining, and the economics of health. The course meets once a week (every Monday, 12:00 - 1:30) for both the fall and spring semesters. To receive credit, students are required to attend all course meetings for both semesters. The course will be integrated with a biweekly workshop series. Thus, there will an outside speaker every other Monday. Students will be expected to read and report on papers in the literature. Students will also be expected to write a paper and present it during the spring semester. Econ 582 and 582A may be both taken for credit, in either order.

L11 Econ 583 Topics in Labor Economics I
The course proceeds in four parts. First, a number of main themes in labor economics is covered, including labor demand, labor supply, and life-cycle models. The second section is a chronology of the female labor supply literature, which traces the development of research on women's labor supply from the early 1960s to the present. The third section is an economic analysis of unions, collective bargaining, and strikes. The final section is a detailed analysis of an assortment of recent papers, which represent the best current research in labor economics.
Credit 3 units.

L11 Econ 5830 Mathematical Economics
The objective of this course is to develop the mathematical tools necessary for the study of intermediate micro- and macro-economic theory and the advanced electives in economics. The principal focus will be the calculus of multivariate functions (including total and partial differentiation), unconstrained and constrained optimization of multivariate functions, and implicit and inverse function rules. Time permitting, additional topics will be introduced. Economics majors and minors must take this course (or Math 233) prior to, or concurrently with, Econ 4011. Students who have taken, or are taking, Math 233 are encouraged to take this course as well. Prerequisites: Econ 1011 and Econ 1021, and Math 132.
Same as L11 Econ 493
Credit 1 unit. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 584 Topics in Labor Economics II
Course will examine three topics in labor economics: human capital (including the demand for education and the determinants of earnings); economics of the family (including models of the marriage market and bargaining models of marriage); formation of preferences (including "habit formation" and "rational addiction"). All three topics are closely associated with Gary Becker. Course will examine his contributions and the view of his critics.
Credit 3 units.

L11 Econ 586 Seminar in Macro and Monetary Economics
Topics chosen by instructor from modern empirical and theoretical research papers in macroeconomics. Student participation in class discussions of research papers is essential. Topics vary, but may include the link between capital markets, consumption and investment, imperfect competition and macroeconomic fluctuations, real business cycles models, and post-Keynesian macroeconomics.
Credit 1.5 units.

L11 Econ 586C Topics in Monetary Economics and Macroeconomics
Topics for this course to be determined by the instructor.
Credit 3 units.

L11 Econ 586D Seminar on Macro and Monetary Economics
The purpose of this seminar is to expose advanced graduate students to people doing cutting-edge research in broadly-defined dynamic economics. Outside visitors and department staff will lecture and lead discussions on a variety of current research topics including macroeconomic theory, financial markets and fiscal policy, money and monetary policy, asset pricing, international finance, growth and business cycles, development macroeconomics and other areas of interest. Prerequisites are Econ 501 and 502 or their equivalent.
Credit 3 units.

L11 Econ 5875 Financial Markets, Institutions, and the Regulatory Challenge
Graduate students will attend the same lectures and complete the same assignments as the advanced undergraduates in Econ 4875. Graduate students will read additional papers, write referee reports on these papers, and practice discussing them in academic-conference style to develop these important professional skills.
Credit 3 units.

L11 Econ 589 Seminar in Dynamic Economics
The purpose of this seminar is to expose advanced graduate students to people doing cutting-edge research in broadly-defined dynamic economics. Outside visitors and department staff will lecture and lead discussions on a variety of current research topics including macroeconomic theory, financial markets and fiscal policy, money and monetary policy, asset pricing, international finance, growth and business cycles, development macroeconomics and other areas of interest. Prerequisites are Econ 501 and 502 or their equivalent.
Credit variable, maximum 1.5 units.

L11 Econ 598 Research in Economics
Individual programs of intensive readings for Ph.D. candidates in Economics. Students must register for a particular section with a specific faculty member, and consult with the faculty member about course requirements at the time of registration.
Credit variable, maximum 6 units.

L11 Econ 5991 Money and Macroeconomics Workshop
This is a two-semester workshop covering contemporary topics in money and macroeconomics with presentations by economics department faculty and scholars from other institutions. Students are expected to participate in the seminar discussion and may be asked to read research papers and present their contents to the class.
Credit 3 units.

L11 Econ 5992 Money and Macroeconomics Workshop
This is a two-semester workshop covering contemporary topics in money and macroeconomics with presentations by economics department faculty and scholars from other institutions. Students are expected to participate in the seminar discussion and may be asked to read research papers and present their contents to the class. This is to be used when graduate students have accumulated a total of 72 units of study. Audit only.

L11 Econ 5993 Economic Theory Workshop
This is a two-semester workshop covering contemporary topics in economic theory with presentations by economics department faculty and scholars from other institutions. Students are expected to participate in the seminar discussion and may be asked to read research papers and present their contents to the class. Credit 3 units.
Credit 3 units.

L11 Econ 5994 Economic Theory Workshop
This is a two-semester workshop covering contemporary topics in economic theory with presentations by economics department faculty and scholars from other institutions. Students are expected to participate in the seminar discussion and may be asked to read research papers and present their contents to the class. This number is to be used by graduate students who have reached the maximum of 72 units. Credit 0 units. Audit only.

L11 Econ 5995 Applied Economics Workshop
This is a two-semester workshop covering topics in applied economics with presentations by economics department faculty and scholars from other institutions. Students are expected to participate in the seminar discussion.
Credit 3 units.

L11 Econ 5996 Applied Economics Workshop
This is a two-semester workshop covering topics in applied economics with presentations by economics department faculty and scholars from other institutions. Students are expectd to participate in the seminar discussion. This is to be used when grduate students have accumulated a total of 72 units of study. Audit only. Credit 0 units.

L11 Econ 5997 Development & Public Policy Workshop
This is a two-semester workshop covering topics in applied economics with presentations by economics department faculty and scholars from other institutions. Students are expected to participate in the seminar discussion.
Credit 3 units.

L11 Econ 5998 Development and Public Policy Workshop
This is a two-semester workshop covering topics in applied economics with presentations by economics department faculty and scholars from other institutions. Students are expected to participate in the seminar discussion. This is to be used when graduate students have accumulated a total of 72 units of study. Audit only. Credit 0 units.

L11 Econ 6210 Topics in Financial Economics
The objective of the course is to develop the basic economic models that can be used to study the valuation of different financial assets and to discuss how to confront the theory with the evidence from financial markets. The course will develop the basic model of investment under uncertainty and discuss portfolio choices in static and dynamic settings as well as market equilibria and the impact of news on the forecast-ability of excess returns. The course will describe valuation in incomplete asset markets (e.g. arbitrage pricing theory) and the extension to the valuation of firms and real estate assets. Prerequisites: Econ 4011, Econ 4021 and Econ 413. 3 units.
Same as L11 Econ 4210
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 6211 Topics in Financial Economics: Investments
This course surveys recent developments in investments and portfolio management. The course aims to provide students with a structure for thinking about investment decisions from the perspective of a portfolio manager. We start by understanding fundamental concepts for investment theory: modern asset valuation and portfolio selection under uncertainty. We will proceed to investigate various sources of risk which financial institutions are exposed to, such as interest rate risk, credit risk and liquidity risk, and study how financial institutions manage these risks. The course will also introduce student to investment evaluation techniques. We will explore recent innovations in financial markets, as well as various frictions that arise in markets. Students will have the opportunity to apply concepts learned in class on a virtual investment and trading platform, StockTrak. Prerequisites: Econ 4011, Math/SDS 2200 (or Math/SDS 3200, Math/SDS 3211, QBA 120 and QBA 121, ESE 326.) or PolSci 363 with permission from instructor.
Same as L11 Econ 4211
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 6240 Money & Monetary Policy
We will explore several classic questions in the theory of money. What is money? What forms does money take? Why is money necessary-why is there a demand for money? What determines the supply of money? What is the debate on central versus free banking? Should banking be regulated, and, if so, why and how? What determines inflation? Should nations enter into fixed exchange rate regimes, or should they let the value of their monies be market-determined? What are the tensions that arise in fixed exchange rate regimes and common currency areas? How should policymakers view cryptocurrencies? Is a central bank digital currency desirable? These, and other questions, are explored within the context of theories that model the microfoundations of monetary exchange explicitly. PREREQUISITES: Econ 4011 and Econ 4021. 3 units.
Same as L11 Econ 448
Credit 3 units. A&S IQ: SSC EN: S

L11 Econ 6310 Behavioral Economics and Experimental Economics
Behavioral economics is an effort to incorporate ideas from psychology into economic models of behavior. We will focus on popular experimental anomalies, including the Allais and Rabin paradoxes, ultimatum bargaining, the centipede and public goods contribution games. We will examine the extent to which these are consistent with standard economic theory and how they may contradict it. The primary focus will be a critical examination of psychological theories of non-standard preferences including loss aversion, probability weighting, reciprocity, fairness and present bias. Theories of incorrect beliefs and systematic biases such as money illusion and procrastination will be covered. The class will include an introduction to experimental methods in economics, including hands-on experience in the MISSEL laboratory. A sound grounding in economic theory is essential to the course. You must have successfully completed Economics 4011, and should be acquainted with basic optimization theory, expected utility theory, risk aversion, discounting and basic game theory including dominance, Nash equilibrium and subgame perfection.
Same as L11 Econ 404
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 6315 Market Design
The objective of this course is to study how to design mechanisms to allocate scarce resources and how to create successful marketplaces. We will primarily consider two topics: (1) two-sided matching markets, such as the National Resident Matching Program and the Kidney Exchange for transplants, and (2) auctions used by Google, Facebook, etc. Time permitting, a third topic will be the problem of designing and regulating market "platforms," such as the e-commerce markets run by eBay, Amazon, and Craigslist, and applications marketplaces run by Apple, Google, etc., as well as the electronic financial trading platforms run by the NYSE. Prerequisite: Econ 4011. 3 units.
Same as L11 Econ 407
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 6335 Industrial Organization
Theoretical and empirical analysis of the presence and value of competitive forces in the United States economy. Theories of industrial organization and development of criteria for performance of noncompetitive industries. Prerequisite: Econ 4011.
Same as L11 Econ 452
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 6340 Auction Theory and Practice
This course will use the theoretical and empirical tools of economics to study auctions, which are one way of buying and selling goods (or services). The course begins with a consideration of optimal bidding in different types of auctions. We will explore how to design auction rules that maximize the seller's revenue, or minimize the buyer's cost (such as in the case of government procurement). We will also study how to design auction rules that improve efficiency by reducing collusion by bidders. The course will conclude by using econometrics to analyze "real-world" auction data to estimate preferences and cost distributions; to determine optimal reserve prices; and to answer some questions related to auction design. Familiarity with computer programming/estimation, such as with MATLAB, R, or Julia, will be helpful. Prerequisites: Econ 4011 and Econ 413 or Econ 413W.
Same as L11 Econ 4567
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC

L11 Econ 6345 Labor Economics
Economic analysis of labor markets. Theory and evidence on supply of and demand for labor, explanation of wage and income differentials; impact of education on human skills and productivity. Prerequisite: Econ 401 and Econ 413.
Same as L11 Econ 480
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 6390 Economics of Education
The "economics of education" involves analysis of the economic and social determinants and consequences of education. Because each person´s education is an investment in human capital which allows the individual to contribute to society in a productive way, education becomes a crucial determinant of an economy´s ability to achieve high growth with high wages, low unemployment and strong social cohesion. This course will address three essential topics from the wide-ranging field of the economics of education. The first is demand-side oriented and includes: (i) the measurement of the returns to education in the labor market (human capital theory; the central idea of education as human capital investment); and (ii) a characterization of the education production function, which relates the various inputs affecting a student´s learning (schools, families, peers, neighborhoods, etc.) to measure outputs including labor market success, graduation rates and standardized test scores. The second important topic involves political economy and the supply side: the financing and provision of education. The third part of the course is devoted to the links between education and economic development, including cross-country differences in schooling, returns to schooling and per-capita income. Prerequisites: Econ 4011, Econ 4021, and Econ 413.
Same as L11 Econ 483
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 6410 Macroeconomics of Inequality
In this course, we study the driving forces of inequality across countries, across time, and across individuals within a country. We will define and measure inequality using standard measures of economic well-being, such as income, wealth, and consumption of market goods, and we will also consider broader measures such as health outcomes. Historical cross-country data, microdata, and specific case studies will be used to evaluate theories of the sources of inequality. Key variables to be evaluated include physical capital investment, education and human capital investment, technological progress, robotization, international trade, and financial markets, among others. Prerequisites: Econ 4011 and Econ 4021.
Same as L11 Econ 410
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 6420 Computational Macroeconomics
This course provides a more in depth look into quantitative methods used in contemporary macroeconomic analysis. We will cover numerical methods used in dynamic optimization. In practice, we will apply these methods to solve two major models used in macroeconomic analysis, using both Excel and Matlab. The Neoclassical Growth Model and its variants are used to study aggregate

trends and aggregate effects of government policy. The lifecycle model is used to examine questions involving decision-making over the lifecycle. We will learn how to use empirical observations for the purpose of calibrating model parameters and how to conduct policy evaluation in the context of calibrated models. Our policy evaluation will focus on fiscal policy (taxes) and social security issues. Prerequisites: Econ 4011 and Econ 4021.
Same as L11 Econ 484
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 6480 Current Macroeconomic Issues
Review and extension of macroeconomic models from Econ 4021 from a comparative perspective and use of these models to analyze current macroeconomic and policy issues. Topics include recession and recovery, long-term growth, saving and social security, investment, and monetary policy. Multiple writing assignments that emphasize critical analysis of theoretical perspectives and readings applied to current macroeconomic topics. Writing will be revised to improve logical structure, clarity, and style. Enrollment limited to 15 students with priority given to senior economics majors. Prerequisite: Econ 4021. All students who pre-register will be put on the wait list. Students will receive an email immediately after pre-registration requesting more information.
Same as L11 Econ 448W
Credit 3 units. A&S IQ: SSC, WI Arch: SSC Art: SSC EN: S

L11 Econ 6520 Topics in Growth and Development
This course highlights important empirical facts concerning growth and development in various countries at different development stages. Fundamental growth theory is then provided for explaining these facts systematically and for evaluating the consequences of commonly adopted development policies. Topics vary, but may include population, human capital and labor market development, R&D and innovation, finance and growth, modernization and industrial transformation, world income disparities and poverty problems, institutions and political economy issues, environmental and social factors, and international trade and economic integration. Prerequisites: Econ 4011 and Econ 4021. Credit: 3 units.
Same as L11 Econ 472
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 6710 Game Theory
This course covers advanced applications of Game Theory in economics. Topics include expected utility, strategic-form and extensive-form games with perfect information, Bayesian games, infinitely repeated games, dominance, Nash equilibrium and its refinements. We apply these tools to study strategic situations in industrial organization, auctions, bargaining, voting, and signaling games. Prerequisites: Econ 4011 and SDS 2200.
Same as L11 Econ 467
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L11 Econ 6840 Introduction to Stata
This short course introduces students to the data analysis and statistical software tools used in upper-level econometrics and applied economics courses. The course is designed to serve as a bridge between introductory econometrics and practical work with real-world databases. The course will be held in the computer classroom so that students can obtain hands-on experience with data preparation, workflow, and modeling using the Stata statistical software package. Emphasis throughout the course is placed on examples of applications in economics. PLEASE NOTE: 1. This course must be taken for a letter grade; the P/F and audit grade options are not available. 2. Students cannot use WebStac to add or drop this course after the first session -- contact dottie@wustl.edu for scheduling issues. 3. The final exam will occur on the last day of class, per the course syllabus. Prerequisites: prior completion of, or concurrent enrollment in, Econ 413.
Same as L11 Econ 494
Credit 1.5 units.

L11 Econ 6841 Economic Analysis with Excel
This mini course offers students the opportunity to master the advance functionality of Microsoft Excel, and to apply those skills to common economic, statistical, and financial problems. Even those familiar with the basic functioning of Excel may be surprised to learn how little of its full capability most users access. Though basic functions will be covered, our focus will be on leveraging Excel's more advanced functions, analytical tools, reporting templates, and linking features to manage multiple workbooks, manipulate data across files, automate tasks, and produce publication quality charts, tables, and graphs. In addition to providing hands-on experience using Excel's advanced capabilities, the course is designed to serve as a bridge between introductory econometrics and practical work with real-world datasets. The course will be held in the computer classroom so that students can obtain practical experience preparing data, managing workflow, and presenting results. Added emphasis throughout the course will be placed on examples with applications in economics. Prerequisites: prior completion of, or concurrent enrollment in, Econ 413 (or equivalent).
Same as L11 Econ 4941
Credit 1.5 units.

L11 Econ 7100 Teaching Practicum in Economics (MA)
Opportunity for Master's candidates to assist in course instruction, tutoring, and preparation of problems, readings, and exam materials under supervision of faculty. Credit variable; maximum 3 units.
Credit variable, maximum 3 units.

L11 Econ 7110 Readings in Economics
Individual programs of intensive readings for Master's candidates in Economics. Students must register for a particular section with a specific faculty member, and consult with the faculty member about course requirements at the time of registration.
Credit variable, maximum 6 units.

L11 Econ 7120 Research in Economics
Individual programs of intensive readings for Master's candidates in Economics. Students must register for a particular section with a specific faculty member, and consult with the faculty member about course requirements at the time of registration.
Credit variable, maximum 6 units.

L11 Econ 8212 Financial Infrastructure
This course explores recent developments on the interaction between market power and financial markets. Market power is pervasive across all sectors of economic activity. In financial markets, market power is essentially an outcome of market structure. Thus decentralized trading, either in over the counter or fragmented markets, is inherently associated with market power. Implications of market power are wide-ranging. Market power can be a source of market incompleteness. As a consequence, market power directly affects financial products brought to the market. Thus, misallocation can arise due to market power. We will start the course with properly introducing the concept of market power and various ways of measuring it. We will then proceed to understand the particularities of market power in financial markets. We will pay attention to the implication of financial infrastructure

for innovation in financial products. We will conclude with a set of lectures that address questions at the intersection between financial markets and products markets and identify open areas for research. Prerequisites: Econ 501, Econ 502, Econ 503, Econ 504. 1.5 units
Credit 1.5 units.

L11 Econ 8740 Topics in Microeconomic Theory
This class covers select topics in microeconomics including choice theory, market design, and mechanism design using tools from discrete mathematics such as matroids and lattices. Special emphasis will be on affirmative action and diversity policies. Prerequisites: Econ 503 and Econ 504. 3 units.
Credit 3 units.

Economics, Accelerated AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

- Students are expected to maintain a cumulative grade point average of at least 3.0 on a 4.0 scale in courses that count toward their credit units. Note that plus and minus marks alter the numerical value of a letter grade.
- Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with a director of the AM program to ensure proper enrollment prior to the Add/Drop deadline.
- For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 30**
- **Degree Length: One year minimum, consecutive Fall and Spring semesters**
  - Students must begin the AM program in the Fall semester immediately following the completion of the undergraduate degree. Deferred admission or entry in the Spring or Summer semesters is not possible.

The Department of Economics offers a Five-Year Accelerated Master's Degree to qualified undergraduate students at Washington University.

Additional information about the Five-Year Accelerated Master's Degree program requirements and application process can be found on the department website.

Applications must be submitted by March 15 of the undergraduate's senior (or final) year, with February 15 as a preferred application deadline. GRE tests are not required, and there is no application fee. The program is available only to students currently in their senior (or final) year and only for continuous enrollment in the next academic year. There is no option for deferred admissions. Ideally, interested students should discuss their intent to apply with the Academic Coordinator (dottie@wustl.edu) by October of the senior (or final) year. The Academic Coordinator can explain, and assist with, the application process.

With pre-approval, students may apply two courses at the 400/4000-level or above (typically 6 units) toward the Master's degree program requirements. These pre-approved undergraduate courses must be completed with a final grade of B or higher. All admissions to the Master's program are provisional, pending the successful completion of the A.B. degree.

Required Courses

Students must complete the following 15 units:

Code	Title	Units
Econ 5011	Macroeconomics (MA)	3
Econ 5301	Financial Markets and the Macroeconomy	3
Econ 530A	Financial Economics	3
Econ 536	Econometrics	3
Econ 5361	Computational and Empirical Methods in Economics	3
Total Units		**15**

Elective Courses

Most students will complete five economics electives (15 units), drawn from economics courses at the 500/5000-level or higher.

- With preapproval from a director of the AM program, up to three electives (typically 9 units) may be drawn from other departments or schools.
- Up to 3 units of elective credit may come from completion of a capstone project, or up to 6 units of elective credit may come from completion of a thesis. See the next section for additional details.

Additional Details

- With preapproval from a director of the AM program, students may complete Econ 501 in lieu of Econ 5011, Econ 503 in lieu of Econ 5031, and/or Econ 5161 in lieu of Econ 536.
- Students interested in Econ 501, Econ 503, and/or Econ 5161 are welcome to attend the math/statistics "boot camps" for first-year PhD students. The "boot camps" occur in late July-mid August, and they meet in person. Please contact a director of the AM program, or the undergraduate Academic Coordinator, in the Department of Economics for further information.

- Students must complete a capstone experience consisting of either a capstone exam, a (3-unit, semester-based) capstone project, or a Master's thesis. (Refer to further details about the Master's thesis in the next section.)
  - The capstone project is a directed, independent-study project, supervised by a faculty member. A student may earn three units of elective credit that can be applied to the 30 units required for the AM degree. An application is required, and approval must be granted, in the semester prior to enrollment in the capstone-project course. Interested students should consult with a director of the AM program. Students who do not satisfactorily complete the capstone project must complete the capstone exam.
  - The capstone exam is a comprehensive examination reflecting the core, required classes in the AM program. The exam will be administered during the final exam period in the semester of graduation. Scheduling details will be provided by a director of the AM program. As with course grades, the exam must be passed with a grade of B or better to count towards the degree.

- Students are expected not to carry, at one time, any more than 9 units for which an I (incomplete), X (final examination missed), or N (grade not yet submitted) is recorded. The Office of Graduate Studies, Arts & Sciences, may deny a student permission to register for the subsequent semester when there are more than 9 unfinished units.

Thesis Requirements/Details

Students are required to have a capstone experience, and this may (optionally) take the form of an AM thesis. Three units of credit can be awarded each semester, for a maximum of 6 units toward degree requirements, for students writing a thesis. The thesis must satisfy the following requirements:

1. An undergraduate, senior Honors Thesis may not be used as the AM thesis. The AM thesis can be related to the senior Honors Thesis; but it must be a distinctly different paper. See the Academic Coordinator in the Department of Economics, the director of the AM program, and/or the Office of Graduate Studies in Arts & Sciences for Graduate Studies thesis guidelines.
2. Students writing an AM thesis must work with a faculty advisor. Ideally, finding an advisor and beginning research should begin during the senior year of the undergraduate degree.
3. The thesis topic is subject to approval by the master's student's faculty advisor and by a director of the AM program. As soon as the thesis topic has been approved (but no later than six months before the thesis defense is likely to occur), students should submit the Title, Scope and Procedure form to the Office of Graduate Studies, Arts & Sciences.
4. A Master's Thesis Guide and a template that provide instructions regarding the format of the thesis are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of thesis preparation.
5. AM students must defend their thesis before a group of selected faculty. The defense date and the selected faculty committee will be arranged between the student and that student's advisor. Students are required to make the full text of the thesis available to the committee members for their review at least one week before the defense. Most degree programs require two or more weeks for the review period; students should check with their faculty for further guidelines.
6. After the defense, the student must submit an electronic copy of the thesis online to the Office of Graduate Studies, Arts & Sciences via BePress at the university library. The degree program is responsible for delivering the Master's Thesis Approval form (PDF), signed by the committee members at the defense and then by the program chair, to the Office of Graduate Studies, Arts & Sciences. Students who defend their theses successfully have not yet completed their master's requirements; they finish earning the degree only when their thesis submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Phone:	314-935-5670
Email:	economics@wustl.edu
Website:	http://economics.wustl.edu/five-year-accelerated-masters-degree

Economics, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

- Students are expected to maintain a cumulative grade point average of at least 3.0 on a 4.0 scale in courses that count toward their credit units. Note that plus and minus marks alter the numerical value of a letter grade.
- Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with the a director of the AM program to ensure proper enrollment prior to the Add/Drop deadline.
- For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 30 credits of graduate-level course work**
- **Degree Length: One-year** minimum (consecutive Fall and Spring semesters)
  - Students normally take five required courses and five elective courses. Students can potentially substitute required courses with more advanced PhD-level courses with prior approval from the a director of the AM program.
  - Students must complete a capstone experience consisting of either a capstone exam, a capstone project (3 units of credit), or a Master's thesis (up to 6 units of credit).

AM in Economics

This program requires the completion of 30 credits of graduate-level course work, which is equivalent to two to three semesters of enrollment, depending on course load. A grade point average of B (3.0) or better must be maintained in graduate course work. The minimum residence requirement is one full academic year of graduate study.

Information about required and elective courses is available on the Master's Degree Program Structure page of the Department of Economics website.

Required Courses

Students must complete the following 15 units:

Code	Title	Units
Econ 5011	Macroeconomics (MA)	3
Econ 5031	Microeconomics (MA)	3
Econ 530A	Financial Economics	3
Econ 536	Econometrics	3
Econ 5361	Computational and Empirical Methods in Economics	3
Total Units		**15**

Elective Courses

Most students will complete five economics electives (15 units), drawn from economics courses at the 500/5000-level or higher.

- With preapproval from a director of the AM program, up to three electives (9 units) may be drawn from other departments or schools.
- Up to 3 units of elective credit may come from the completion of a capstone project or up to 6 units of elective credit may come from the completion of a thesis.

Additional Information

- With preapproval from a director of the AM program, students may complete Econ 501 in lieu of Econ 5011, Econ 503 in lieu of Econ 5031, and/or Econ 5161 in lieu of Econ 536.
- Students interested in Econ 501 , Econ 503, and/or Econ 5161 are welcome to attend the math/statistics “boot camps” for first-year PhD students. The “boot camps” occur in late July-mid August, and they meet in person. Please contact a director of the AM program, or the undergraduate Academic Coordinator, in the Department of Economics for further information.
- Students must complete a capstone experience consisting of either a capstone exam, a (3-unit, semester-based) capstone project, or a Master’s thesis. (Refer to further details about the master’s thesis in the next section.)
  - The capstone project is a directed, independent-study project, supervised by a faculty member. A student may earn three units of elective credit that can be applied to the 30 units required for the AM degree. An application is required, and approval must be granted, in the semester prior to enrollment in the capstone-project course. Interested students should consult with a director of the AM program. Students who do not satisfactorily complete the capstone project must complete the capstone exam.
  - The capstone exam is a comprehensive examination reflecting the core, required classes in the AM program. The exam will be administered during the final exam period in the semester of graduation. Scheduling details will be provided by a director of the AM program. As with course grades, the exam must be passed with a grade of B or better to count towards the degree.
- Students are expected not to carry, at one time, any more than 9 units for which an I (incomplete), X (final examination missed), or N (grade not yet submitted) is recorded. The Office of Graduate Studies, Arts & Sciences, may deny a student permission to register for the subsequent semester when there are more than 9 unfinished units.

Thesis Requirements/Details

Students are required to have a capstone experience, and this may (optionally) take the form of an AM thesis. Three units of credit can be awarded each semester, for a maximum of 6 units toward degree requirements, for students writing a thesis. The thesis must satisfy the following requirements:

1. Students writing an AM thesis must work with a faculty advisor. Ideally, finding an advisor and beginning research should begin during the first semester of the degree program.
2. The thesis topic is subject to approval by the master's student's faculty advisor and by a director of the AM program. As soon as the thesis topic has been approved (but no later than six months before the thesis defense is likely to occur), students should submit the Title, Scope and Procedure form to the Office of Graduate Studies, Arts & Sciences.

3. A Master's Thesis Guide and a template that provide instructions regarding the format of the thesis are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of thesis preparation.
4. AM students must defend their thesis before a group of selected faculty. The defense date and the selected faculty committee will be arranged between the student and that student's advisor. Students are required to make the full text of the thesis available to the committee members for their review at least one week before the defense. Most degree programs require two or more weeks for the review period; students should check with their faculty for further guidelines.
5. After the defense, the student must submit an electronic copy of the thesis online to the Office of Graduate Studies, Arts & Sciences via BePress at the university library. The degree program is responsible for delivering the Master's Thesis Approval form, signed by the committee members at the defense and then by the program chair, to the Office of Graduate Studies, Arts & Sciences. Students who defend their theses successfully have not yet completed their master's requirements; they finish earning the degree only when their thesis submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

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Economics, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 30** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length:** 5 to 6 years
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Funding is available for 6 years.

PhD in Economics

General Course Requirements

The PhD in Economics takes five years to complete and requires at least 30 units of 500-level courses with a 3.0 grade point average. Students may transfer up to 24 units of graduate credits completed elsewhere, but they are advised to make such a transfer only after consultation with the director of graduate studies.

Courses taken must include the following:

1. Microeconomic theory and macroeconomic theory: 12 units (Econ 501, Econ 502, Econ 503, Econ 504); and
2. Quantitative methods and econometrics: 9 units (Econ 511, Econ 512, Econ 5161).

An Ideal Chronology of PhD Study

Summer Before the First Year (August)

- Mathematics review and statistics review

Year 1

Core Courses:

Fall Semester	Spring Semester
Econ 501 Macroeconomics I	Econ 502 Macroeconomics II
Econ 503 Microeconomics I	Econ 504 Microeconomics II
Econ 511 Quantitative Methods I	Econ 512 Quantitative Methods II
Econ 5161 Applied Econometrics	

Year 2

- Preliminary exams in late August; retake preliminary exams (if necessary) in January
- Field courses
- Research paper proposal

Year 3

- Complete research paper
- Dissertation proposal

Year 4

- Write dissertation
- Prepare and present job market paper

Year 5

- Enter the job market
- Finish and defend the dissertation

More information on degree requirements may be found on the Department of Economics website.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

In economics, students must qualify to advance to the dissertation stage in each of three core fields: microeconomics, macroeconomics, and econometrics. In each field, students may qualify by achieving an A- or higher in their first-year coursework, or through a qualifying exam. Exams are given in August at the beginning of the second year, with a second attempt available in January.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts &

Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way/ In Lieu of a PhD

Students who do not pass preliminary qualifications are usually eligible for a master's degree based on course work, in lieu of a PhD.

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Education

The Department of Education at Washington University in St. Louis is an interdisciplinary community that bridges the theoretical and research foundations of education, traditional academic disciplines (e.g., sociology, psychology, history), and the professional practice of education. Our academic programs span a variety of disciplinary perspectives, methodological approaches (e.g., quantitative, qualitative), and levels of analysis ranging from the individual to complex systems. Each of us works from a disciplinary perspective, but we embrace and utilize other perspectives because such disciplinary synergies are critical to understanding and impacting the complex world of education. Individually and as a community, we are working to change education and other systems that perpetuate inequity and inequality. Further, our departmental theme of "Equalizing Educational Opportunity: Equity, Inclusion, and Success in Classrooms, Schools, and Communities" encapsulates this work.

The Department of Education offers full-time programs for graduates who desire a **Master of Arts in Teaching** (Grades 5-9, 9-12, or K-12), a **Master of Arts in Education** (Grades 1-6), or a **Doctor of Philosophy (PhD) in Education.** In addition, the department offers a **Graduate Certificate Program in Higher Education (GCPHE)** for current Washington University doctoral students.

The teacher certification master programs are ideal for those who want to become public school teachers. Our master programs leading to teacher certification are designed for students who do not have a background in a teacher education program leading to certification. The **Master of Arts in Teaching** (MAT) is for students seeking secondary teacher certification in a specific subject area; the **Master of Arts in Education** (MAEd) is for students seeking elementary teacher certification. In addition, we offer a **4/1 Accelerated AB/MAT Degree Program** for undergraduates at Washington University in St. Louis.

In partnership with the Brown School of Social Work at Washington University in St. Louis, the Department of Education offers three concentrations for the **MSW/MAEd** dual degree program. After completing one year in the Brown School toward the MSW, students will spend three semesters in the Department of Education completing a concentration in Elementary Teacher Certification, Educational Studies, or Higher Education. Students will then finish their MSW during their final spring semester for a total of three years in the dual degree program. See the *Bulletin* page for the MSW/MAEd program and the Brown School website to learn more about the MSW/MAEd program.

The **PhD in Education** is aimed at strengthening and deepening the student's analytical understanding of education in both research and practice. Students working toward a PhD in Education are expected to acquire an understanding of education as a complex social, cultural, moral, and political activity undergirded by a commitment to advancing educational equity and countering the status quo. Students further engage with education as a field of study with rich literature bases and strong ties to disciplinary knowledge, classroom practice, and a variety of technologies. Through the PhD in Education, students work closely with our faculty who bring special interests and expertise to the examination of educational interactions in such contexts as schools, families, and other cultural institutions. Students are expected to acquire theoretical and empirical expertise in an area of focus — Educational Policy Studies or Educational Psychology — even as they demonstrate their broader understanding of educational processes and problems. Moreover, students are expected to acquire methodological competence in empirical inquiry and to pursue research questions that are of interest and import for the student individually as well as for a larger educational community. Graduates of the PhD program will be prepared to join the community of professional scholars and educators who contribute to our understanding of the complexity of education.

The **Graduate Certificate Program in Higher Education** (GCPHE) is designed to provide an overview of historical and contemporary issues in higher education for doctoral students who wish to gain a greater understanding of higher education research, policy, assessment, and/or administrative practices. Current Washington University doctoral students who are interested in pursuing the Graduate Certificate in Higher Education may begin taking courses pursuant to the certificate upon entry into the university.

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Faculty

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PhD, University of Georgia

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Kappa Delta Pi Advisor
EdD, Saint Louis University

Alyssa McDonald
Student Services Coordinator
MEd, Middle Tennessee State University

Mel Nicolas
Administrative Coordinator, Faculty Support
BS, Missouri Southern State University

Degree Requirements

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- Education, MAEd (p. 236)
- Education, MAT (p. 237)
- Education, PhD (p. 238)
- Higher Education, Graduate Certificate (p. 241)

Courses

Visit online course listings to view semester offerings for L12 Educ.

L12 Educ 5001 The American School
In this course we analyze the development of American schooling within the context of American social history. Our focus is on three general themes: the differing conceptions of schooling held by some American political, social, and cultural thinkers; the changing relationships among schools and other educational institutions such as the church and the family; and the policy issues and arguments that have shaped the development of schooling in America. We spend considerable time studying the history of schooling in relation to the enduring challenges and dilemmas of marginalized groups including but not limited to systemic racial inequalities, access to schooling and inequitable schooling experiences. Undergraduate students must enroll in Educ. 301C, while graduate students must enroll in Educ. 5001.
Same as L12 Educ 301C
Credit 3 units. A&S IQ: HUM, SD Arch: HUM Art: HUM BU: BA, ETH, HUM EN: H

L12 Educ 5003 Gender and Education
An examination of educational experiences, practices, and institutions across multiple levels (PK-university) using gender as a critical lens. Key topics include common beliefs, practices, and expectations related to gender in educational spaces, as well as the intersections between gender and other identities that may influence educational experiences and outcomes. Readings are drawn from multiple disciplines, including sociology, history, psychology, and philosophy. Students should be prepared to analyze their own gendered educational experiences in the context of the scholarship explored in the course, while also listening respectfully and reflecting on the experiences shared by classmates. Enrollment Note: Undergraduate students must enroll in Educ. 303, and graduate students must enroll in Educ. 5003.
Same as L12 Educ 303
Credit 3 units. A&S IQ: SSC, SD Arch: SSC Art: SSC BU: BA EN: S

L12 Educ 5004 Educational Psychology
This is a course in psychological concepts relevant to education that is organized around four basic issues: (1) how humans think and learn; (2) how children, adolescents, and adults differ in their cognitive and moral development; (3) the sense in which motivation and intention explain why people act as they do; and (4) how such key human characteristics as intelligence, motivation, and academic achievement can be measured. Offered fall and spring semesters. Enrollment Note: Undergraduate students must enroll in Educ. 304. Graduate students must obtain approval of instructor and their advisor before enrolling in Educ. 5004.
Same as L12 Educ 304
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L12 Educ 5007 Instructional Techniques for Art K-12
Instructional Techniques for Art K-12 will center on developing an understanding of how the integrative approach to arts education can be implemented in both the visual arts classroom, and also the subject area elementary, middle, and high school classrooms. Emphasis will be placed on the development of studio based visual art techniques across the K-12 curriculum and how these can be used to foster creativity, imagination, critical thinking skills, and individual solutions to a variety of visual and integration based problems. The philosophical bases for this course are the developing ideas that the arts are uniquely positioned to play an important role in helping all educators transform their teaching to address the needs of 21st century, K-12 learners. This progressive approach to arts education is based upon the framework that there are two separate but related roles for the arts in our schools. The first role for arts education is a standards based, sequential, comprehensive exploration of the arts founded on performance, criticism, process, communication and connections. The first role often takes a cross curricular approach to arts learning, but stays mainly focused on the arts. The second role is for the arts to be placed at the center of a variety of arts integration approaches to teaching and curriculum design. These approaches include arts integration, project based learning, universal design for learning, and STEAM. Enrollment note: must be taken concurrently with L12 4000/6000 and L12 400A/6001 unless approved by the Director of Teacher Education.
Credit 3 units.

L12 Educ 503 Foundations of Educational Research
Educational researchers in today's world use an interdisciplinary toolbox of approaches to examine the complex issues facing today's students, teachers, educating institutions, and communities. Providing an introduction to the basic concepts, philosophies, and kinds of methodologies used in educational research, this course will examine research designs such as experiments, surveys, mixed methods, ethnography, and action research. Students will be required to analyze the strengths, weaknesses, and limitations of each. Furthermore, the course is devoted to understanding the importance of identifying a research problem, the literature review, research questions, and the alignment with appropriate methodologies (quantitative, qualitative, or mixed methods) in responding to the research inquiry. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment note: Undergraduate students should register for Educ. 403, while graduate students should register for Educ. 503
Same as L12 Educ 403
Credit 3 units. A&S IQ: SSC EN: S

L12 Educ 5055 Power and Conflict in Mathematics and Science Education
The purpose of this course is to examine the research literature in mathematics and science education focused on the interactions of policy, classroom practice, and community on student advancement. A central focus of the course will be on issues of agency, culture, classroom dynamics, and local structures that influence students' learning of science and mathematics. The readings will be drawn from the sociology of education, sociocultural studies, philosophy of science, policy studies and other relevant literature.
Credit 3 units.

L12 Educ 5114 Sociolinguistics, Literacies, Schools, and Communities
Literacy learning and development within a thriving community require attention to the linguistic, cultural, and economic diversity of students. Within an era of state standardization and accountability, it is imperative to use a systems approach in education that unites homes, schools, and communities. Differentiating instruction to meet the needs of all students, including English language learners and other traditionally marginalized groups of students, is essential. This course will introduce students to sociocultural theories of literacy across settings. It will prepare students to analyze how race, ethnicity, class, gender, and language influence the development of literacy skills. We will develop a multifaceted view of literacy that is embedded within culture and that acknowledges the influences of social institutions and conditions. We will incorporate strategies for individual student needs based on students' backgrounds and prior experiences to deliver differentiated instruction and to teach students to set learning goals. Offered in fall semester only. Undergraduate students must enroll in Educ. 314, while graduate students must enroll in Educ. 5114.
Same as L12 Educ 314
Credit 3 units. A&S IQ: HUM, SC, SD Art: HUM BU: BA EN: H

L12 Educ 512 Child Development
This course serves as an introduction to developmental theory and research methods by highlighting the various processes (including biological and socio-cultural forces) that influence human psychological change. Emphasis is given to normative social-emotional and cognitive development in childhood, using current empirical studies as the basis for student exploration, discussion, and debate.
Credit 3 units.

L12 Educ 513B Education, Childhood, Adolescence, and Society
This course examines the social and developmental experiences of children and adolescents at the national and international level. Readings will focus on the development of children and adolescents from historical, sociological, psychological, and political perspectives. Students will examine how both internal and external forces impact the developmental stages of children and adolescents. Students will investigate the issues that impact children and adults such as poverty, war, media, schooling, and changes in family structure. Students will explore some of the issues surrounding the education of children such as the effects of high quality preschool on the lives of children from low income families and the connection between poverty and educational achievement. Students will focus on the efficacy of the "safety nets" that are intended to address issues such as nutrition, health, violence, and abuse. Throughout the course, students will review and critique national and international public policy that is designed to address the needs of children and their families throughout the educational process. Undergraduates must enroll in Educ. 313B, while graduate students must enroll in 513B.
Same as L12 Educ 313B
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L12 Educ 5222 Higher Education Administration for Social Justice & Equity: Achievable or Only Dreamable?
Higher education has long been the subject of much general public interest and discourse. Understanding the complexity of the system, its history, practices, and expertise will help define whether and how campuses can work toward social justice and equity. In this course, students will study the history, policies, and organizational decisions that underly the current state of higher education in America. These perspectives and theories will be studied with an eye toward social justice and understanding possible changes that may lead toward equity on American college campuses. Through engaged discussions around readings and case studies, students will tackle complex social questions, including: how our college campuses became so complex? Why pervasive social issues, such as system racism, sexism, and classism, continue to exist on our campuses? How and when technology and the SAT/ACT began to rule our lives in college? Perhaps even deeper, students will grapple with finding alternate, more socially just, and equitable alternatives to create more equity on our campuses.

Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment Note: Undergraduate students must enroll in Educ. 4022, and graduate students must enroll in Educ. 5222.
Same as L12 Educ 4022
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: HUM EN: S

L12 Educ 5230 Professional Development in Mathematics and Science
Professional development is a broad term encompassing a wide array of programming designed to improve teaching practices and student learning. Among science and math educators, professional development is a primary intellectual conduit between research and the practices of teachers in K-12 classrooms. The purpose of this course is to examine the theoretical assumptions driving the principles of design used in current models of professional development, critique the alignment of current theoretical approaches with evidence from research, and analyze the research methodologies for the probability of predicting impact on the goals of reform in content, curriculum, and instruction of science and math in K-12 classrooms.
Credit 3 units.

L12 Educ 5231 Curriculum and Evaluation: A Review in Mathematics
Students will be introduced to an examination of various types of evaluation methods for curriculum effectiveness using the recent mathematics curricula as an example. We will begin by reviewing the literature on the "Math Wars" to see how the news media and internet have portrayed the issues and then examine the studies of the curricula themselves including the recent ones from the National Science Foundation, Chicago Math and Saxon. Students will be introduced to three types of evaluation methods: content analysis, comparative studies, and case studies, and will read examples of each. A curriculum evaluation framework will be discussed and a subset of studies of each type will be read and analyzed. If available, the National Research Council's report on the evaluations will be read and discussed. The course is appropriate for doctoral and post-doctoral students in mathematics and science education as a model of curricular evaluation and related policy issues.
Credit 3 units.

L12 Educ 5232 Learning Sciences Practicum in Math/Science/ Technology
Students will participate in a series of design experiments which vary from 1-1 interviews to small group studies to various classroom and after-school configurations. The students will be introduced to writings on methods of clinical interviewing and conducting small group investigations and classroom design experiments. The projects will involve specific mathematical and scientific concepts often using new technologies. Students will be expected to review the literature on the learning sciences connected with the particular experiments and to learn to conduct, analyze and assist in the preparation of publications on the topics. Once a week laboratory meetings will be scheduled to discuss articles and report on progress in the studies.
Credit 3 units.

L12 Educ 5233 Modeling and Inquiry in Mathematics and Science
This course introduces mathematics and science education students to research and practice related to the use of inquiry and modeling in instruction in science and mathematics. Three major topics include: 1) the use of modeling and simulation in current research in science and mathematics; 2) examples of modeling and inquiry in curricula and instruction and observational approaches to its documentation, and 3) theoretical and empirical work on the effects of inquiry on students and teachers' knowledge. Theoretical work by Dewey, philosophers of science, and science and mathematics educators will be examined. The course will include hands-on exploration of curricular topics, video analysis and readings on developments in research related to inquiry.
Credit 3 units.

L12 Educ 525 Diagnosis and Correction of Reading Disabilities
This course is the second of three courses on teaching reading and writing, with an emphasis on readers, texts, and assessment. The purposes of this course are to address issues of the differences and disabilities that may occur in reading processes; evaluation of students' reading skills; analysis of texts for their use by readers; and designing classroom reading activities that assist students in all kinds of materials. Prerequisite: Educ 4681, or permission of instructor.
Credit 3 units. EN: S

L12 Educ 5253 Instructional Interventions in Reading for Adolescents and English Language Learners
Education 5253 is the first of two courses designed to increase the ability of secondary school teacher candidates to support literacy development for middle and high school students. Strategies of instructional intervention will be taught, modeled, and observed. The theoretical base of educational research for literacy intervention is at the core of understanding purpose, validity, and implementation of instructional intervention strategies. Additional purposes are to address differences among readers and texts and to understand methods of reading assessment for adolescents and the English Language Learner (ELL). The reading process, difficulties in reading and English language learning, instruction in reading beyond elementary education, and the role of the teacher in reading instruction and assessment will be important topics in this course. Prerequisite: admission to the Teacher Education program.
Credit 3 units.

L12 Educ 5288 Higher Education in American Culture
This course will examine the historical and philosophical development of higher education from colonial to contemporary periods including the histories of minoritized individuals and campus types. Throughout the semester, we will learn how history continues to impact the way we run and organize our campuses today. This course concludes with an exploration of current social, political, and economic challenges in higher education and current public debates regarding contentious topics in higher education. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment note: Enrollment limited to juniors, seniors, and graduate students. Undergraduate students must enroll in Educ. 4288 and graduate students must enroll in Educ. 5288
Same as L12 Educ 4288
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: BA, ETH, HUM EN: H

L12 Educ 5289 Neighborhoods, Schools, and Social Inequality
A major purpose of the course is to study the research and policy literature related to neighborhoods, schools and the corresponding opportunity structure in urban America. The course will be informed by theoretical models drawn from economics, political science, sociology, anthropology, education and law. A major focus is to gain greater understanding of the experiences and opportunity structure(s) of urban dwellers, in general, and urban youth, in particular. While major emphasis will be placed on data derived from the interface of urban environments and the corresponding institutions within them, the generational experiences of various ethnic groups will complement the course foci. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor.

Enrollment note: All students are enrolled onto the waitlist. Priority is given to Department of Education majors, minors, and graduate students. Undergraduate students must enroll in Educ. 4289 and graduate students must enroll in Educ. 5289
Same as L12 Educ 4289
Credit 3 units. A&S IQ: SSC, SC, SD Arch: SSC Art: SSC BU: BA EN: S

L12 Educ 5310 Sociology of Higher Education
What we call "higher education" in the United States is a complex web of institutions - nearly 3,000 4-year colleges, 1,500 2-year colleges, and still more postsecondary institutions that grant a variety of credentials. It is a system through which tens of millions of students pass each year; over the last few decades, the importance of earning a postsecondary credential has increased markedly. As such, higher education is deserving of rigorous scrutiny and careful interrogation. But in studying "higher education," we are in fact attending to a multitude of things - among other things, varied institutional types with different resources and different imperatives, experiences of accessing and navigating higher education that are widely divergent along axes of inequality, and institutional processes that play out on campus but have resonance beyond the university gates. In this course, which will be conducted as a discussion-based seminar, we will engage with texts examining the enterprise of higher education from varied vantage points, but always through a sociological lens. We'll discuss why and how higher education came to be so important and loom so large in contemporary life, the stark differences between different sectors of the higher education landscape, and how stratification occurs between and within institutions. We'll talk at length about how higher education is a microcosm of many of the inequalities we see in the broader society, looking at issues of race, class, gender, and politics on campus. By taking a sociological lens to studying higher education, we'll learn a language and facility for rooting discussion of issues in higher education in theoretical grounding and empirical evidence. In so doing, students will develop the capacity to more critically assess research and public discourses on higher education, as well as their own work and experiences in the sector. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment Note: Undergraduate students must enroll in Educ. 4310, and graduate students must enroll in Educ. 5310.
Same as L12 Educ 4310
Credit 3 units. A&S IQ: SSC, SC EN: S

L12 Educ 5501 Contemporary Issues in the Psychological Science of Learning: Motivation and Emotion
The purpose of this course is provide a vehicle for students to explore contemporary issues in the psychological science of learning. The general topic of the course will rotate so that different contemporary issues can be explored from semester to semester. Potential topics include motivation and emotion, error-correction and conceptual change, and higher-order learning. Regardless of the topic, the majority of the course will be structured around discussing primary and secondary research articles. The main product of the course will be a research proposal in which students will identify a question, situate it within existing theory/research, describe the methodology to answer the question, and discuss the predicted results. The goal of the course is to provide students with opportunities to practice evaluating research and theories, designing research, communicating ideas both orally and in writing, and providing constructive criticism. Prerequisite: Graduate standing or permission of the instructor.
Credit 3 units.

L12 Educ 5530 Sociology of Education
There are few institutions that nearly all Americans pass through, and schools are one of them; around fifty million students are enrolled in preK-12 schooling in the United States. As such, schools are an institution deserving of rigorous scrutiny and careful interrogation. But in studying K- 12 schools, we are in fact attending to a multitude of things - competing visions of and purposes for schools, and disparate experiences of accessing and navigating education that are widely divergent along axes of inequality. In this course, which will be conducted as a discussion-based seminar, we will engage with texts examining the enterprise of education from varied vantage points, but always through a sociological lens. We'll discuss the varied purposes theorists and practitioners envision for schools, and the extent to which schools live up to those ideals. We'll talk at length about how schools are a microcosm of many of the inequalities we see in the broader society, looking at issues of race, class, gender, and place. By taking a sociological lens to studying education, we'll learn a language and facility for rooting discussion of issues in education in theoretical grounding and empirical evidence. In so doing, students will develop the capacity to more critically assess scholarly research and public discourses on education, as well as their own experiences. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment note: All students are enrolled onto the waitlist. Priority is given to Department of Education majors, minors, and graduate students. Undergraduate students must enroll in Educ. 453B and graduate students must enroll in Educ. 5530
Same as L12 Educ 453B
Credit 3 units. A&S IQ: SSC, SC, SD Arch: SSC Art: SSC BU: BA, ETH EN: S

L12 Educ 5555 Central Topics in Psychological Research on Teaching and Learning
This course will focus on how theory and research in psychological science and other related disciplines can inform teaching and learning in a variety of educative contexts. Each week, we will delve into research on a new set of issues that all revolve around a particular theme, such as pedagogical methods, motivation, student characteristics, assessment of learning, evaluation of teaching effectiveness, and educational technology. In addition to analyzing theory and research, we will discuss implications for educational practice and policy with an emphasis on designing interventions and fostering innovation. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment note: Undergraduate students must enroll in Educ. 4055 and graduate students must enroll in Educ. 5555
Same as L12 Educ 4055
Credit 3 units. A&S IQ: SSC Art: SSC BU: BA EN: S

L12 Educ 5590 Philosophies of Education
An analysis of perennial themes in the philosophy of education, with particular attention to implications arising from the uneven distribution of power in an inequitable society. Significant questions to be examined include: What constitutes a truly democratic form of education? How might our answers change when we approach this question in light of the history of race in the American experience? How should teachers dedicated to a liberatory practice approach both their content and their students? Which theories of knowledge might help us envision new possibilities for teaching and learning? Readings will address both K-12 and higher education spaces while drawing on a diverse range of historical and contemporary thinkers. Seminar format. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment Note: All students are enrolled onto the waitlist. Priority is given to Department of Education majors, minors, and graduate students. Undergraduate students must enroll in Educ. 459F and graduate students must enroll in Educ. 5590
Same as L12 Educ 459F
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: ETH EN: H

L12 Educ 5620 Politics of Education
In this course, politics is interpreted broadly to include both formal policy-making processes and any situation in which people have to solve a problem or come to a decision. The purpose of this course is to explore the following processes: (1) how ideologies and power dynamics influence educational policies and decisions; (2) how educational policies and decisions translate into specific school programs and practices; (3) how specific programs and practices influence pedagogies, especially in the relationships among students, teachers, and knowledge pedagogies; (4) how these pedagogies impact student opportunities and outcomes; and (5) how student outcomes and opportunities reinforce ideologies and power dynamics. This course considers politics across time, space, and individuals, noting how historical, geographical, cultural, social, psychological, political, and economic contexts can shape the politics of education. In addition, as this course considers the relationship between politics and power, we explore how politics can manifest itself in ways that promote exclusion and subjugation or work toward the common good. Finally, after carefully examining the research on inequalities and inefficiencies resulting from the current politics of education, we will transition from problem identification (i.e., "What went wrong?") to problem solution (i.e., "Where do we go from here?"). Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment Note: All students are enrolled onto the waitlist. Priority is given to Department of Education majors, minors, and graduate students. Undergraduate students must enroll in Educ. 462, and graduate students must enroll in Educ. 5620.
Same as L12 Educ 462
Credit 3 units. A&S IQ: SSC, SC, SD Arch: SSC Art: SSC EN: S

L12 Educ 5622 The Political Economy of Urban Education
Defining a political economy of urban education involves the examination of power and wealth and the manner in which they operate in urban settings. It requires analysis of the larger urban social and economic context and consideration of historical forces that have brought the schools to their present state. In this course, we consider various political and economic factors that have influenced and shaped urban education in the United States, drawing upon the extant literature on urban education and related social science disciplines to characterize and discuss them. A particular focus of this course will be on the dynamic interrelationships among the political economy, urban education, and social stratification. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment note: Undergraduate students must enroll in Educ. 4621, while graduate students must enroll in Educ. 5622
Same as L12 Educ 4621
Credit 3 units. A&S IQ: SSC, SC Arch: SSC Art: SSC EN: S

L12 Educ 5681 Reading in the Content Areas
This course will focus on reading comprehension, reading and writing in content areas, reading assessment, and reading curriculum evaluation. Prerequistie: admission to Teacher Education program or permission of Director of Teacher Education.
Credit 3 units.

L12 Educ 5810 History of Education in the United States
Examines education within the context of American social and intellectual history. Using a broad conception of education in the United States and a variety of readings in American culture and social history, the course focuses on such themes as the variety of institutions involved with education, including family, church, community, work place, and cultural agency; the ways relationships among those institutions have changed over time; the means individuals have used to acquire an education; and the values, ideas, and practices that have shaped American educational policy in different periods of our history. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment Note: All students will be enrolled onto the waitlist. Because this is a writing intensive course, enrollment will most likely be 12-15 students. Enrollment preference will be given to students who are majoring/minoring in Educational Studies, Teacher Education, History, American Culture Studies, and Children's Studies and to students needing to complete their Writing Intensive requirement. Instructor will e-mail students about enrollment. Undergraduate students must enroll in Educ. 481W, and graduate students must enroll in Educ. 5810.
Same as L12 Educ 481W
Credit 3 units. A&S IQ: HUM, SC, SD, WI BU: BA, HUM EN: H

L12 Educ 5830 Academic and Student Affairs: An Essential Partnership
This course focuses on the intersection of academic and student affairs in the higher-education setting. While students view all aspects of their college experience, institutions are formally or informally divided between academic and student affairs, and they are also subdivided within these classifications. This course will explore necessary conditions, optimal ways, and best practices for creating robust partnerships between academic and student affairs to achieve institutional goals and to appear seamless to our students.
Credit 3 units.

L12 Educ 5832 Assessment and Evaluation in Higher Education
The purpose of this course is to provide an overview of the scholarship and practice of assessment within the context of higher education. This course examines the various approaches for curricular, co-curricular, and institutional assessment in higher education.
Credit 3 units.

L12 Educ 5833 Leadership in Student Affairs
This course provides an overview of the field of student affairs; its related functional areas; role in higher education in the United States; and current issues faced by practitioners. In the context of this course student affairs is defined as those programs, services, and activities designed to recruit, retain, support, and develop students in college. This course concentrates on the leadership roles within student affairs in higher education institutions across the United States. Leaders in student affairs are regularly challenged to respond to the current and emerging needs of students, as well as to expectations from various stakeholders: faculty, boards of trustees, alumni, community members, and the government, as to the priorities for the student experience in higher education. Successful student affairs leadership requires the ability to understand the context of student affairs work including how and why student affairs emerged as an organizational entity within higher education; the critical issues faced by student affairs practitioners; and the various administrative functional areas that typically exist within the portfolio defined as student affairs on a college campus. This course is designed to provide students with an overview of student affairs as an entity from both an historical and contemporary lens; introduce students to the literature in the field and examine various theoretical frameworks related to the student experience in higher education; strengthen understanding of the standards that guide student affairs practice; and explore leadership theories and practices to apply to the review of the critical student affairs issues and strengthen student understanding of their own leadership styles in preparation for possible careers in higher education. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment Note: Undergraduate students must enroll in Educ. 4833, and graduate students must enroll in Educ. 5833.
Same as L12 Educ 4833
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC

L12 Educ 5835 Mental Health in Higher Education
Within the first decade of the 21st century, enrollment at American colleges and universities increased a whopping 24%, from 16.6 million in 2002 to 20.6 million in 2012. Just as college enrollments have dramatically increased, so too have the proportion of students suffering from mental illness. Some have deemed that we are in the midst of a "college student mental health crisis." From all directions, data are emerging, and they depict a sobering scene. How can the field of higher education best respond to this crisis? Many institutions have increased the number of mental health counselors available in the student health center and made the accommodations offered by disability resource centers more robust. Still, the same survey from the National Alliance on Mental Illness found that only half of students with mental health diagnoses disclose their conditions to their colleges. This course will delve into the extant literature on the nature of mental health problems facing students today. We will discuss how professionals in the field can best respond to address such problems as they arise and, to the extent possible, prevent them in the first place.
Credit 3 units.

L12 Educ 5837 College Student Development
This course is designed to provide students with an understanding of current theories, concepts, and research on the development of college students (predominately traditionally aged students 18-25). Specifically, attention to college student development in context will be examined via theoretical, popular, and research-based readings, and other media. The course also affords students the opportunity to apply college student development theory to real life situations, and understand the role of student development theory in higher education practice. The class will include lectures, discussion, in-class exercises, and some audiovisual material.
Credit 3 units.

L12 Educ 5839 Management of University Finances
This class will deal with all issues associated with financing higher education, including US trends and some comparison with international institutions. Topics covered will be sources of revenue and expenses associated with colleges and universities, and will include consideration of public support and private support. Revenue sources include tuition, fees, room and board, gifts, research grants and contracts, spendable income from endowment. Major expenses include employee compensation and benefits; operation of physical facilities, and expenses associated with academic programs and research. Other financial topics will be covered, including risk, internal controls, and debt. Coursework will include reading assignments, discussion, a midterm and a final examination. Enrollment is limited to advanced undergraduates and graduate students.
Credit 3 units.

L12 Educ 5850 Mentored Experience in Higher Education
The Mentored Experience in Higher Education (MEHE) is designed to be an opportunity for doctoral students to apply the knowledge acquired during their coursework in the Graduate Certificate Program in Higher Education (GCPHE) toward an administrative and/or research experience in a particular area of higher education. MEHEs connect doctoral students with mentors in academic departments or administrative offices at Washington University or, by arrangement, an external institution. The doctoral student and mentor(s) collaboratively develop a plan for the MEHE and then present it to the GCPHE Advisor for approval. An MEHE must consist of 140 hours total over the course of a single semester of an academic year. Doctoral students may only engage in one MEHE per semester and they cannot be paid by the unit in which they are completing the MEHE. The MEHE should be the fourth and final course completed for the certificate, but exceptions may be made in special circumstances.
Credit 3 units.

L12 Educ 590 Research in Education
Prerequisite: permission of instructor.
Credit variable, maximum 6 units.

L12 Educ 5992 Directed Studies in Qualitative Research
This is part of a sequence of graduate-level qualitative research courses. This course involves working closely with an education professor to collect and analyze data. This course may also involve designing an independent study as part of the professor's ongoing research program or as a project that is initiated by the student. Permission of instructor required. Enrollment limited to Education doctoral students.
Credit 3 units.

L12 Educ 6000 Curriculum and Instruction for Secondary Teachers
This course provides an in-depth look at secondary curricula and instructional practices in order to equip teacher candidates across a spectrum of disciplines with the knowledge and skill needed to implement meaningful teaching and learning in their future classrooms. By drawing from educational research in curriculum studies and related fields, students will examine the foundations of their discipline's curriculum, consider avenues for the implementation of culturally responsive pedagogy, and gain strategies for engaging contemporary issues facing secondary teachers (e.g. controversy, burnout). A strong emphasis will be placed on connecting with colleagues in different disciplines and exploring the possibilities for interdisciplinary instruction. Enrollment note: must be taken concurrently with content-specific lab [L12 400A/6001, 400D/600D, 400E/600E, 400L/600L, 400M/6006, 400S/600S, or 40SS/60SS] unless approved by Director of Teacher Education. Undergraduate students must enroll in Educ. 4000, while graduate students must enroll in Educ. 6000
Same as L12 Educ 4000
Credit 2 units. A&S IQ: HUM EN: H

L12 Educ 6001 Curriculum and Instruction in Art K-12
This course provides hands-on practice for K-12 teacher candidates in art curriculum regarding discipline-specific techniques for instruction and assessment. Students will read discipline-specific research on evidence-based practice, learn how to align lessons with curriculum standards, and gain experience via lesson planning and facilitating learning activities for fellow students. Enrollment note: must be taken concurrently with L12 4000/6000 and L12 5007 unless approved by the Director of Teacher Education. Undergraduate students must enroll in Educ. 400A, while graduate students must enroll in Educ. 6001.
Same as L12 Educ 400A
Credit 2 units.

L12 Educ 6006 Curriculum and Instruction in Secondary Mathematics
This course provides hands-on practice for secondary teacher candidates in mathematics curriculum regarding discipline-specific techniques for instruction and assessment. Students will read discipline-specific research on evidence-based practice, learn how to align lessons with curriculum standards, and gain experience via lesson planning and facilitating learning activities for fellow students. Enrollment note: must be taken concurrently with L12 4000. Undergraduate students must enroll in Educ. 400M, while graduate students must enroll in Educ. 6006
Same as L12 Educ 400M
Credit 2 units.

L12 Educ 6008 Education and Psychology of Exceptional Children
Learning, psychological, cognitive and social characteristics of exceptional children and youth from gifted to those with disabilities. Study child and adolescent developmental stages and the application to educational settings through data-based decision making using assessment and student data in a critical thinking, problem solving team approach. Current practices of educational strategies, interventions, and modifications to differentiate instruction for individual learning needs are emphasized. Plan lessons and activities that address student's prior experiences, multiple intelligences, strengths, and needs to positively impact learning. Learn specific strategies for classroom management, consultation and collaboration with families, colleagues, and administrators to meet individual needs within a culturally and demographically diverse classroom. Influences of legislation, criteria used to identify children, and awareness of supportive services are explored. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment note: All students are enrolled onto the waitlist. Priority is given to Teacher/Deaf Education majors, prospective Teacher Education majors, and majors/minors in Educational Studies. Undergraduate students must enroll in Educ. 408 and graduate students must enroll in Educ. 6008.
Same as L12 Educ 408
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L12 Educ 600D Curriculum and Instruction in Dance K-12
This course provides hands-on practice for K-12 teacher candidates in dance curriculum regarding discipline-specific techniques for instruction and assessment. Students will read discipline-specific research on evidence-based practice, learn how to align lessons with curriculum standards, and gain experience via lesson planning and facilitating learning activities for fellow students. Enrollment note: must be taken concurrently with L12 4000/6000 unless approved by the Director of Teacher Education. Undergraduate students must enroll in Educ. 400D, while graduate students must enroll in Educ. 600D.
Same as L12 Educ 400D
Credit 2 units.

L12 Educ 600E Curriculum and Instruction in Secondary English
This course provides hands-on practice for secondary teacher candidates in English curriculum regarding discipline-specific techniques for instruction and assessment. Students will read discipline-specific research on evidence-based practice, learn how to align lessons with curriculum standards, and gain experience via lesson planning and facilitating learning activities for fellow students. Enrollment note: must be taken concurrently with L12 4000/6000 and L12 4451/6451 unless approved by the Director of Teacher Education. Undergraduate students must enroll in Educ. 400E, while graduate students must enroll in Educ. 600E.
Same as L12 Educ 400E
Credit 2 units.

L12 Educ 600L Curriculum and Instruction in World Languages K-12
This course provides hands-on practice for K-12 teacher candidates in world language curriculum, including French, German, Japanese, Latin, Mandarin Chinese, Russian, and/or Spanish, regarding discipline-specific techniques for instruction and assessment. Students will read discipline-specific research on evidence-based practice, learn how to align lessons with curriculum standards, and gain experience via lesson planning and facilitating learning activities for fellow students. Note: must be taken concurrently with L12 4000. Undergraduate students must enroll in Educ. 400L, and graduate students must enroll in Educ. 600L.
Same as L12 Educ 400L
Credit 2 units.

L12 Educ 600S Curriculum and Instruction in Secondary Science
This course provides hands-on practice for secondary teacher candidates in science curriculum regarding discipline-specific techniques for instruction and assessment. Students will read discipline-specific research on evidence-based practice, learn how to align lessons with curriculum standards, and gain experience via lesson planning and facilitating learning activities for fellow students. Enrollment Note: must be taken concurrently with L12 4000. Undergraduate students must enroll in Educ. 400S, and graduate students must enroll in Educ. 600S.
Same as L12 Educ 400S
Credit 2 units.

L12 Educ 6052 Educational Psychology: A Focus on Teaching and Learning in School Settings
How should research in educational psychology inform teaching in contemporary schools - and how might the lived experience of professional educators in turn inform research in educational psychology? This class uses the reciprocal relationship between educational theory and practice to examine key issues in teaching and learning in contemporary school settings. Throughout, students will gain greater familiarity with topics influencing the pedagogical decision-making of teachers, from everyday topics (e.g. differentiation, classroom management, developmental appropriateness, etc.) to topics gaining ground in contemporary education (e.g. culturally responsive pedagogy, trauma-informed pedagogy, poverty-informed pedagogy, etc.). By engaging with substantive texts representing diverse perspectives, students will become more comfortable navigating scholarly research on teaching and learning in school settings, including distinguishing between multiple forms of scholarship (e.g. qualitative and quantitative studies, action research, self-study, portraiture, etc.) and other forms of writing about education (e.g. memoirs, advice based on personal experience, op-eds by thought leaders, etc.). Students will also theorize about reasons for gaps between educational research and practice by drawing on their knowledge of the sociocultural, political, and historical contexts of schooling. Ultimately, students will become more able to articulate their reasoned perspectives as emerging professionals regarding best practices for meaningful teaching and learning in school settings. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment Note: All students are enrolled onto the waitlist. Priority is given to Teacher Education majors, prospective Teacher Education majors, and majors/minors in Educational Studies.Undergraduate students must enroll in Educ. 4052, and graduate students must enroll in Educ. 6052
Same as L12 Educ 4052
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L12 Educ 6053 Early Field Experience
This course offers students an informed look at schooling in America and is designed for current teachers, prospective teachers (those considering a Teacher Education major), and for those simply interested in furthering their understanding of classroom interaction and the fundamental principles of teaching and learning. Students will be able to plan lessons and activities that address student's prior experiences, multiple intelligences, strengths, and needs to positively impact learning. This course provides direct and indirect experiences with contemporary K-12 educational practice in schools through 30 clock hours of field observation to be completed during the semester. Students will observe the daily life of teachers and their interactions with children and adolescents, with the dual goal of understanding the professional nature of the setting (i.e. pedagogical decision-making processes, expectations and requirements for teachers, institutional functioning, etc.) and being an active participant in a K12 classroom setting. Assignments will include, but are not limited to, observation notes, discussions with class members, and evaluation and

design of instructional strategies and learning activities. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment Note: All students are enrolled onto the waitlist. Priority is given to Teacher Education majors, prospective Teacher Education majors, and majors/minors in Educational Studies. Students must complete their 30 clock hours outside of class in school settings assigned by the WUSTL Department of Education Field Placement Specialist. Undergraduate students must enroll in Educ. 4053 and graduate students must enroll in Educ. 6053
Same as L12 Educ 4053
Credit 1 unit. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L12 Educ 60SS Curriculum and Instruction in Secondary Social Science
This course provides hands-on practice for secondary teacher candidates in social science curriculum regarding discipline-specific techniques for instruction and assessment. Students will read discipline-specific research on evidence-based practice, learn how to align lessons with curriculum standards, and gain experience via lesson planning and facilitating learning activities for fellow students. Enrollment note: must be taken concurrently with L12 4000/6000 unless approved by the Director of Teacher Education. Undergraduate students must enroll in Educ. 40SS, while graduate students must enroll in Educ. 60SS.
Same as L12 Educ 40SS
Credit 2 units.

L12 Educ 6451 Teaching Writing in School Contexts
Writing teachers often know how to write well but less about the teaching of writing. To provide effective instruction in writing, teachers need, first of all, experiences with writing instruction and theoretical knowledge to guide classroom practices. The goals of this course are as follows: to provide opportunities for all teachers of English and language arts, to develop theoretical knowledge and skill as teachers of writing, to connect the practices of research and teaching, to encourage teachers to give their students multiple and varied experiences with writing, to assist teachers in learning to respond to students' writing and assess their progress as writers. Offered Fall semester. Enrollment note: Undergraduate students must enroll in Educ. 4451, while graduate students must enroll in Educ. 6451.
Same as L12 Educ 4451
Credit 3 units. A&S IQ: SSC EN: S

L12 Educ 6660 Mathematics for Elementary School Teachers
A review of mathematics for grades K-8, at a level beyond its usual presentation in the schools. The purpose of this course is to ensure that teaches have the necessary foundation to teach mathematical concepts and problem solving at the elementary level. Applications of all essential mathematical concepts are presented in abundance, along with methods and strategies for instruction at the elementary level. Restricted to elementary education students, except with approval of the Director of Teacher Education. Prerequisite: two years of high-school mathematics and admission to the Teacher Education program or permission of instructor. Offered Fall semester. Enrollment note: Undergraduate students must enroll in Educ. 466, while graduate students must enroll in Educ. 6660
Same as L12 Educ 466
Credit 3 units. A&S IQ: NSM

L12 Educ 6681 Teaching Reading in the Elementary School
This course, emphasizing emergent literacy and children's literature, is the first in a sequence of three courses on teaching reading and writing. The purposes of this course are to survey children's acquisition of oral and written language from an emergent literacy perspective, to focus on methods of teaching beginning reading, to develop uses of children's literature in a reading program. Offered Fall semester. Enrollment note: Undergraduate students must enroll in Educ. 4681, while graduate students must enroll in Educ. 6681.
Same as L12 Educ 4681
Credit 3 units. A&S IQ: HUM EN: H

L12 Educ 670 Language, Learning, and Instruction
This course, which emphasizes children's writing and literacy issues, is the second of three courses in a sequence on teaching reading and writing. The course reviews and elaborates on work from previous courses on children's acquisition of written language; examines approaches to teaching writing; and focuses on work from sociological, feminist, and philosophical perspectives to affirm and criticize aspects of these approaches. Prerequisite: Educ 4681. Enrollment Note: Undergraduate students must enroll in Educ. 470, and graduate students must enroll in Educ. 670.
Same as L12 Educ 470
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L12 Educ 6700 History Education In & Beyond the Classroom
Far from requiring students to merely memorize names and dates, the work of history education rests on a robust theoretical foundation that urges complex cognitive skills. This course is intended to help students form a strong grasp of major issues in history education, including its underlying conceptualization of knowledge and related disciplinary habits of mind, instructional methods aimed at handling controversy with sensitivity toward students' contemporary identities, and sociocultural forces that exert pressure on professional communities and curricula alike. While this course is of special interest to students with an interest in teaching history (whether in higher education, at the K-12 level, or at a museum or historic site), admission to the teacher education program is not a prerequisite for entry. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment note: Undergraduate students must enroll in Educ. 4700, while graduate students must enroll in Educ. 6700
Same as L12 Educ 4700
Credit 3 units. A&S IQ: HUM EN: H

L12 Educ 6731 Elementary School Mathematics
This course introduces fundamental concepts, properties, operations, and applications of mathematics related to the systems of whole numbers, integers, rational numbers, and real numbers. Also included are measurement, simple geometry, probability, and logical reasoning. The course is designed to help students develop effective teaching strategies and approaches to curriculum development in mathematics. It addresses components of effective curriculum that are aligned with learning experiences and outcomes using the academic language of mathematics. It incorporates strategies for individual student needs based on diverse backgrounds, prior experiences, and language to deliver differentiated instruction, and it teaches students to set learning goals. Students will develop strategies to engage their students in methods of inquiry and research, with interdisciplinary approaches where appropriate. They will learn research-based models of critical thinking and problem-solving, including various instructional strategies and technologies to support student engagement in higher-level thinking skills. Students will use formal and informal assessments to design instruction and improve learning activities, and these will be followed by assessment analysis to determine the effect of class instruction on individual and whole-class learning. They will understand strategies to communicate confidential student data and progress in accordance with ethical and legal protocols. Prerequisite: EDUC 466 and admission to the teacher education program or permission of instructor. Enrollment Note: Undergraduate students must enroll in Educ. 4731, and graduate students must enroll in Educ. 6731.

Same as L12 Educ 4731
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L12 Educ 6741 Elementary Science: Content, Curriculum, and Instruction
This course focuses on key concepts appropriate for elementary school science and health instruction. A repertoire of effective teaching strategies and approaches to curriculum development are presented. Prerequisite: Admission to the teacher education program or permission of instructor. Offered spring semester. Enrollment Note: Undergraduate students must enroll in Educ. 4741, and graduate students must enroll in Educ. 6741.
Same as L12 Educ 4741
Credit 2 units. A&S IQ: NSM Arch: NSM Art: NSM

L12 Educ 6751 Elementary Social Studies: Content, Curriculum, and Instruction
Introduction to key concepts in social studies, including economics and geography. Repertoire of effective teaching strategies and approaches to curriculum development in all areas of social studies. Prerequisite: admission to teacher education program or permission of instructor. Offered spring semester. Enrollment Note: Undergraduate students must enroll in Educ. 4751, and graduate students must enroll in Educ. 6751.
Same as L12 Educ 4751
Credit 2 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L12 Educ 6771 The Arts and Aesthetics: A Means of Communication
Methods and materials for integrating the arts and aesthetics into the elementary classroom are discussed. Emphasis is on art, music, and oral communication as well as curricula in movement. Prerequisite: Admission to teacher education program or permission of instructor. Offered spring semester. Enrollment Note: Undergraduate students must enroll in Educ. 4771, and graduate students must enroll in Educ. 6771.
Same as L12 Educ 4771
Credit 3 units. A&S IQ: HUM Arch: HUM Art: CPSC, HUM EN: H

L12 Educ 6821 The Teaching-Learning Process in the Secondary School
Secondary teacher education majors are required to take this teacher-learning course during the spring semester in which student teaching is completed. The course focuses on the study, practice, and analysis of generic teaching strategies and skills needed to meet the needs of all students. Topics include classroom management, lesson planning, instructional and ethical decision making, and strategies for presenting clear explanations, asking effective questions, conducting productive discussions, reaching students with different learning styles/abilities/cultural backgrounds, and using cooperative learning groups. Prerequisite: Admission to the teacher education program. Corequisites: Educ 492 or Educ 494; and Educ 5681. Enrollment Note: Undergraduate students must enroll in Educ. 4821, and graduate students must enroll in Educ. 6821.
Same as L12 Educ 4821
Credit 3 units. A&S IQ: SSC, WI Arch: SSC Art: SSC EN: S

L12 Educ 6831 The Teaching-Learning Process in Elementary School
This course focuses on four broad areas: (1) self-awareness and human relations; (2) instructional and behavioral management strategies; (3) the development of curriculum and the analysis of instruction; and (4) social, political, and legal issues affecting the classroom. Topics include teacher-pupil relationships, assessment of pupil progress, curriculum development, instructional technology, and school organization. Course discussion and study further develop knowledge in a variety of areas that are experienced during student teaching, such as the refinement of pedagogy strategies and skills; the Missouri Educator Evaluation System (MEES) for certification; understanding diverse cultural perspectives of English language learners and how to select appropriate strategies for addressing individual needs in meeting curriculum objectives; incorporating strategies for individual student needs based on diverse backgrounds and prior experiences to deliver differentiated instruction; creating a positive learning environment through effective classroom management using strategies based on research and pedagogically sound techniques; developing reflective practices to improve teaching while understanding the importance of utilizing professional learning opportunities in school districts and professional organizations; understanding the importance of communication, professional relationships, and collaboration with teachers, administrators, families, and the community; and understanding the nature of professional, ethical behavior and the need to adhere to district policies and school procedures. Prerequisite: Admission to the teacher education program. Corequisites: Educ 470 and Educ 4911. Enrollment note: Undergraduate students must enroll in Educ. 4831, while graduate students must enroll in Educ. 6831.
Same as L12 Educ 4831
Credit 3 units. A&S IQ: SSC, WI EN: S

L12 Educ 6841 Elementary Methods Field Experience
This course involves the application and analysis of specific content area methods and strategies in an elementary school classroom. Prerequisite: Admission to the teacher education program. Elementary teacher education majors are required to take this course during the spring semester before the year in which student teaching is completed. Offered spring semester. Enrollment Note: Undergraduate students must enroll in Educ. 4841, and graduate students must enroll in Educ. 6841.
Same as L12 Educ 4841
Credit 2 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L12 Educ 6843 Field Experience Seminar
This course guides students through a field experience in a middle or secondary public school. Fifty hours of observation are required for each student; these hours involve observing and documenting classroom environment characteristics, professional teacher behaviors, and student behaviors; working with students individually and/or in small groups; preparing and teaching a lesson; and learning classroom technologies such as SMART Board and digital video recording and editing. Course topics, observation, and discussion include understanding diverse cultural perspectives of English language learners and how to select appropriate strategies for addressing individual needs in meeting curriculum objectives; incorporating strategies for individual student needs based on diverse backgrounds and prior experiences to deliver differentiated instruction; creating a positive learning environment through effective classroom management using strategies based on research and pedagogically sound techniques; developing reflective practices to improve teaching while understanding the importance of utilizing professional learning opportunities in school districts and professional organizations; and understanding the importance of communication, professional relationships, and collaboration with teachers, administrators, families, and the community as well as the nature of professional, ethical, and legal behavior and the need to adhere to district policies and school procedures. Prerequisite: Admission to the teacher education program. Corequisites: Educ. 4000/6000 + 400A/6001, 400D/600D, 400E/600E, 400L/600L, 400M/6006, 400S/600S, or 40SS/60SS unless approved by the Director of Teacher Education. Undergraduate students must enroll in Educ. 4843, while graduate students must enroll in Educ. 6843
Same as L12 Educ 4843
Credit 3 units. A&S IQ: SSC EN: S

L12 Educ 6901 Doctoral Seminar
The doctoral seminar encourages an interdisciplinary perspective on a theme central to the theory and practice of education. The theme for the seminar changes every year, as do the faculty participating in the seminar.
Credit 3 units.

L12 Educ 6911 Student Teaching in the Elementary School
This course encompasses a supervised teaching experience as well as group meetings and individual conferences. Emphasis is on the integration of theory/practice and reflections on teaching. Prerequisite: Admission to the teacher education program. Graduate students must register for satisfactory/unsatisfactory grading; undergraduates must register for pass/fail grading. Offered fall semester. Enrollment note: Undergraduate students must enroll in Educ. 4911, while graduate students must enroll in Educ. 6911
Same as L12 Educ 4911
Credit 8 units. A&S IQ: SSC EN: S

L12 Educ 692 Student Teaching in the Secondary School
Supervised teaching experience. Group meetings and individual conferences. Emphasis on integration of theory/ practice and reflection on teaching through videotape analysis. Prerequisite: admission to teacher education program. Enrollment Notes: Graduate students must register for Satisfactory/Unsatisfactory and Undergraduates must register for Pass/Fail. Secondary teacher education students enroll for 8 credits during the Spring semester. Undergraduate students must enroll in Educ. 492, and graduate students must enroll in Educ. 692
Same as L12 Educ 492
Credit 8 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L12 Educ 6922 Student Teaching in Middle Schools
Supervised teaching experience. Group meetings and individual conferences. Prerequisite :admission to teacher education program. Enrollment Notes: Graduate students must register for Satisfactory/ Unsatisfactory and Undergraduates must register for Pass/Fail. Middle school teacher education students enroll for 8 credits. Offered Spring semester. Undergraduate students must enroll in Educ. 4922, and graduate students must enroll in Educ. 6922.
Same as L12 Educ 4922
Credit 8 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L12 Educ 694 Student Teaching in Grades K-12
This course encompasses a supervised teaching experience as well as group meetings and individual conferences. Prerequisite: Admission to the teacher education program. Offered spring semester. Enrollment Note: Undergraduate students must enroll in Educ. 494, and graduate students must enroll in Educ. 694.
Same as L12 Educ 494
Credit 8 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L12 Educ 6951 Middle School Philosophy and Organization
This course examines the history, goals, organization and philosophy of middle schools as institutions. Students will explore how the characteristics and needs of early adolescents guide the mission, structure and operation of middle schools. Prerequisite: admission to teacher education program. Enrollment note: undergraduate students must enroll in Educ. 4951, and graduate students must enroll in Educ. 6951.
Same as L12 Educ 4951
Credit 2 units. A&S IQ: SSC EN: S

L12 Educ 6952 Middle School Curriculum and Instruction
By building on knowledge of the middle-level child and the ways in which middle schools are organized to meet the needs of middle-level children (covered in Educ 4951), this course explores the learning styles and attributes of middle-school students and examines instructional theory, methods, and materials appropriate to grades 5 through 9. In addition, portions of this course will be devoted to specific content field methodology and subdivided into English/language arts and social studies or science and math. The English/social studies and science/math sessions will be held concurrently, and students will attend the session appropriate to their content majors or minors. Interdisciplinary team teaching will be modeled and featured in these sessions. This course features a required practicum experience. Prerequisite: Admission to the teacher education program. Enrollment note: Undergraduate students must enroll in Educ. 4952, and graduate students must enroll in Educ. 6952.
Same as L12 Educ 4952
Credit 3 units. A&S IQ: SSC Art: SSC EN: S

L12 Educ 883 Master's Continuing Student Status

L12 Educ 885 Master's Nonresident

L12 Educ 886 Doctoral Nonresident

Education, Accelerated AB/MAT

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 37 minimum (including undergraduate certification coursework)**
- **Degree Length: One year**
  - The Accelerated AB/MAT Program allows qualified Washington University undergraduates to complete a Master of Arts in Teaching (MAT) degree in one year after completing the AB degree. The undergraduate and graduate degrees are awarded sequentially, if approved, with admission to the master's degree program in the fall semester following the completion of the undergraduate degree. The program is available only to students currently in their senior year and only for continuous enrollment the next year. There is no option for deferred admission.
- Students must achieve a grade of B- or better in order for courses to count toward the degree and certification requirements

- **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Required Courses

To qualify for the AB/MAT program, undergraduate students must have completed 30 to 36 credit units of content area courses (content areas listed below) with at least 12 credit units taken at the 400/4000 level.

As undergraduates, students will need to take a minimum of 10 credits of professional education courses:

Code	Title	Units
Educ 313B	Education, Childhood, Adolescence, and Society	3
Educ 4052	Educational Psychology: A Focus on Teaching and Learning	3
Educ 4053	Early Field Experience	1
Educ 408	Education and Psychology of Exceptional Children	3

Additionally, as undergraduates, students must take one 3-credit foundations of education course from the following:

Code	Title	Units
Educ 304	Educational Psychology	3
Educ 453B	Sociology of Education	3
Educ 459F	Philosophies of Education	3
Educ 462	Politics of Education	3
Educ 4621	The Political Economy of Urban Education	3
Educ 481W	History of Education in the United States	3

The first semester of the MAT includes a field experience seminar requiring 50 clock-hours of classroom experience, a 2-unit Curriculum and Instruction for Secondary Education course in addition to a lab associated with the chosen content area, a content reading course, and a content area course if necessary. If students are candidates for middle school certification (grades 5-9), they take two additional courses in Middle School Philosophy and Organization and Middle School Curriculum and Instruction.

Code	Title	Units
For All Teacher Candidates		
Educ 5681	Reading in the Content Areas	3
Educ 6000	Curriculum and Instruction for Secondary Teachers	2
Educ 6843	Field Experience Seminar	3
For Art content area, grades K-12		
Educ 5007	Instructional Techniques for Art K-12	3
Educ 6001	Curriculum and Instruction in Art K-12	2
For Dance content area, grades K-12		
Educ 600D	Curriculum and Instruction in Dance K-12	2
For Language Arts content area, grades 5-9, and English content area, grades 9-12		
Educ 600E	Curriculum and Instruction in Secondary English	2
Educ 6451	Teaching Writing in School Contexts	3
For World Language content area, grades K-12		
Educ 600L	Curriculum and Instruction in World Languages K-12	2
For Mathematics content area, grades 5-9 and grades 9-12		
Educ 6006	Curriculum and Instruction in Secondary Mathematics	2
For Science content area, grades 5-9 and grades 9-12		
Educ 600S	Curriculum and Instruction in Secondary Science	2
For Social Science content area, grades 5-9 and grades 9-12		
Educ 60SS	Curriculum and Instruction in Secondary Social Science	2
For grades 5-9 Middle School Candidates		
Educ 6951	Middle School Philosophy and Organization	2
Educ 6952	Middle School Curriculum and Instruction	3

The second MAT semester consists of 16 weeks of student teaching (8 credits) as well as courses for adolescent reading interventions (if not completed as an undergraduate) and a teaching-learning process course. Given the intensity of the academic requirements during this final semester of study, students must focus wholly on their culminating field experience and will not be able to accept outside employment or register for any additional course work.

Code	Title	Units
For all Teacher Candidates		
Educ 6821	The Teaching-Learning Process in the Secondary School	3
For K-12 certification candidates		
Educ 694	Student Teaching in Grades K-12	8
For secondary certification candidates, grades 9-12		
Educ 692	Student Teaching in the Secondary School	8
For middle school certification candidates, grades 5-9		
Educ 6922	Student Teaching in Middle Schools	8

Students may be certified in the following content areas:

- *For grades 5 through 9:* Language Arts, Mathematics, Science, Social Science
- *For grades 9 through 12:* Biology, Chemistry, Earth Science, English, Physics, Mathematics, Social Science (including history, political science, economics, geography, and behavioral sciences such as psychology, sociology, and anthropology)
- *For grades K through 12:* Art, Dance, World Language (Latin, Chinese, French, German, Japanese, Russian, Spanish)

It is strongly suggested that students apply for a subject in which they have completed (or will complete) a bachelor's degree (or earned the credits equivalent to an undergraduate major).

After students successfully complete the program and the state-mandated certification assessments, they are eligible for initial teacher certification in Missouri for their selected subject area. States all have their own unique requirements for teacher certification, but many have reciprocity agreements to allow currently certified teachers to transfer teaching credentials to a new state. Teachers may have to meet additional state requirements, but for most states, transferring certification is fairly straightforward.

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Education, MAEd

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 48**
- **Degree Length: 3 semesters**
  - Courses are typically completed in three semesters, with one summer course after the spring semester of the program
- Students must achieve a grade of B- or better in order for courses to count toward the degree and certification requirements
- **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Required Courses

- The first fall semester consists of foundations courses in education and courses in teaching reading and math

Code	Title	Units
Educ 513B	Education, Childhood, Adolescence, and Society	3
Educ 5114	Sociolinguistics, Literacies, Schools, and Communities	3
Educ 6052	Educational Psychology: A Focus on Teaching and Learning in School Settings	3
Educ 6053	Early Field Experience	1
Educ 6660	Mathematics for Elementary School Teachers	3
Educ 6681	Teaching Reading in the Elementary School	3

- Spring includes the curriculum and instruction block, which involves pedagogical course work in the basic subject areas of reading, math, social studies, and science as well as a field and clinical seminar requiring 50 hours of classroom experience

Code	Title	Units
Educ 670	Language, Learning, and Instruction	3
Educ 6731	Elementary School Mathematics	3
Educ 6741	Elementary Science: Content, Curriculum, and Instruction	2
Educ 6751	Elementary Social Studies: Content, Curriculum, and Instruction	2
Educ 6771	The Arts and Aesthetics: A Means of Communication	3
Educ 6841	Elementary Methods Field Experience	2

- Summer consists of a course in the Education and Psychology of Exceptional Children

Code	Title	Units
Educ 6008	Education and Psychology of Exceptional Children	3

- The second fall semester, which is the final semester of the program, includes 16 weeks of student teaching as well as courses for reading and creating a teaching portfolio. Given the intensity of the academic requirements during this final semester of study, students must focus wholly on their culminating field experience and will not be able to accept outside employment.

Code	Title	Units
Educ 525	Diagnosis and Correction of Reading Disabilities	3
Educ 6831	The Teaching-Learning Process in Elementary School	3
Educ 6911	Student Teaching in the Elementary School	8

After students successfully complete the program and the state-mandated certification assessments, they are eligible for initial teacher certification in Missouri for elementary education grades 1 through 6. States all have their own unique requirements for teacher certification, but many have reciprocity agreements to allow currently certified teachers to transfer their teaching credentials to a new state. Teachers may have to meet some additional state requirements, but for most states, transferring teacher certification is fairly straightforward.

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Education, MAT

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 49-57** (37-45 credit hours in Education course work and 12 graduate level credit hours in the content area)
- **Degree Length: 4 semesters**
  - Students must achieve a grade of B- or better in order for courses to count toward the degree and certification requirements
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their coursework, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Required Courses

- The first fall semester includes professional education courses in adolescent development and a foundations of education course, along with appropriate courses in the content area.

Code	Title	Units
Educ 513B	Education, Childhood, Adolescence, and Society	3
Educ 5001	The American School	3
or Educ 5530	Sociology of Education	
or Educ 5590	Philosophies of Education	
or Educ 5620	Politics of Education	
or Educ 5622	The Political Economy of Urban Education	
or Educ 5810	History of Education in the United States	

- The second semester includes educational psychology courses with 30 clock hours of field and clinical classroom experience along with an adolescent reading intervention course and appropriate content area coursework.

Code	Title	Units
Educ 5253	Instructional Interventions in Reading for Adolescents and English Language Learners	3
Educ 6008	Education and Psychology of Exceptional Children	3
Educ 6052	Educational Psychology: A Focus on Teaching and Learning in School Settings	3
Educ 6053	Early Field Experience	1

- The third semester includes a field and clinical experience seminar requiring 50 clock hours of classroom experience, a 2-unit Curriculum and Instruction for Secondary Education course in addition to a lab associated with the chosen content area, a content reading course, and additional content area coursework to complete certification requirements, if necessary. If students are candidates for middle school certification (grades 5-9), they take two additional courses in Middle School Philosophy and Organization and Middle School Curriculum and Instruction.

Code	Title	Units
For All Teacher Candidates		
Educ 5681	Reading in the Content Areas	3
Educ 6000	Curriculum and Instruction for Secondary Teachers	2
Educ 6843	Field Experience Seminar	3
For Art content area, grades K-12		
Educ 5007	Instructional Techniques for Art K-12	3
Educ 6001	Curriculum and Instruction in Art K-12	2
For Dance content area, grades K-12		
Educ 600D	Curriculum and Instruction in Dance K-12	2
For Language Arts content area, grades 5-9, and English content area, grades 9-12		
Educ 600E	Curriculum and Instruction in Secondary English	2
Educ 6451	Teaching Writing in School Contexts	3
For World Language content area, grades K-12		
Educ 600L	Curriculum and Instruction in World Languages K-12	2
For Mathematics content area, grades 5-9 and grades 9-12		
Educ 6006	Curriculum and Instruction in Secondary Mathematics	2
For Science content area, grades 5-9 and grades 9-12		

Educ 600S	Curriculum and Instruction in Secondary Science	2
For Social Science content area, grades 5-9 and grades 9-12		
Educ 60SS	Curriculum and Instruction in Secondary Social Science	2
For Grades 5-9 Middle School Candidates		
Educ 6951	Middle School Philosophy and Organization	2
Educ 6952	Middle School Curriculum and Instruction	3

- The final (fourth) semester consists of 16 weeks of student teaching (8 credit units) as well as a teaching-learning process course. Given the intensity of the academic requirements during this final semester of study, students must focus wholly on their culminating field experience and will not be able to accept outside employment.

Code	Title	Units
For all Teacher Candidates		
Educ 6821	The Teaching-Learning Process in the Secondary School	3
For K-12 certification candidates		
Educ 694	Student Teaching in Grades K-12	8
For secondary certification candidates, grades 9-12		
Educ 692	Student Teaching in the Secondary School	8
For middle school certification candidates, grades 5-9		
Educ 6922	Student Teaching in Middle Schools	8

Students may be certified in the following content areas:

- *For grades 5 through 9:* Language Arts, Mathematics, Science, and Social Science
- *For grades 9 through 12:* Biology, Chemistry, Earth Science, English, Mathematics, Physics, and Social Science (including history, political science, economics, geography, and behavioral sciences such as psychology, sociology, and anthropology)
- *For grades K through 12:* Art, Dance, and World Language (Chinese, French, German, Japanese, Latin, Russian, and Spanish)

Students must fulfill specific content area requirements through either undergraduate coursework and/or the 12 credit units of subject area graduate courses required for the Master of Arts in Teaching program. It is strongly suggested that students apply for a subject in which they have completed (or will complete) a bachelor's degree (or earned the equivalent to an undergraduate major).

After students successfully complete the program and the state-mandated certification assessments, they are eligible for initial teacher certification in Missouri for their selected subject area. States all have their own unique requirements for teacher certification, but many have reciprocity agreements to allow currently certified teachers to transfer their teaching credentials to a new state. Teachers may have to meet some additional state requirements, but for most states, transferring teacher certification is fairly straightforward.

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Education, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 24-30**
- **Degree Length: 5-6 years**
  - Students are expected to have completed all PhD requirements, except for the dissertation, no later than the end of the fourth year of full-time graduate study
    - By the third year, students should be completing their courses and submitting a qualifying portfolio of written work
    - By the fourth year, students should have a dissertation proposal approved before they continue with the bulk of their research and writing for the dissertation
  - Typically, the dissertation is completed and defended by the end of the fifth or sixth year of study.
  - Students must achieve a grade of C or better for courses to count toward the degree. Students are expected to maintain a cumulative grade point average of at least a 3.0 on a 4.0 scale in courses that count toward their requirements. Thus, among courses of equal weight, each grade of C must be balanced by at least one A.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - The Department of Education assures funding for up to 12 semesters for full-time graduate students in good academic standing

Required Courses

- **General Education Courses** (9 credits)
  - Students are required to take 6 credits (3 credits per semester) of Educ 6901 Doctoral Seminar. This seminar is offered every fall semester, and it is required of all doctoral students in their first two years.
  - Educ 5810 History of Education in the United States (3 credits) is required in the first or second year of study. Alternate graduate courses in the history of education may be substituted, as approved by the Doctoral Studies Committee.
- **Methodology Courses** (12-15 credits):
  - Educ 503 Foundations of Educational Research (3 credits): Students who enter the program with little to no methodological training relevant to the field of Education are required to take this course, which is an introduction to the various methodologies used in the field of Education. Students who enter the program with prior introductory level methodological training relevant to the field of Education can petition to waive this course requirement with approval of the student's advisor and the Director of Graduate Studies.
  - Students concentrating in quantitative methodology are required to take a minimum of one core qualitative and three core quantitative courses (12 total credits at minimum)
  - Students concentrating in qualitative methodology are required to take a minimum of one core quantitative and three core qualitative courses (12 total credits at minimum)
- **Area of Focus Courses** (3-6 credits): In addition to the general education requirements and the appropriate methodology requirements, students select one of two areas of focus for study: Educational Policy Studies or Educational Psychology and complete related coursework. Coursework will be based on the needs of the student and determined by consultation between the student and the advisor.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field

of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.

- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Optional AM in Education Along the Way (with Thesis)

The AM in Education program provides an optional along-the-way master's program for students enrolled in the Department of Education's PhD program. The program requirements consist of course work and the completion of a master's thesis. The course work has substantial overlap with the requirements for the doctoral degree to avoid adding time to degree. The AM in Education is optional for PhD students but strongly recommended for those students with no master's degree or a master's degree in a field outside of education. This program also offers an alternative degree path for students who decide to leave or are asked to leave the PhD program before completing it. Doctoral students in the Department of Education will be able to opt into the master's degree along the way program at any point up until they complete or exit the doctoral program. However, students are encouraged to complete the requirements before the end of their second year in the PhD program.

Program Requirements

The program requirements include course work and a master's thesis:

- **Course Work**: The required course work for the master's degree will be based on the requirements for the doctoral degree. Students are required to complete the following courses:
  - Educ 6901: Doctoral Seminar (6 credits total; 3 per semester for two semesters)
  - Educ 5810 History of Education in the United States (3 credits)
  - Four methodology courses (12 credits total; 3 credits per course): Students concentrating in quantitative methodology are required to take a minimum of one qualitative and three quantitative courses whereas students concentrating in qualitative methodology are required to take a minimum of one quantitative and three qualitative courses.
  - Two elective courses (6 credits total; 3 credits per course): Students can choose two other courses within the Department of Education, including courses in supervised research.
  - EDUC 586A Master's Project (3 credits): This course will be taken during the semester in which the student conducts and/or defends their master's thesis.
- **Master's Thesis:** The thesis will consist of a research project in the student's area of focus. Before starting the project, the student will form a master's degree committee, consisting of at least three members with an appointment in the Department of Education. The membership of the master's degree committee must be approved by the Director of Graduate Studies. Once the committee is approved, the student will submit a proposal for the research project to the committee. After the committee approves the project, the student will conduct the project and then write it up. Finally, the student will submit the written thesis document to the committee and then engage in a public defense of their thesis. Upon successful defense of the thesis and approval by the committee, the thesis will be submitted to the Office of Graduate Studies and the AM in Education (with thesis) will be awarded.

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Higher Education, Graduate Certificate

Certificate Candidacy

To earn a graduate certificate at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. Graduate certificates are not standalone programs and are only available to current students in applicable graduate programs. Thus, graduate certificates are conferred at the same time as the student's primary graduate program.

Program Requirements

- **Total Units Required: 12**
- **Certificate Length: Varies**
  - Current Washington University doctoral students who are interested in pursuing the Graduate Certificate Program in Higher Education (GCPHE) may begin taking courses pursuant to the Certificate upon entry into the university. Students in departments outside of the Department of Education must obtain approval from their home department in order to officially enroll in the GCPHE.
- Students must achieve a grade of C or better for courses to count toward the certificate program. Students are expected to maintain a cumulative grade point average of at least a 3.0 on a 4.0 scale in courses that count toward their requirements. Thus, among courses of equal weight, each grade of C must be balanced by at least one A.
- **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Required Courses

Doctoral students interested in pursuing a Graduate Certificate in Higher Education must take a total of either four courses (12 total credit units) *or* three courses (9 total credit units) and engage in a 3-credit-unit Mentored Experience in Higher Education (MEHE) through the Department of Education. Students will complete only one course from each of the following course groupings until their 9- or 12-credit-unit requirement has been met: (1) Foundations of Education, Assessment, and Evaluation; (2) Diversity and Inclusion in Education; and (3) Critical Issues in Higher Education. Students may elect to take a further course in Critical Issues in Higher Education or to enroll in an MEHE. To enroll in an MEHE, the student consults with the practicum supervisor, and then, the MEHE must be approved by the director of graduate studies in the Department of Education.

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English

The Department of English offers the degrees of **Master of Arts (AM) and Doctor of Philosophy (PhD) in English and American Literature** and **Doctor of Philosophy (PhD) in English and Comparative Literature**. Candidates for admission apply to the PhD program; we do not accept students for a standalone AM. The PhD is a six-year program.

The graduate program in English and American literature at Washington University in St. Louis is innovative, approachably sized and generously funded, with all incoming students receiving full tuition scholarships plus university fellowships. Our faculty includes Guggenheim Fellows, winners of the National Book Critics Circle Award, and members of the American Academy of Arts and Sciences. As a participant in the Carnegie Initiative on the Doctorate, we exemplify an integrated community of scholars and writers, and we are home to one of the top ten MFA programs in the United States. We sponsor multiple reading groups, regular faculty and student colloquia, and an extensive lecture series. The Hurst Visiting Professorship brings eight or more distinguished creative and critical voices to the department each year. Hurst Professors have included Jerome McGann, Jed Esty, Charles Altieri, Carla Kaplan, Michael Wood, James Longenbach, Peter Coviello, Daniel Vitkus, Rita Felski and Rita Copeland. These professors present public talks, and they also lead small workshops open only to graduate students.

Our program is rooted in the materials of literary history, from medieval to post-postmodern times, and we embrace the importance of interdisciplinarity. We believe that intellectual community is fostered by concrete working relationships between professors and students, and we offer collaborative teaching opportunities with experienced faculty.

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Faculty

Chair

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Rafia Zafar
Professor
PhD, Harvard University

Steven Zwicker
Stanley Elkin Professor in the Humanities, Professor Emeritus
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Degree Requirements

- English and American Literature, PhD (p. 249)
- English and Comparative Literature, PhD (p. 251)
- Writing, MFA (p. 253)

Courses

Courses include the following:

- English Literature (p. 243)
- Writing (p. 247)

English Literature

Visit online course listings to view semester offerings for L14 E Lit.

L14 E Lit 500 Independent Study
Prerequisite: junior or senior standing. (First-year students or sophomores may apply for independent study under General Studies 200.) A detailed prospectus approved by a faculty member who has agreed to supervise the student's work must be approved by the director of undergraduate studies.
Credit variable, maximum 6 units.

L14 E Lit 5001 Honors Thesis Tutorial
For students writing a Senior Honors thesis. May be taken fall and spring semesters of the senior year. Prerequisite: E Lit 398.
Credit variable, maximum 1 units.

L14 E Lit 501 Bibliography and Research
Credit 3 units.

L14 E Lit 502 Readings for Writers
Credit 3 units.

L14 E Lit 5021 Introduction to Comparative Literature

Same as L16 Comp Lit 502
Credit 3 units.

L14 E Lit 5022 Introduction to Graduate Studies: Research and Methodology
Introduction to academic scholarship and related professional activities. A workshop in developing topics, conducting research, preparing and presenting conference papers, articles, and grant proposals.
Credit 3 units.

L14 E Lit 503 Literary Studies and Graduate Research
This course seeks to prepare students for successful doctoral study in literary studies. Rather than aiming to provide a comprehensive survey of the multifaceted discipline via coverage of literary periods or literary theory, this course invites us to grapple with the core questions and prominent debates surrounding its methods and objectives. Foregrounding the dis-orienting effects of the literary, the course begins by examining the history of the discipline and its institutions, including

shifting definitions of our objects of study; the histories of exclusion and inclusion that accompany these shifts; and, issues of canonicity, especially as they relate to empire building both within and outside the academy. Then, we will explore the methods of literary critique, thinking about what is at stake in the objects we study and the ways we choose to read them. Finally, we will engage with challenges to the traditional organizing principles of our field, including its geographies, periodization, and archives. In elucidating the multiple contexts and histories that condition our position within the university in the present moment, this course aspires to nuance the values and effects of pursuing an English Ph.D. for doing work both in and beyond academia.
Credit 3 units.

L14 E Lit 5031 Global Hispanic Studies
This graduate seminar provides a critical overview of the field of Global Hispanic Studies as an essential area of research that explores cultural and literary production throughout the Hispanic world across traditional historical periods, and border-bound geopolitical and geographical areas. The course thus explores the various ways in which the field of Global Hispanic Studies today connects with closely related areas of scholarly inquiry, such as Transatlantic Studies, Transpacific Studies, Hemispheric Studies, Mediterranean Studies, Third World/ Global South Studies, African Diaspora Studies, Migration Studies (including Exile), and World Literature. The seminar is structured into a series of different sub-sections that aims as a whole to frame the field of Global Hispanic Studies as an interdisciplinary and transnational area of scholarship and research. This format combines the analysis of important critical and theoretical readings (by authors such as Adam Lifshey for Transpacific Studies, Boaventura de Sousa Santos for the Global South, or Pascale Casanova for World Literature), with the close reading of a series of primary texts central to the overall field of Global Hispanic Studies across different historical periods. Examples of these central works include literature of the Sephardic diaspora or written in Ladino, Transatlantic avant-garde poetics and networks (César Vallejo, Vicente Huidobro, Silvina Ocampo); Hemispheric Literature during the modernist period (José Martí, Gabriela Mistral), and the Cold War (Neruda, Ernesto Cardenal, Elena Garro); contemporary literature produced by various exiled, and immigrant or first-generation writers (Max Aub, Najat El Hachmi); cultural production related to the African Diaspora across time (cultural forms by Afro-descendant communities across Latin America, the poetry of Nicolás Guillén, and Raquel Ilonbé); or the work of Sor Juana Inés de la Cruz, Miguel de Cervantes, or Roberto Bolaño as World Literature. Graduate students only. In Spanish.

Same as L38 Span 5031
Credit 3 units.

L14 E Lit 504 History of Prosody in English-Language Poetry
The seminar will trace the history of prosody in English from its Anglo-Saxon beginnings to the contemporary period, with particular emphasis on the role of prosody in variously shaping, reinforcing, and arguing with a poem's immediately apparent meaning.
Credit 3 units.

L14 E Lit 506 Practicum: Authoris and Archives
Credit 3 units.

L14 E Lit 508 Seminar in American Culture
Credit 3 units.

L14 E Lit 508A A Planetary Avant-Garde: Experimental Literature Networks and the Legacies of Iberian Colonialism
This Hispanic Studies graduate seminar focuses on the literary and artistic period known as the historical avant-garde (1909-1930) with a global, planetary perspective in relation to the legacies of Iberian colonialism across the world. As a historical event closely intertwined with the global expansion of Western colonialism, capitalism, and industrialization during the early twentieth century, the historical avant-garde constitutes a rich period during which various transnational connections are articulated, experienced, and imagined across the world beyond a merely European or Anglo-American framework as it relates to the impact of Iberian colonialism in different regions of the globe. While providing a theoretical introduction to avant-garde and global modernist studies, with archive of primary sources related to the field of Hispanic Studies, as well as Lusophone Studies, our course will study instances of experimental literature networks emerging during the historical avant-garde across Western Europe, East Asia, West Africa, and the Americas.The course format thus aims to combine the analysis of important critical and theoretical readings across these sub-fields, with the close reading of a series of primary readings central to global avant-garde. Through the examination of the work of authors like Almada Negreiros and Fernando Pessoa (Portugal), Tarsila do Amaral and Oswald de Andrade (Brazil), Vicente Huidobro (Chile), Jose García Villa and Angela Manalang Gloria (Philippines)-as well as theoretical readings by Laura Doyle, Gayatri Spivak, Marjorie Perloff, Peter Bürger, Dipesh Chakravarty, Bruno Latour, Caroline Levine, Benedict Anderson, and Tamar Herzog among others-this course will explore the interrelated aesthetic, linguistic, sociohistorical, and geopolitical dimensions of the emergence of a planetary avant-garde during the first three decades of the 20th century, as well as its various rearticulations in the 1960s and the contemporary period. Taught in English; Spanish reading proficiency required; for Graduate students only.
Same as L38 Span 508
Credit 3 units.

L14 E Lit 510 Old Icelandic
Credit 3 units.

L14 E Lit 5102 Medieval English Literature: Medieval Women's Writing
Topics course in Medieval English literature.
Same as L14 E Lit 4101
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L14 E Lit 511 Seminar: The Middle Ages
Credit 3 units.

L14 E Lit 5110 Topics in English and American Literature
Comparing the literatures -- readings in the literature and theory of English and American Literature. Topics vary according to semester offerings.
Same as L14 E Lit 420
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L14 E Lit 5111 Topics in American Literature: Popular Music and American Literature from Rag to Rap

Same as L14 E Lit 423
Credit 3 units. A&S IQ: HUM, SD Art: HUM EN: H

L14 E Lit 5116 Topics in African-American Literature
Hold for new hire
Same as L14 E Lit 4244

Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L14 E Lit 512 Seminar: The Middle Ages
Credit 3 units.

L14 E Lit 5125 Topics in English and American Drama: 19th Century American Drama
Varies from semester to semester.
Same as L14 E Lit 434
Credit 3 units. A&S IQ: HUM Art: HUM EN: H

L14 E Lit 513 Seminar: The Renaissance
Credit 3 units.

L14 E Lit 5131 Seminar: Renaissance Race Theory and Early Modern Culture
Credit 3 units.

L14 E Lit 5132 Modern Poetry I: Modernisms
American and British poetry before, during, and after World War I. Readings include Hardy, Yeats, Frost, Stein, Eliot, Williams, Moore, Johnson, Pound, H.D. and Stevens, as well as selections from Wordsworth, Whitman and Dickinson. First half of two-course sequence; second half optional
Same as L14 E Lit 4471
Credit 3 units. A&S IQ: HUM Art: HUM EN: H

L14 E Lit 514 Seminar: The Renaissance
Credit 3 units.

L14 E Lit 515 Seminar: The 17th Century
Credit 3 units.

L14 E Lit 5156 Selected English Writers I: Virginia Woolf: Novelist and Feminist
Concentrated study of one or two major English writers, e.g., Spenser, Dickens, Blake, Yeats. Consult Course Listings.
Same as L14 E Lit 481
Credit 3 units. A&S IQ: HUM Art: HUM EN: H

L14 E Lit 517 Seminar: The 18th Century
Credit 3 units.

L14 E Lit 519 Seminar: The 19th Century
Credit 3 units.

L14 E Lit 5199 Milton
Major poems and prose works in relation to literary and intellectual currents of the 17th century.
Same as L14 E Lit 494
Credit 3 units. A&S IQ: HUM Art: HUM EN: H

L14 E Lit 520 Seminar: British Romantic Poetry: A Workshop on Key Texts, Contexts, and Topics
This seminar is designed both for the prospective scholar of Romanticism (the student who will make it central to intensive study in the major fields of 18th or 19th century literature) and for the reluctant or even resistant reader of Romantic poetry. Reading the major texts of the field, primary and secondary, we will investigate a term that has always vexed even its enthusiasts-"Romanticism"- as it is defined, with particular focus on the so-called "Big Six" poets, in the second decade of the 21st century Indeed, this workshop will enable graduate students in other fields (whether their principle genre is poetry or fiction) to situate "Romanticism" within today's curriculum, which means within other fields dominated by those "isms" (modernism and post-modernism, strucuturalism and post-structuralism) provoked by a sometimes (for the Romanticist) maddening certainty as to what "Romanticism" means, or meant, or indeed could mean. Students of early modernism are most welcome, as we consider the burden of the past inherited by the sometimes begrudging heirs of Spenser, Shakespeare, and Milton. You need not have encountered in previous graduate or undergraduate courses the major Romantic poets-William Blake, William Wordsworth, Samuel Taylor Coleridge, Percy Shelley, Lord Byron, and John Keats-in order to benefit from a workshop that will provide intensive instruction in the art and scholarship of reading the Romantic lyric, the Romantic narrative poem, and the hybrid forms of Blake's composite art or Byron's rollicking Don Juan as these forms emerged in Britain between 1770 and 1830. We will read together the definitive scholarship of the past century during the crescendo of the Romantic lyric poem as the definitive example of British literary achievement against which other periods and forms were measured, from Irving Babbitt's vitriolic attack to the field's anxious self-questioning, provoked by deconstruction, New Historicism, and cultural studies. Situating the still-canonical Romantic poet within a literary culture that openly embraced the oral forms of outsiders and the special contributions of women writers (who cultivated both sense and sensibility), a culture that was alert to the political debates undermining old certainties about sovereignty and the scientific developments of what Richard Holmes recently called in a celebrated work "the Age of Wonder," we will enlarge (as has the dominant scholarship in the field of British Romanticism) the sources and audiences that shaped the canonical Romantic poet. Our guiding question throughout the semester will be how to study, and teach, with fresh insights poets whose stature may already be shrinking, eclipsed by the very debates they themselves first provoked. Can there be an exceptional work of art in a democritizing era whose states of exception-revolutions in tastes, ethics, and political states-bind to, even as they put distance between, the contexts of the British Romantic Age and those of today's reader? Final projects will be encouraged that explore this question, either through intensive study of a single Romantic poet or within Romanticism or by locating the British Romantic poem within other fields of study.
Credit 3 units.

L14 E Lit 521 Seminar: American Literature
Credit 3 units.

L14 E Lit 523 The 20th Century
test
Credit 3 units.

L14 E Lit 5231 Seminar in American Literature
Credit 3 units.

L14 E Lit 524 Seminar: 20th Century
Credit 3 units.

L14 E Lit 5241 Seminar: Modernism
Seminar topics vary according to semester offerings.
Credit 3 units.

L14 E Lit 5242 Seminar: Modernism and Postmodernism in American Literature
Designed for future teachers preparing to offer survey courses in American Literature.
Credit 3 units.

L14 E Lit 525 Seminar in Minority Literary Traditions
Credit 3 units.

L14 E Lit 527 Seminar in Comparative Literature

Same as L16 Comp Lit 527
Credit 3 units.

L14 E Lit 528 Readings in American Literature and Culture
For Graduate Students Only. Readings in American Literature and Culture which will vary by semester.
Credit 3 units.

L14 E Lit 529 Seminar in Cultural Theory
Graduate-level seminar. Topics vary by semester.
Same as L21 German 529
Credit 3 units.

L14 E Lit 530 Seminar: Medieval Dissertation
Credit 3 units.

L14 E Lit 5301 Seminar: Medieval Dissertation II
Seminar in Medieval Studies. Only open to Graduate Students.
Credit 3 units.

L14 E Lit 531 Seminar: Contemporary Irish Poetry: Literary Tradition, Postcolonial States, and Postmodern Subjects
In readings of poets, both the particular contexts that have shaped what is now called a second Irish literary renaissance and the larger questions of how Irish poems from both sides of the border that still partitions the island may be read in relation to the ideologies of nation, gender, and the global marketplace.
Credit 3 units.

L14 E Lit 5491 Feminist Literary and Cultural Theory
This course provides a historical overview of feminist literary and cultural theories since the 1960s and 70s, acquainting students with a diversity of voices within contemporary feminism and gender studies. Readings will include works of French feminism, Foucault's History of Sexuality, feminist responses to Foucault, queer (LGBTQ+) theory, postcolonial and decolonial feminism, feminist disability theory, and writings by US feminists of color (African-American, Asian-American, Latina, Native-American). The reading list will be updated each year to reflect new developments in the discipline. We will approach these readings from an intersectional and interdisciplinary perspective, considering their dialogue with broader sociopolitical, cultural, and philosophical currents. By the end of the course, students are expected to have gained a basic knowledge of the major debates in feminist literary and cultural studies in the last 50 years, as well as the ability to draw on the repertoire of readings to identify and frame research questions in their areas of specialization. The class will be largely interactive, requiring active participation and collaborative effort on the part of the students. Students will be encouraged to make relevant connections between the class readings, everyday social and political issues, and their own research interests. NOTE: This course is in the core curriculum for the Women, Gender, and Sexuality Studies graduate certificate. Prerequisite: advanced course work in WGSS or in literary theory (300 level and above) or permission of the instructor.
Same as L77 WGSS 419
Credit 3 units. A&S IQ: HUM, SC, SD Arch: HUM Art: HUM EN: H

L14 E Lit 5492 Shakespeare and Performance
How were Shakespeare's plays performed in their own day--in the Globe theater, with boy actors, and with very short rehearsal times? How, for the actor, did performance work on the outdoor stage, with the Globe's wide and deep acting platform and its intimate relationship to the audience? How might one stage Shakespeare today in an outdoor environment without lighting and with minimal sets, and with the capacity to move easily from one outdoor venue to another? From what social types in Renaissance England-such as merchants, prostitutes, aristocrats, constables, beggars, and princes-did Shakespeare draw? How can evolving ideas about race, gender, and sexuality inform the way we perform Shakespeare today? Addressing these questions and others, the course weaves together performance and literary, critical, and historical study. Topics include blank verse, performing Shakespeare's prose, playing with figures of speech, working the Globe stage, engaging an outdoor audience, acting from a written "part" rather than an entire script, performing types, exploring Shakespeare's sources as performance alternatives, making Shakespeare new- and more. Students will rehearse and perform sonnets, scenes, and monologues based on social figures from Shakespeare's England. The course assumes a willingness to perform but not specialized acting training.
Same as L15 Drama 4692
Credit 3 units. A&S IQ: HUM EN: H

L14 E Lit 551 Methods of Literature Study: Cultural Pluralism: From Modernity to Globalization
The seminar deals with recent theories of Modernism, Postmodernism, New Historicism, Multiculturalism, and Postcolonialism. We will read and discuss books and articles by Calinescus, Lyotard, Hutcheon, Greenblatt, Taylor, Habermas, Ashcroft/Tiffin, and Grossberg/Nelson/Treichler. Readings in Enlish. Prerequisite: graduate standing 6 units of literature, or permission of instructor.
Same as L16 Comp Lit 550
Credit 3 units.

L14 E Lit 560 Literary Pedagogy
Permission required by the Department.
Credit 3 units.

L14 E Lit 561 Seminar: Literary Forms and Modes
Graduate Seminar: Topics vary
Credit 3 units.

L14 E Lit 5621 Craft of Fiction
In her introduction to Halldor Laxness's novel Under the Glacier, Susan Sontag says, "Narratives that deviate from [the] artificial norm" of realist fiction "and tell other kinds of stories, or appear not to tell much of a story at all...still, to this day, seem innovative or ultraliterary or bizarre," suggesting they "occupy the outlying preceints of the novel's main tradition," and it is with some of these Martian fictions that this class will be concerned. Deviants we'll be reading: Djuna Barnes, RikkiDucornet, Kate Bernheimer, Jaimy Gordon, Kathryn Davis, and other such lady heteroclites. You'll be asked to produce aberrant fictions of your own. Cross-dressers welcome. Craft class for Graduate Students only.
Credit 3 units.

L14 E Lit 563 Literary Criticism
Credit 3 units.

L14 E Lit 5631 Modeling Interdisciplinary Inquiry
Credit 4 units.

L14 E Lit 564 Science Studies Literary Studies
Graduate level Seminar for Graduate Students only
Credit 3 units.

L14 E Lit 565 Theorizing the Multitude
Figures of multitude, mixture, and hybridity have gained increasing currency among politically-oriented critics over the last fifteen years or so. This class examines some of the recent theorizations of multitude and its allied concepts, mixture and hybridity, from the perspective of their origins in seventeenth-century philosophy. Readings are likely to include selections from Benedict de Spinoza, Thomas Hobbes, John Locke, Homi Bhaba, Antonio Negri, and Giorgio Agamben. Our goal is to gain a perspective on the paradigm that currently drives some of the most original research in literary and cultural studies.
Credit 3 units.

L14 E Lit 5651 Seminar
Graduate seminar for graduate students only. Varied Topics.
Credit 3 units.

L14 E Lit 566 Ethics of Literature
Graduate Seminar limited to Graduate Students on the ethics of literature.
Credit 3 units.

L14 E Lit 567 Topics in Advanced Theory--Theory of the Novel
The novel has received a sizable share of critical energy. What is it? Where did it come from? How did it develop? What are its ideological tendencies? What are its characteristic preoccupations? In this course we will read a range of influential writings on the novel´s origins and development, its defining form and content. These writings will be considered within their own critical contexts (feminist, Marxist, structuralist, etc.) and within the specific historical contexts out of which the novel emerged (shifts in class and gender formation, the development of modern conceptions of the self, the material production of the book). Several novels from the 18th and 19th century will form the basis of our application of theory to text, from methodological abstraction to reading experience, among them, PAMELA, WAVERLEY, and JANE EYRE.
Credit 3 units.

L14 E Lit 570 Seminar: Old English: Beowulf, Gawain, and Piers Plowman: Alliterative Poetry in Medieval Britain
Some of the greatest poems ever written in English "Beowulf, Sir Gawain and the Green Knight, Piers Plowman" were composed in alliterative meter, which was the staple poetic form of Old English, was revived in the fourteenth and fifteenth centuries, but became obsolete during the sixteenth century. This course will read alliterative poems: the three works listed in the title, and several others from Old and Middle English (and Middle Scots too); students may use specific translations (Heaney's Beowulf, Tolkien's Gawain, Donaldson's Piers) but are encouraged and expected to become familiar with the original language, style and sound of these poems. We shall study alliterative poetry historically as well as critically: who wrote it, and who read it? Why was it revived in later medieval England, and from what sources? Given the quality of the later works, why did the form die out? We shall think about historical memory and archive, reading communities and literary culture/s. So the course models questions about understanding (and imagining) the literary production of a distant past, and offers the intense and often unexpected pleasures of reading it.
Credit 3 units.

L14 E Lit 572 Seminar: Old English Poetry
Credit 3 units.

L14 E Lit 574 Middle English
Credit 3 units.

L14 E Lit 575 Seminar: English Linguistics
Credit 3 units.

L14 E Lit 580 Directed Reading
Permission required by the department.
Credit variable, maximum 6 units.

L14 E Lit 590 Research
Credit variable, maximum 9 units.

L14 E Lit 883 Master's Continuing Student Status

L14 E Lit 884 Doctoral Continuing Student Status

L14 E Lit 885 Master's Non-Resident

L14 E Lit 886 Doctoral Non-Resident

Writing

Visit online course listings to view semester offerings for L13 Writing.

L13 Writing 500 Independent Study
Independent study in creative or expository writing. Prerequisites: junior standing and permission of the department. Students proposing projects in fiction or poetry must submit writing samples for approval of the faculty members directing the work. Projects in expository writing must be described in detailed prospectuses and approved by the faculty members directing the work and by the director of undergraduate studies. Credit/No Credit only.
Credit variable, maximum 6 units.

L13 Writing 503 Publishing Internship -- Dorothy, a publishing project
Dorothy, a publishing project -- a nationally acclaimed independent press publishing works of innovative fiction -- offers a one-year internship for an MFA student in creative writing. Students can apply in the spring of their first year to begin the internship the following fall. The intern chosen will work directly with Danielle Dutton, the press's editor, on mutually agreed upon projects that take into account the intern's interests and strengths. In general, however, the internship is designed to give students a wide range of experience with literary publishing and so will likely involve a mix of editorial tasks (e.g., reviewing submissions, writing reader's reports, copyediting manuscripts in layout), marketing, design, and book production and distribution. The intern will also have opportunities to represent the press publicly, including at the annual AWP conference (travel and

hotel expenses will be covered), and the intern's name will appear on the press's masthead. Interested students should submit a letter of application and CV to Professor Dutton (ddutton@wustl.edu) and Program Director David Schuman (dschuman@wustl.edu) no later than March 15 of the spring semester of their first year. Prerequisite: Completion in good standing of the first year of the MFA in Creative Writing program and accepted application.
Credit 1 unit.

L13 Writing 515 Graduate Seminar in Poetry
For Graduate Students only.
Credit 3 units.

L13 Writing 520 Fiction Workshop
Open only to students in The Writing Program, and to other graduate students in English with submission and approval of writing samples.
Credit 3 units.

L13 Writing 521 Seminar
Credit 6 units.

L13 Writing 5210 Craft of Fiction
A literature/creative writing hybrid course; students will read a number of contemporary historical fictions-an increasingly important and innovative genre-and then write one of their own.
Same as L13 Writing 431
Credit 3 units. Arch: HUM Art: HUM EN: H

L13 Writing 522 Poetry Workshop
Credit 6 units.

L13 Writing 523 Creative Nonfiction Workshop
Open only to nonfiction students in the MFA Writing Program.
Credit 6 units.

L13 Writing 524 Playwriting Workshop
Credit 3 units.

L13 Writing 524C Seminar: The Archive in Theory and Practice: Archival Fiction, Docupoetics, and Critical Fabulations

Same as L14 E Lit 524
Credit 3 units.

L13 Writing 525 History of Prosody in English-Language Poetry
The seminar will trace the history of prosody in English from its Anglo-Saxon beginnings to the contemporary period, with particular emphasis on the role of prosody in variously shaping, reinforcing, and arguing with a poem's immediately apparent meaning.
Credit 3 units.

L13 Writing 530 Craft of Fiction: The Novel
Credit 3 units.

L13 Writing 531 Craft of the Novella
An endeavor to define what a novella might be (longer than a short story and shorter than a novel), how the form has evolved, and what problems and authority might be particular to it.
Credit 3 units.

L13 Writing 5310 The Craft of Poetry: The Prose Poem
This course is for writers who wish to study long-form poetic composition and book arrangement. The major assignment will be to compose a poem or poetic sequence of considerable length. Gwendolyn Brooks ("The Anniad") and Theresa Hak Kyung Cha ("Dictee") will be chief among our guides. We will study how poets arrange their books, and we will also make a brief foray into the material history of the book. Texts by Rosa Alcalá, John Ashbery, Daniel Borzutzky, Barbara Guest, Lyn Hejinian, Lorine Niedecker, Alice Notley, George Oppen, Ed Roberson, Brian Teare, and Simone White will also be included. This course counts toward the creative writing concentration. Prerequisite: L13 322.
Same as L13 Writing 432
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L13 Writing 532 First Books, Inside and Out
Literary publishing is in a period of rapid change. It's hard to say where the future of the book itself-much less your own first book-lies. And first books do present a unique set of challenges. In this class, we'll read recent first books-of poetry, fiction, and creative nonfiction-talking not only about what each is doing, but also, via an interview with its author, the book's journey from inception through publication. To complement the authors' perspectives, we'll also have several visits or interviews with different literary editors. This is not a class on how to get published per se; we will be as interested in the publisher's challenges as the writer's. To that end, we'll ask why books get written and published the way they do; we'll attend to the diversity of interests and priorities each writer, book, and publishing alternative presents. In talking about different literary communities and the idea of community in general, we will also consider the state of book reviewing; each of you will write short reviews of the books we read and, then, a final review of an additional recent first book of your choosing (the hope being that you might submit this review for publication). You'll also be asked to give a presentation on a publisher (or aspect of publishing) and, in the final weeks, to present your own writing to the class. We'll discuss your work in terms of what's there on the page and also where it might go, how it might grow, how and why it might become your own first book.
Credit 3 units.

L13 Writing 5400 Topics: Craft of the Literary Magazine
Composition topics course -- offerings will vary from semester to semester.
Same as L13 Writing 4131
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L13 Writing 541 Craft of Poetry
Credit 3 units.

L13 Writing 5520 Craft of Creative Nonfiction
Credit 3 units.

L13 Writing 5621 Craft of Nonfiction
Credit 3 units.

L13 Writing 590 Directed Writing: Thesis
Credit variable, maximum 3 units.

L13 Writing 591 Directed Writing: Thesis: Fiction
Open only to students in the Writing Program. A tutorial for students writing a fiction thesis.
Credit 3 units.

L13 Writing 592 Directed Writing: Thesis: Poetry
Open only to students in the Writing Program. A tutorial for students writing a poetry thesis.
Credit 3 units.

L13 Writing 593 Directed Writing: Thesis: Creative Nonfiction
Open only to students in the Writing Program. A tutorial for students writing a creative nonfiction thesis.
Credit 3 units.

L13 Writing 883 Masters Continuing Student Status

L13 Writing 885 Masters Non-Resident

English and American Literature, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 39**
- **Degree Length: 6 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - The English Department assures funding for up to 12 semesters for all full-time PhD students and 4 semesters for all full-time MFA students in good standing.

Required Courses

Code	Title	Units
E Lit 503	Literary Studies and Graduate Research	3
Writing 599	Seminar: Teaching Freshman Composition	3

PhD in English and American Literature

The AM/PhD program in English at Washington University in St. Louis is a six-year course of study leading to a doctorate in English and American Literature or in English and Comparative Literature. All English graduate students take a minimum of 12 elective 3-credit courses at the 500 level or above, along with two compulsory classes: L14 E Lit 503 Literary Studies and Graduate Research and L13 Writing 599 Seminar: Teaching Freshman Composition. Aside from these two classes, there are no specific course requirements; although, students must take at least two courses in historical periods before 1780 (not in the same period) and at least two in historical periods after 1780 (again, not in the same period). The minimum grade for courses to count towards the PhD is a B; the minimum cumulative GPA in order to maintain good standing is a 3.7, with no more than three grades of a B+ or below in a given academic year.

The English department requires a minimum of competency in one foreign language, ancient or modern, for all doctoral candidates. "Competency" is understood as a basic comprehension of the grammar, structure, and core vocabulary of a language. Native speakers of another language or students who have had two full years of undergraduate language study with a grade average of B+ or better will be considered to have satisfied the competency requirement. Other students may demonstrate competency either by taking an introductory reading course designed for graduate students or by passing a translation exam administered by the appropriate language department.

Students entering the program with a master's degree in hand normally follow the standard first-year curriculum. At the end of their third semester, the director of graduate studies will review their AM credits taken elsewhere and determine how many credits (no more than 9) may be applied toward the PhD at Washington University. This request will then be reviewed by the Office of Graduate Studies. Although students receiving transfer credit may be able to complete the PhD in fewer than six years, it is to their advantage to enter the program as first-year students since this approach ensures them four full semesters of study without teaching responsibilities. If, after three semesters and the review of transfer credit, the director of graduate studies determines that the student has fulfilled the course requirements for the PhD, the student may elect not to take classes in semester four and instead to begin major field reading instead; their 6 credits of major field preparation during semester four will complete the requirements for the Washington University AM degree.

Students who wish to receive the combined PhD degree in English and Comparative Literature may do so by fulfilling the English department's requirements for combined degrees. More information about the combined degree may be found on the departmental website.

During the first seven semesters, credits are earned by taking courses, independent study, and directed reading. More precisely, students complete 13 courses (39 credits) total across years one and two; L13 Writing 599 Seminar: Teaching Freshman Composition (3 credits) in the fall of year three; 6 credits of directed reading in the spring of year four; and 6 credits of directed reading in the fall of year four.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts &

Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way

It is assumed that all entering graduate students are aiming for the PhD; the English department does not admit students aiming for a terminal AM degree. The AM is awarded during the course of study when a student has completed 36 credit units, usually at the end of the second year. To satisfy the Office of Graduate Studies, Arts & Sciences, requirement of demonstrated excellence, candidates for the AM may also be asked to submit a graded seminar essay (or the equivalent) for review by the English Graduate Committee.

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English and Comparative Literature, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 72**
- **Degree Length: 6 years**
  - The joint PhD degree in English and Comparative Literature requires study of English literature and culture, over the course of which the student virtually duplicates the courses and other preparations expected of a doctoral candidate in English. Students additionally complete the 12-unit core requirement for the Comparative Literature PhD program, which includes Comp Lit 502 Introduction to Comparative Literature. For a description of this core, see the PhD in Comparative Literature (p. 171).
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - The English Department assures funding 12 semesters for all full-time PhD students and 4 semesters for all full-time MFA students in good standing.

PhD in English and Comparative Literature

The AM/PhD program in English at Washington University in St. Louis is a six-year course of study leading to a doctorate in English and American Literature or in English and Comparative Literature. All English graduate students take a minimum of 12 elective 3-credit courses at the 500 level, along with two compulsory classes: L14 E Lit 503 Literary Studies and Graduate Research and L13 Writing 599 Seminar: Teaching Freshman Composition. Aside from these two classes, there are no specific course requirements, although students must take at least two courses in historical periods before 1780 (not in the same period) and at least two in historical periods after 1780 (again, not in the same period).

The English department requires a minimum of competency in one foreign language, ancient or modern, for all doctoral candidates. "Competency" is understood as a basic comprehension of the grammar, structure and core vocabulary of a language. Native speakers of another language or students who have had two full years of undergraduate language study with a grade average of B+ or better will be considered to have satisfied the competency requirement. Other students may demonstrate competency either by taking an introductory reading course designed for graduate students or by passing a translation exam administered by the appropriate language department.

Students entering the program with a master's degree in hand normally follow the standard first-year curriculum. At the end of their third semester, the director of graduate studies will review their AM credits taken elsewhere and determine how many credits (normally a limit of 9-12) may be applied toward the PhD at Washington University. Although students receiving transfer credit may be able to complete the PhD in fewer than six years, it is to their advantage to enter the program as first-year students, since this ensures them four full semesters of study without teaching responsibilities. If, after three semesters and the review of transfer credit, the director of graduate studies determines that the student has fulfilled the course requirements for the PhD, the student may elect not to take classes in semester four and instead to begin major field reading instead; their 6 credits of major field preparation during semester four will complete the requirements for the Washington University AM degree.

Students who wish to receive the combined PhD degree in English and Comparative Literature may do so by fulfilling the English department's requirements for combined degrees. More information about the combined degree may be found on the departmental website.

During the first seven semesters, credits are earned by taking courses, independent study and directed reading. More precisely, students complete 13 courses (39 credits) total across years one and two; the Practicum in Teaching (3 credits) in the fall of year three; 6 credits of directed reading in the spring of year three; and 6 credits of directed reading in the fall of year four.

Required Courses

Code	Title	Units
E Lit 503	Literary Studies and Graduate Research	3
Comp Lit 502	Introduction to Comparative Literature	3
Writing 599	Seminar: Teaching Freshman Composition	3

Course Requirements

Four courses comprising the Comparative Literature core requirement, including Comp Lit 502 Introduction to Comparative Literature and three additional courses distributed among designated categories (refer to the PhD in Comparative Literature (p. 171) for the listing of designated categories).

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Comparative Literature Joint PhD degree students will take the comprehensive examinations required in English. At least one of these examinations must entail a comparatist element; this element is to be identified and negotiated with the examination committee, which will include at least one faculty member representing Comparative Literature.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's

program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

The dissertation committee should include at least one faculty member representing Comparative Literature. The dissertation itself should, in its theoretical grounding, approach, transnational or transcultural scope, and/or interdisciplinarity, speak to the field of Comparative Literature as currently constituted.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way

It is assumed that all entering graduate students are aiming for the PhD; the English department does not admit students aiming for a terminal AM degree. The AM is awarded during the course of study when a student has completed 36 credit units, usually at the end of the second year. To satisfy the Office of Graduate Studies, Arts & Sciences, requirement of demonstrated excellence, candidates for the AM may also be asked to submit a graded seminar essay (or the equivalent) for review by the English Graduate Committee.

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Writing, MFA

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 42**
- **Degree Length: 2 years**
  - Students are expected to be enrolled in 12 graduate credit units (6 of which consist of the graduate workshop in their chosen genre) during each semester of their first year. Students are expected to be enrolled in 9 graduate credit units (6 of which consist of the graduate workshop in their chosen genre) during each semester of their second year.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

The Writing program leads to the Master of Fine Arts (MFA) in Writing. This is a two-year program that requires satisfactory completion of 42 credit units, a thesis, and an oral examination dealing principally with the thesis. Students must maintain a minimum 3.0 cumulative GPA.

Courses

Of the 42 credit units required, 24 consist of the graduate nonfiction, fiction, or poetry workshop taken every semester. The remainder are primarily literature and craft courses from the English department. However, in consultation with the director of the program, graduate-level courses from any department that will enrich the student's writing are acceptable as long as the student has the appropriate preparation and the permission of the instructor.

During their first year, students enroll for 24 units: the graduate workshop in their genre (6 units) plus two additional 3-unit courses each semester. During their second year, while participating in the mentored teaching experience, students typically take a total of 18 units: the workshop each semester (12 units), thesis hours (3 units), and an additional course.

Code	Title	Units
Writing 520	Fiction Workshop	3
Writing 522	Poetry Workshop	6
Writing 523	Creative Nonfiction Workshop	6
Writing 591	Directed Writing: Thesis: Fiction	3
Writing 592	Directed Writing: Thesis: Poetry	3
Writing 593	Directed Writing: Thesis: Creative Nonfiction	3

Thesis Requirements

The required work for the MFA culminates in a thesis, which may take different forms but is usually a volume (or most of a volume) of poems, stories, or essays; a novel (or most of a novel); or a memoir or other long-form creative nonfiction work (or most of one).

Oral Examination

Near the end of the second year, after the thesis has been submitted in its final form, the program will schedule an oral examination that deals principally with the thesis.

Required Courses

MFA students are required to enroll in the Graduate Workshop in their genre each semester.

Code	Title	Units
Writing 520	Fiction Workshop	3
Writing 522	Poetry Workshop	6
Writing 523	Creative Nonfiction Workshop	6

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Film and Media Studies

The program in Film and Media Studies (FMS) provides students who are interested in the history, criticism, and theories of moving-image-based visual culture from the 19th through the 21st centuries an opportunity to extend their formal intellectual development and to explore film and electronic media as evolving global phenomena. The **certificate** and the **master's degree in FMS** advance a student's scholarly understanding of all forms of the moving image and their artistic, cultural, industrial, philosophical, political, and social implications.

The certificate is by application and is open to PhD students in other academic units. It consists of 15 course units in FMS; 6 units of the certificate may be counted in the student's PhD requirements. The master's degree emphasizes multiple approaches of academic study that may lead to curating, researching, teaching and other professional activities centered on film and other moving image media.

Students already enrolled at Washington University with a major in FMS may wish to consider the master's program as part of an accelerated AB/Master's option. Washington University students who are admitted in the combined AB/Master's program may have up to 9 units of FMS course credit at the 400 level considered for application to the Master of Arts (AM) degree requirements. Students who are currently enrolled as undergraduates at Washington University and who are seeking the combined AB/Master's degree should use the standard application form of the Office of Graduate Studies, Arts & Sciences, to apply.

Students applying to the FMS master's program from outside of the university should follow the standard application procedures of the Office of Graduate Studies, Arts & Sciences (available on the Application Process webpage). Graduate Record Exam scores that indicate an aptitude for graduate study are required, and applicants will also need to supply strong letters of recommendation from three instructors who can speak to the applicant's academic skills relevant to graduate study in FMS. Applicants who have completed an undergraduate degree and who show outstanding promise in writing about film and media but who do not have a formal background in film/media studies may also be admitted. All applicants to the master's program in FMS should have a strong academic foundation in critical writing and thinking. At least one writing sample of no less than 3,000 words is required, and the applicant must also compose a letter of approximately 500 words describing their interest in FMS and how their intellectual background has prepared them for graduate study in FMS.

All applicants to the certificate, AB/Master's, and master's degree programs in FMS are welcome to consult with the director of graduate studies about the application process.

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Faculty

Director

Ian Bogost
Barbara and David Thomas Distinguished Professor
PhD, University of California, Los Angeles

Department Faculty

Colin Burnett
Associate Professor
PhD, University of Wisconsin-Madison

Richard Chapman
Senior Lecturer

Jianqing Chen
Assistant Professor
PhD, University of California, Berkeley

James Fleury
Senior Lecturer
PhD, University of California, Los Angeles

Reem Hilu
Assistant Professor
PhD, Northwestern University

Deirdre Maitre
Senior Lecturer

Raven Maragh-Lloyd
Assistant Professor
PhD, University of Iowa

William Paul
Professor Emeritus
PhD, Columbia University

John Powers
Assistant Professor
PhD, University of Wisconsin-Madison

Gaylyn Studlar
David May Distinguished Professor in the Humanities
PhD, University of Southern California

Diane Wei Lewis
Associate Professor
PhD, University of Chicago

Degree Requirements

- Film and Media Studies, Graduate Certificate (p. 261)
- Film and Media Studies, AM (p. 261)

Courses

Visit online course listings to view semester offerings for L53 Film.

L53 Film 500 Independent Study
This course is intended for students who wish to pursue areas of study not available within the standard curriculum. In order to enroll for this course, students must have a faculty adviser and submit a contract outlining the work for the course to the Film and Media Studies office. Please consult the Program guidelines governing independent study work. Opportunities for Independent Study are available to all undergraduate and graduate students working toward a degree in Arts and Sciences. Registration in an Independent Study requires sponsorship by a faculty member and approval of the Program Director. An Independent Study Proposal form can be obtained from the Film and Media Studies Office. All proposals for Film 500 have to be submitted to the FMS main office no later than November 1 for spring semester enrollment and April 1 for Film 500 to be taken in the fall semester. Approval is not automatic.
Credit variable, maximum 3 units.

L53 Film 5000 Independent Study
This course is intended for students who wish to pursue areas of study not available within the standard curriculum. In order to enroll for this course, students must have a faculty adviser and submit a contract outlining the work for the course to the Film and Media Studies office. Please consult the Program guidelines governing independent study work. Opportunities for Independent Study are available to all undergraduate and graduate students working toward a degree in Arts and Sciences. Registration in an Independent Study requires sponsorship by a faculty member and approval of the Program Director. An Independent Study Proposal form can be obtained from the Film and Media Studies Office. All proposals for Film 500 have to be submitted to the FMS main office no later than November 1 for spring semester enrollment and April 1 for Film 500 to be taken in the fall semester. Approval is not automatic.
Same as L53 Film 500
Credit variable, maximum 3 units.

L53 Film 501 Advanced Moving Image Analysis and Criticism
This course will explore the analytical tools that have served as the foundation for cinematic and televisual academic criticism. The variety of texts, visual and aural, that comprise moving image production will be considered with the aim of determining how textual strategies structure perception. The aim of the course is two-fold: to have students develop analytical skills for dealing with film and video texts, but also to see how these have been deployed in a multiplicity of approaches/applications offered by academic film criticism. There will be regular screenings to provide the material for analysis, as well as readings to offer a variety of critical models. REQUIRED SCREENINGS:
Credit 3 units.

L53 Film 505 Travel in Space: Contemporary Cinemas of Taiwan, Hong Kong, and China
The recent phase of intensive urbanization, industrialization, and globalization in Chinese regions has also mobilized multi-directional flows of migrants, tourists, workers and entrepreneurs across geographical boundaries. Moving through space, the voyagers offer changing perspectives to the cinematic mapping of socio-political relationships, histories, and cultures that constitute the identities of places. This course explores contemporary Chinese-language films that imagine trajectories between distant spaces as well as the experiences of "new comers" in "foreign" places. We will examine the current wave of travel films in Taiwan, the representation of drifters in Chinese urban films, as well as the imagination of migration in Hong Kong cinema. We will also explore theories that draw connections between movement, space, and cinema. REQUIRED SCREENINGS: TBA
Credit 3 units.

L53 Film 507 The 007 Saga: James Bond and The Modern Media Franchise
What is a franchise, and what approaches have scholars used to study the franchise as a modern cultural and commercial form? This course explores the phenomenon of the modern media franchise in light of the "007 saga": the stories of James Bond as they have proliferated in various media since the 1950s, including the Ian Fleming novels, television, comics, film, games, and young adult and fan fiction (including slash fiction). The 007 saga presents an opportunity to re-examine available ways of conceiving the franchise, from transmedia storytelling to media mixing, and it emphasizes the importance of scholarly models that can account for a decentralized creative labor. Throughout the history of Bond fiction, authorized and unauthorized writers have generated what now amounts to a threaded storytelling experience with pleasures that overlap with -- but are distinct from -- those of centrally planned media phenomena, like the Marvel Cinematic Universe. Note: Admission by waitlist only. Graduate students and advanced undergraduate majors in Film and Media Studies will have priority. Required screenings.
Credit 3 units.

L53 Film 510 Graduate Practicum in Film & Media Studies
The practicum in Film & Media Studies seeks to make our graduate students more competitive in the job market. It consists of professional experience that brings to bear academic knowledge and skills associated with the graduate study of moving image media (film, television, digital). The practicum may take a number of forms, but in every case, the experience must be planned in a way that contributes to the student's professional development. It might consist of work curating films for a screening or mini-festival accompanied by screening notes or other activities that enhance the academic value of the event. The student might organize a reading group or a scholarly symposium or lecture series to further the understanding of a particular aspect of the moving image on campus. The practicum may also consist of archival, or curatorial work in forms of the moving image at an archive, museum, or other non-profit organization (such as the St. Louis International Film Festival). The student might also pursue a film/media-centered oral history project or develop a film/media-centered blog or engage in other forms of writing that have a public presence. Students may initiate other projects, but any practicum requires a faculty mentor and in circumstances in which there is a collaborating organization, a letter of endorsement of the practicum from the student's on-site supervisor. Every student presents a written proposal/plan for any practicum to the DGS and to the faculty mentor/advisor. Both faculty must give permission to the plan and determine the appropriate number of credit hours (variable 1 to 3). Students may sign up for the practicum more than once to satisfy the 3 credits required in this area for the FMS master's degree; however, only one practicum should be pursued in a given semester. If there is a site supervisor, she/he must provide a letter upon completion of the practicum detailing the student's work and its quality. The student must provide a brief narrative (2 to 5 pages) detailing how the practicum served as a learning experience. The faculty advisor will award the grade for the practicum.
Credit variable, maximum 3 units.

L53 Film 527 Seminar in the 20th Century: Queer German Cinema

Same as L21 German 527
Credit 3 units.

L53 Film 5419 Theories of Mass Media
This course explores theories of the mass media with an emphasis on television as well as its convergences with other media and computer technologies. It starts by examining theories that posit the media as instruments of societal maintenance or transformation and then examines the ways in which various theorists have refined or rejected elements of these theories in a quest for both specificity and complexity. In particular, the course examines media and cultural studies' attempts to synthesize critical paradigms ranging from political economy to semiotics to feminism. The course concludes with an examination of the challenges and opportunities posed to theorizations of the mass media by contemporary circumstances such as media conglomeration, niche marketing and micro-casting, and global flows of information, capital, and people. REQUIRED SCREENING: [day, time].
Same as L53 Film 419
Credit 3 units. A&S IQ: HUM BU: BA EN: H

L53 Film 5420 Film Theory
This course is an introduction to both classical and contemporary film theory. Beginning with the earliest attempts to treat cinema as a new and unique art form, the course will initially review the various ways in which film theory attempted to define cinema in terms of its most essential properties. The course will then examine more contemporary developments within film theory, more specifically its attempt to incorporate the insights of other critical and analytical paradigms, such as semiotics, psychoanalysis, feminism, queer theory, and postmodernism. Throughout the course, we will consider questions regarding the ontology of cinema, its relation to spectators, and the various ways in which its formal properties create meaning. Readings for the course will include the major works of Sergei Eisenstein, Andre Bazin, Christian Metz, Laura Mulvey, and Fredric Jameson. Required screenings.
Same as L53 Film 420
Credit 3 units. A&S IQ: HUM, WI Arch: HUM Art: HUM EN: H

L53 Film 5421 Film Historiography
This course is a seminar on the writing of film history for advanced students. Through an engagement with the historiographical writings of scholars, such as Dominic LaCapra, Hayden White, and Michel Foucault, students will gain an understanding of various genres of film historical writing, an appreciation for the kinds of research that film historians do, and a familiarity with the ways in which film historians delimit their field of study, form research questions, and develop hypotheses. In addition to reading and classroom discussions, students will be expected to write a fairly lengthy paper (17-20 pages) that involves original historical research and the close examination of trade press, professional journals, fan magazines, and news articles. As preparatory assignments leading up to the final project, students will also prepare project descriptions, bibliographies, and outlines that will be shared and discussed in a workshop format.
Same as L53 Film 421
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L53 Film 5422 Film Stardom, Performance, and Fan Culture
This course focuses the Hollywood star system. We will explore stars in relation to celebrity and consumerism, especially how "stardom" is created by a system that seeks to create effects in film viewers whether conceived as audiences, fans, or spectators. We will examine the performance element of stardom and its relationship to genre, style, and changing film technology. Also of concern will be how stars and the discursive construction of stardom intersect with gender representation, race, ideology, sexuality, age, disability, nationality, and other points of theoretical interest to and historical inquiry in contemporary film studies. While emphasis will be placed on mainstream commercial U.S. cinema, students are encouraged to pursue questions beyond this framework within their own research. REQUIRED SCREENING: [day, time].
Same as L53 Film 422
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: BA EN: H

L53 Film 5423 Histories of Media Convergence
Entertainment and communications forms combine and blend, and they have done so across millennia. However, the phenomenon of media convergence has taken on a special salience over the last one-and-a-half-centuries, as exemplified by the growing intermixture of film, radio, television, gaming, and the internet. In particular, critics, consumers, politicians, and producers used convergence as structuring principle in understanding, regulating, and planning for the future of media culture. This course engages with contemporary worries and enthusiasms about convergence by considering the specific conditions in which the phenomenon has been understood and practiced. Tracing a historical arc though the Twentieth Century, we will first examine convergences of radio and film, film and music publishing, television and film exhibition, and disparate corporate entities as basis for understanding more recent media combinations. Building on that foundation, the majority of the course will consist of case studies of media convergence since 1980, considering it in terms of industry, technology, regulation, and audiences. These case studies will also provide students with a survey of and inquiry into questions of historiographic theory and method. Note: This course satisfies the history & historiography requirement for the FMS Graduate Certificate. Required Screenings.
Same as L53 Film 423
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L53 Film 5425 Seminar in Video Games: Video Games, Gender and Sexuality
This seminar considers different topics that illuminate the relationship of video games to culture. Topics vary by semester. The course may have a variety of analytical frames: gender and sexuality, interactivity and reception, narrative and aesthetic theory, industrial or technological history. Prerequisite is graduate status or completion of a 300-level FMS or WGSS course and permission of the instructor. Credit 3 units. REQUIRED LAB/SCREENING TIME weekly.
Same as L53 Film 425
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L53 Film 5429 Mass Culture and Modern Media: Fantasylands: Cinema, Spectatorship, and the Spatial Imagination
This course provides an introduction to cultural theories that are pertinent to the study of cinema, mass culture, and modernity. Rotating topics will highlight different aspects of cinema's relationship to popular culture, urbanism, modern technology, capitalism, and mass media. Students will encounter key theorists for understanding modern life and subjectivity, such as Marx, Freud, Foucault, Benjamin, and Raymond Williams. In addition, the course introduces core readings in the history and cultural theory of early cinema, which may include work by Miriam Hansen, Anne Friedberg, Tom Gunning, Charles Musser, Giuliana Bruno, Jacqueline Stewart, and others. Topics may include cinema and modernity, cinema and mass culture, cinema and leisure, cinema and urbanism, and cinema and consumer culture.
Same as L53 Film 429
Credit 3 units. A&S IQ: HUM Arch: HUM Art: CPSC, HUM BU: HUM EN: H

L53 Film 5430 Topics in Chinese Media Culture: Charting Identity in the Digital Age
Topics course in Chinese media culture. Subject matter varies by semester; consult current semester listings for topic.
Same as L81 EALC 430
Credit 3 units. A&S IQ: LCD BU: IS EN: H

L53 Film 5431 Renegades and Radicals: The Japanese New Wave
In 1960, the major studio Shochiku promoted a new crop of directors as the "Japanese New Wave" in response to declining theater attendance, a booming youth culture, and the international success of the French Nouvelle Vague. This course provides an introduction to those iconoclastic filmmakers, who went on to break with major studios and revolutionize oppositional filmmaking in Japan. We will analyze the challenging politics and aesthetics of these confrontational films for what they tell us about Japan's modern history and cinema. The films provoke as well as entertain, providing trenchant (sometimes absurd) commentaries on postwar Japanese society and its transformations. Themes include: the legacy of WWII and Japanese imperialism; the student movement; juvenile delinquency; sexual liberation; and Tokyo subcultures. Directors include: Oshima Nagisa, Shinoda Masahiro, Terayama Shuji, Masumura Yasuzo, Suzuki Seijun, Matsumoto Toshio, and others. No knowledge of Japanese necessary. Credit 3 units. Mandatory weekly screening:
Same as L53 Film 431
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM, IS EN: H

L53 Film 5432 Global Art Cinema
How do art films tell stories? The dominant storytelling genre of the contemporary festival circuit, the art film has since World War Two combined "realist" and "modernist" impulses. Influenced by Italian neorealism, art films grant priority to characters from working class, sexual, and other exploited and imperiled minorities. Drawing on the fine arts, literature and music, art films also experiment with modernist themes and formal principles, such as subjectivity, duration, serial structure, denotative ambiguity and reflexivity. This course explores art cinema from a variety of national contexts, analyzing storytelling techniques and themes that challenge the "economical" and diverting forms associated with mainstream commercial filmmaking. Required Screenings.
Same as L53 Film 432
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: IS EN: H

L53 Film 5439 Clown Princes
"Dying is easy, comedy is hard," runs an old theatrical adage. Nevertheless, some of the most popular actors in American film have chosen the hard path by typecasting themselves in comedy, playing repeated variations on the same character. "Comedian comedy," representing films that showcase the distinctive skills of great clown-actors, is the central concern of this course. We will analyze how individual comedians rework performance traditions through the distinctive concerns of their time and culture to create idiosyncratic comic personae. We will look at films starring Charles Chaplin, Buster Keaton, Harold Lloyd, Laurel and Hardy, the Marx Brothers, Jack Benny, Peter Sellers, Jim Carey and Eddie Murphy. Work for the course will require reading in comic theory and analytical essays. Required screenings.
Same as L53 Film 430
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L53 Film 5443 Memory, Tears and Longing: East Asian Melodrama Film
Excessive emotion, unreasonable sacrifice, hidden truth, untimely knowledge, and forbidden desire-the power of melodrama and its moving representations have fueled the popularity of hundreds, if not thousands, of books, plays, and films. Melodrama has variously been defined as a genre, a logic, an affect, and a mode, applied to diverse media, divergent cultural traditions, and different historical contexts. The course provides a survey of East Asian melodrama films-as well as films that challenge conventional definitions of melodrama-by pairing Japanese, Korean, and Chinese-language productions with key critical texts in melodrama studies. We will see classics such as Tokyo Story, Two Stage Sisters, and The Housemaid. We will examine melodrama's complex ties to modernity, tradition, and cultural transformation in East Asia; special emphasis will be placed on representations of the family, historical change, gender, and sexuality. In addition to historical background and film studies concepts, we will also consider a range of approaches for thinking about the aesthetics and politics of emotion. No prerequisites. No prior knowledge of East Asian culture or language necessary. Mandatory weekly scheduled screening.
Same as L53 Film 443
Credit 3 units. A&S IQ: HUM, LCD EN: H

L53 Film 5445 Horror in Japanese Media
Elements of the macabre and horrific have been present in Japanese culture and media since time immemorial. The 11th-century work The Tale of Genji, for example, features an elite lady's "living ghost" killing off her main rivals for the prince's affections. Tales of ghosts, demons, and the supernatural entities known as yokai continued to appear in collections of Buddhist didactic and folktale literature of the following centuries, finding renewed popularity in the 17th-19th centuries in the form of kaidan or "strange tales" which were enjoyed as printed works, parlor games, and stage plays. Some of the very first films made at the turn of the 20th century in Japan were about the popular ghosts of yore. Building on this long legacy of fearsome creatures in popular media of times now past, this course will consider selections of Japanese horror media (film, literature, anime, manga, and video games) from the mid-20th to early 21st centuries, highlighting the intertextuality that different media within the horror genre has and how the horror genre itself even bleeds into other genres. Analyzing major figures and themes in each work, this course will explore how Japanese horror -the strange realm home to ghosts with a grudge, misunderstood

monsters, and merciless murderers-can function not only as thrilling entertainment but can also reflect Japanese societal and cultural anxieties present in the real world, ranging from the problems that technology may create in a changing world to the threats posed by shifts in traditional family dynamics. Although this course will focus on horror media in the Japanese context, understanding how horror can function to highlight such anxieties will prepare students to consider the deeper possibilities of horror media in their own respective cultural contexts. All readings will be in English, and visual media will be in Japanese with English subtitles. Required Screenings
Same as L53 Film 445
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L53 Film 5446 The Israeli-Palestinian Conflict Through Cinema
The Israeli-Palestinian "conflict" is often considered the longest-running national conflict in the world. The "dispute," which started in the early 20th century, attracts much attention more than a hundred year later, stirring intense passions and generating controversial headlines. This course explores the Israeli-Palestinian conflict though Palestinian and Israeli cinema. We examine the ways in which cinema depicts the conflict in the Middle East, starting from the British Mandate to the present day. Adopting a relational history reading, the course examines the "treatment," the influences, and the representation of major historical and political events in the region - Israeli independence/ Palestinian Nakba (1948), the Six-Day War/Arab Naksa (1967), the Yum Kippur war (1973), the Lebanon War I (1982), the Palestinian uprising Intifada I (1987), the Oslo accords (1993), Intifada II (2000) - in both Israeli and Palestinian films. The course examines the social and historical processes which shape Palestinian and Israeli cinematic narratives, self-representation, the representation of the Other, the relationship to the land, diaspora, national narratives, collective memory, and trauma. This course offers a dialectical cinematic and historic journey from national films to transnational modernist and experimental films, from the collective to the individual, and from hope to despair. Required Screenings:
Same as L53 Film 446
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L53 Film 5450 American Film Genres
By close examination of three or four specific types of film narratives, this course will explore how genre has functioned in the Hollywood mode of production. Students will gain an understanding of genre both as a critical construct as well as a form created by practical economic concerns, a means of creating extratextual communication between film artist/producers and audience/consumers. Genres for study will be chosen from the western, the gangster film, the horror movie, the musical, screwball comedy, science fiction, the family melodrama, the woman's film, and others. In addition to film showings, there will be readings in genre theory as well as genre analyses of individual films. Required screenings
Same as L53 Film 450
Credit 3 units. A&S IQ: HUM Art: HUM EN: H

L53 Film 5451 American Television Genres
Questions of genre are central to any exploration of television's texts, whether they are being analyzed as craft, commerce, or cultural phenomenon. Genre has been used by critics and historians to ascribe "social functions" to groups of programs and to diagnose cultural preoccupations, while genre has been used industrially to manage expectations among audiences, advertisers, programmers, producers, and creative professionals. Investigating genres ranging from the soap opera to the western, workplace situation comedies to sports, and game shows to cop shows, this course will explore the role of genre in the production, distribution, and reception of American television. Students will gain a critical understanding of genre theory and key arguments about the form and function of television texts and will develop a set of tools for analysis of televisual narrative and style, the social uses and meanings of genre, the institutional practices and presumptions of the American television industry, and the persistence of textual forms and audience formations in the face of structural changes such as deregulation, media convergence, and globalization. Required Screenings.
Same as L53 Film 451
Credit 3 units. A&S IQ: HUM BU: BA EN: H

L53 Film 5452 Advanced Screenwriting
This course is intended for students who have already taken Film Studies 352, "Introduction to Screenwriting." Building on past writing experiences, students will explore the demands of writing feature-length screenplays, adaptations, and experimental forms. Particular attention will be paid to the task of rewriting.
Same as L53 Film 452
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L53 Film 5453 Experiential Design for Immersive Media
The term "metaverse" (originally coined by novelist Neal Stephenson) has recently come into vogue to describe a loose constellation of emerging technologies related to immersive media-particularly virtual, augmented, and mixed reality. In this course, we will explore new forms of creative practice enabled by this ecosystem. Students will analyze a variety of immersive experiences, ranging from 360 films and animations to interactive room scale experiences to multisensory installations, to understand the creative opportunities and challenges offered by these media. Students will then develop their own creative proposals and prototype an XR experience using a combination of 360 camera systems, digital production software, head-mounted displays, and physical and spatial computing elements.
Same as L53 Film 453
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM, VC EN: H

L53 Film 5454 American Film Melodrama and the Gothic
American film melodrama has been considered both the genre of suffering protagonists, incredible coincidences, and weeping spectators as well as a mode of action, suspense, and in-the-nick-of-time rescues. In this course, we will examine American film melodrama as a dialectic of sentiment and sensation which draws heavily on Gothic tropes of terror, live burial, and haunted internal states. We will trace the origins of film melodrama and the cinematic Gothic to their literary antecedents, the horrors of the French Revolution, and classical and sensational stage melodramas of the nineteenth century. In addition to the 1940s Gothic woman's film cycle, we will excavate the Gothic in the maternal melodrama, the suspense thriller, film noir, domestic melodrama, the slasher film, and the supernatural horror film. Required screenings.
Same as L53 Film 454
Credit 3 units. A&S IQ: HUM EN: H

L53 Film 5457 From Vitaphone to YouTube: Popular Music and the Moving Image
This course considers American popular music as represented in audiovisual media from 1926 to the present. The relationship between the popular music industry (a commercial sphere oriented primarily towards the selling of sheet music and audio recordings) and audiovisual technologies (various screens and formats encountered in changing social and commercial contexts) will be explored along two complementary tracks: popular music performers as presented in performance-centered media and popular music as a narrative topic or resource in feature films. Three related analytical frames will shape our discussions: industrial and technological history (the material conditions for the making and distribution of popular music and moving images) the question of "liveness" in recorded audiovisual media aesthetics of various popular music styles as translated into audiovisual forms and contexts The course is in seminar format. The

ability to read music is not required but students with music reading or transcription skills will be encouraged to draw upon these tools. Pre-requisites: graduate status or completion of a 300-level FMS or Music course and permission of the instructor
Same as L53 Film 457
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L53 Film 5458 Major Film Directors
What does the film director do? In the earliest movies, film directors modeled themselves on their theatrical counterparts: they chiefly focused on how to stage an action in a confined space for a stationary camera that represented an ideal member of the audience. As the camera began to be used to direct audience attention, first through cutting, then through actual movement, the film director evolved from a stager of events to a narrator. By analyzing the work of one or more major film directors, this course will explore the art of film direction. We will learn how film directors may use the camera to narrate a scene, to provide their own distinctive view of the actions playing out on the movie screen. May be repeated for credit with permission of the instructor. REQUIRED SCREENING: [day, time].
Same as L53 Film 458
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L53 Film 5460 Taboo: Contesting Race, Sexuality and Violence in American
Pushing the envelope or going too far? What is the boundary between films that challenge us and films that offend us? This is a course about films that crossed that boundary, most often by presenting images of race, sexuality and violence, images that could attract audiences as much as they offended moral guardians and courted legal sanctions. Because they were denied the First Amendment protection of free speech by a 1915 Supreme Court decision, movies more than any prior art form were repeatedly subject to various attempts at regulating content by government at federal, state, and even municipal levels. Trying to stave off government control, Hollywood instituted forms of self-regulation, first in a rigid regime of censorship and subsequently in the Ratings system still in use. Because taboo content often means commercial success, Hollywood could nonetheless produce films that pushed the envelope and occasionally crossed over into more transgressive territory. While control of content is a top-down attempt to impose moral norms and standards of behavior on a diverse audience, it also reflects changing standards of acceptable public discourse. That topics once barred from dramatic representation by the Production Code - miscegenation, homosexuality and "lower forms of sexuality," abortion, drug addiction - could eventually find a place in American movies speaks to changes in the culture at large. In trying to understand these cultural changes, this course will explore films that challenged taboos, defied censorship, and caused outrage, ranging from films in the early 20th Century that brought on the first attempts to control film content through to films released under the Ratings system, which has exerted subtler forms of control. REQUIRED SCREENING:
Same as L53 Film 460
Credit 3 units. A&S IQ: HUM, SC, SD Art: CPSC EN: H

L53 Film 5465 Theory and Practice of Experimental Film
Filmmaker Stan Brakhage famously wrote the following: "Imagine an eye unruled by man-made laws of perspective, an eye unprejudiced by compositional logic, an eye which does not respond to the name of everything but which must know each object encountered in life through an adventure of perception." In this course, we will embark upon our own adventures of perception, examining and producing works of art that challenge our preconceptions of what cinema is or can be. From city symphonies to pop collages, portraiture to handcrafted animation, and ethnography to gender studies, we will explore the multifaceted and transformative avant-garde cinema through the work of its greatest practitioners, contextualize films in relation to aesthetic aspirations (e.g., formalism, opposition, reflexivity, transcendence) and movements in art and cultural theory (e.g., Dadaism, Abstract Expressionism, Pop, Performance Art, Minimalism), and acquire the digital production skills needed to make our own experimental videos. Each week, we will mix the classic with the contemporary to demonstrate the ongoing vitality of -- and make our own contributions to -- this often misunderstood cinematic tradition. Required screenings.
Same as L53 Film 465
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L53 Film 5475 Screening the Holocaust
This course surveys the history of Holocaust representation on film, examining a wide range of documentary and fictional works from 1945 to the present day. Discussions will consider a number of key questions, including: What challenges does the Holocaust pose to cinematic representation, and how have filmmakers grappled with them? How have directors worked within and against notions of the Holocaust as unrepresentable, and how have they confronted the challenge of its association with a limited set of highly iconic images? What are the more general ethical and political dimensions of representing the Holocaust onscreen -- its victims as well as its perpetrators, the systematic genocidal violence that characterized it, and the sheer absence of so many dead? We will also probe the changing significance of cinematic representation of the Holocaust, exploring the medium's increasingly memorial function for audiences ever further removed from the historical moment of its occurrence. Screenings may include The Last Stage; Distant Journey; Night and Fog; Judgment at Nuremberg; Shoah; Europa, Europa; Schindler's List; Train of Life; The Specialist; Photographer; A Film Unfinished. Critical readings by figures such as Giorgio Agamben, Jean Amery, Shoshana Felman, Geoffrey Hartman, Marianne Hirsch, Sidra Israhi, Dominick LaCapra, Alison Landsberg, Berel Lang, Michael Rothberg, and James Young. Required screenings
Same as L53 Film 475
Credit 3 units. A&S IQ: HUM, LCD EN: H

L53 Film 5478 Topics in Transmedia Franchises
This variable topics course for advanced undergraduate and graduate students is an interdisciplinary seminar on transmedia franchises. In particular, it is recommended for those seeking to understand transmedia storytelling as an artistic, industrial, and cultural practice. As such, this course will bring into conversation various methodologies and perspectives, including film and media scholarship as well as other fields of study in the humanities and social sciences. The goal of this interdisciplinary approach is to illuminate how transmedia franchises have developed since the early 20th century to become the dominant product of the American -- and, increasingly, global -- cultural industries. Foci of this course may include such topics as individual franchises; global transmedia history; the franchise strategies of individual cultural industries (e.g., the Japanese media mix); or representation within franchise texts, production cultures, and fan communities. This course serves as a capstone for Film & Media Studies majors. Weekly or bi-weekly screenings or hands-on media labs are required.
Same as L53 Film 478
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L53 Film 5479 Seminar in Interdisciplinary Approaches
This variable topics course is an interdisciplinary seminar on film/media designed for advanced undergraduate and graduate students. In particular, it is recommended for those seeking to understand film/media as a lived experience that takes place within cultural frameworks. As such, this course will bring into conversation various methodologies and perspectives, including film/media scholarship, as well as ones drawn from other fields of study in the humanities, sciences, or social sciences. The goal of this interdisciplinary approach is to illuminate how film/media both elicits and represents human response. The foci of this course may include such topics as violence and film/

media, the body and film/media, the cognitive impact of film/media viewing, the relationship of environment to experiencing film/media, or the relationship of culturally specific events or trends to film/media production and reception. This course serves as a capstone for Film & Media Studies majors. Weekly or biweekly screenings or hands-on media labs required.
Same as L53 Film 479
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L53 Film 5485 Visualizing Orientalism: Art, Cinema and the Imaginary East 1850-2000
This seminar examines film and modern art within the framework of "Orientalism" Reading foundational texts by Said, and incorporating theory and historical discourse concerned with race, nationalism, and colonialism, we explore artistic practice in European photography, painting, and decorative arts from 1850 to recent times and European and Hollywood Film. We study how power and desire have been inscribed in western visual culture across the bodies of nations and peoples through conventions such as the harem, the odalisque, the desert, and the mysteries of ancient Egypt. To that end, we will look at artists such as Delacroix, Ingres, Gérôme, Beardsley, and Matisse and will screen films such as _The Sheik_, _The Mummy_, _Salome_, _Cleopatra_, _Pepe le Moko_, _Naked Lunch_, _Shanghai Gesture, Thief of Bagdad, Princess Tam Tam_ and _The Sheltering Sky_. Subjects include the representaion of gender, sexuality, desire, race, and identity as well as the cultural impact of stereotype and "exotic" spectacle. Students will study methods of visual analysis in film studies and art history. All students must attend film screenings. 3 credits
Same as L53 Film 485
Credit 3 units. A&S IQ: HUM, LCD, SD EN: H

L53 Film 5501 Advanced Moving Image Analysis and Criticism
This course will explore the analytical tools that have served as the foundation for cinematic and televisual academic criticism. The variety of texts, visual and aural, that comprise moving image production will be considered with the aim of determining how textual strategies structure perception. The aim of the course is two-fold: to have students develop analytical skills for dealing with film and video texts, but also to see how these have been deployed in a multiplicity of approaches/applications offered by academic film criticism. There will be regular screenings to provide the material for analysis, as well as readings to offer a variety of critical models. REQUIRED SCREENINGS:
Same as L53 Film 501
Credit 3 units.

L53 Film 5505 Travel in Space: Contemporary Cinemas of Taiwan, Hong Kong and China
The recent phase of intensive urbanization, industrialization, and globalization in Chinese regions has also mobilized multi-directional flows of migrants, tourists, workers and entrepreneurs across geographical boundaries. Moving through space, the voyagers offer changing perspectives to the cinematic mapping of socio-political relationships, histories, and cultures that constitute the identities of places. This course explores contemporary Chinese-language films that imagine trajectories between distant spaces as well as the experiences of "new comers" in "foreign" places. We will examine the current wave of travel films in Taiwan, the representation of drifters in Chinese urban films, as well as the imagination of migration in Hong Kong cinema. We will also explore theories that draw connections between movement, space, and cinema. REQUIRED SCREENINGS: TBA
Same as L53 Film 505
Credit 3 units.

L53 Film 5507 The 007 Saga: James Bond and the Modern Media Franchise
What is a franchise, and what approaches have scholars used to study the franchise as a modern cultural and commercial form? This course explores the phenomenon of the modern media franchise in light of the "007 saga": the stories of James Bond as they have proliferated in various media since the 1950s, including the Ian Fleming novels, television, comics, film, games, and young adult and fan fiction (including slash fiction). The 007 saga presents an opportunity to re-examine available ways of conceiving the franchise, from transmedia storytelling to media mixing, and it emphasizes the importance of scholarly models that can account for a decentralized creative labor. Throughout the history of Bond fiction, authorized and unauthorized writers have generated what now amounts to a threaded storytelling experience with pleasures that overlap with -- but are distinct from -- those of centrally planned media phenomena, like the Marvel Cinematic Universe. Note: Admission by waitlist only. Graduate students and advanced undergraduate majors in Film and Media Studies will have priority. Required screenings.
Same as L53 Film 507
Credit 3 units.

L53 Film 5510 Graduate Practicum in Film & Media Studies
The practicum in Film & Media Studies seeks to make our graduate students more competitive in the job market. It consists of professional experience that brings to bear academic knowledge and skills associated with the graduate study of moving image media (film, television, digital). The practicum may take a number of forms, but in every case, the experience must be planned in a way that contributes to the student's professional development. It might consist of work curating films for a screening or mini-festival accompanied by screening notes or other activities that enhance the academic value of the event. The student might organize a reading group or a scholarly symposium or lecture series to further the understanding of a particular aspect of the moving image on campus. The practicum may also consist of archival, or curatorial work in forms of the moving image at an archive, museum, or other non-profit organization (such as the St. Louis International Film Festival). The student might also pursue a film/media-centered oral history project or develop a film/media-centered blog or engage in other forms of writing that have a public presence. Students may initiate other projects, but any practicum requires a faculty mentor and in circumstances in which there is a collaborating organization, a letter of endorsement of the practicum from the student's on-site supervisor. Every student presents a written proposal/plan for any practicum to the DGS and to the faculty mentor/advisor. Both faculty must give permission to the plan and determine the appropriate number of credit hours (variable 1 to 3). Students may sign up for the practicum more than once to satisfy the 3 credits required in this area for the FMS master's degree; however, only one practicum should be pursued in a given semester. If there is a site supervisor, she/he must provide a letter upon completion of the practicum detailing the student's work and its quality. The student must provide a brief narrative (2 to 5 pages) detailing how the practicum served as a learning experience. The faculty advisor will award the grade for the practicum.
Same as L53 Film 510
Credit variable, maximum 3 units.

Film and Media Studies, Graduate Certificate

Certificate Candidacy

To earn a graduate certificate at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. Graduate certificates are not standalone programs and are only available to current students in applicable graduate programs. Thus, graduate certificates are conferred at the same time as the student's primary graduate program.

Program Requirements

- **Total Units Required: 15**
- **Certificate Length: 2 semesters**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop. Students are expected to maintain a cumulative grade point average of at least 3.0 on a 4.0 scale in courses that count toward their credit units.

Required Courses (9 units):

Code	Title	Units
Film 5501	Advanced Moving Image Analysis and Criticism	3
Film 5420	Film Theory	3
Film 5421	Film Historiography	3
Total Units		**9**

Electives (6 units):

Students may select any 5000-level FMS courses not already taken to fulfill this requirement, including the following:

Code	Title	Units
Film 5000	Independent Study	3
Film 5422	Film Stardom, Performance, and Fan Culture	3
Film 5424	Broadcasting Equality: Radio, Television, and Social Change in Postwar America	3
Film 5425	Seminar in Video Games: Video Games, Gender and Sexuality	3
Film 5429	Mass Culture and Modern Media: Fantasylands: Cinema, Spectatorship, and the Spatial Imagination	3
Film 5430	Topics in Chinese Media Culture: Charting Identity in the Digital Age	3
Film 5432	Global Art Cinema	3
Film 5439	Clown Princes	3
Film 5443	Memory, Tears and Longing: East Asian Melodrama Film	3
Film 5444	Topics in Chinese Language Cinema	3
Film 5445	Horror in Japanese Media	3
Film 5446	The Israeli-Palestinian Conflict Through Cinema	3
Film 5450	American Film Genres	3
Film 5451	American Television Genres	3
Film 5452	Advanced Screenwriting	3
Film 5453	Experiential Design for Immersive Media	3
Film 5454	American Film Melodrama and the Gothic	3
Film 5457	From Vitaphone to YouTube: Popular Music and the Moving Image	3
Film 5458	Major Film Directors	3
Film 5460	Taboo: Contesting Race, Sexuality and Violence in American Cinema	
Film 5465	Theory and Practice of Experimental Film	3
Film 5475	Screening the Holocaust	3
Film 5478	Topics in Transmedia Franchises	3
Film 5479	(In)Visible Media: Connection and Crisis in Contemporary Japan	3
Film 5485	Visualizing Orientalism: Art, Cinema and the Imaginary East 1850-2000	3
Film 5507	The 007 Saga: James Bond and the Modern Media Franchise	3

Contact: Pat Henry
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Website: https://fms.wustl.edu/graduate

Film and Media Studies, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36**
- **Degree Length: Four semesters / Two years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop. Students are expected to maintain a cumulative grade point average of at least 3.0 on a 4.0 scale in courses that count toward their credit units.

Master of Arts in Film and Media Studies

Course of Study

Students must fulfill the general requirements for the Master of Arts (AM) degree (p. 41) as set forth in this *Bulletin* by the Office of Graduate Studies, Arts & Sciences. In addition, AM candidates must take the course of study described below, which consists of 36 units of credit and a comprehensive examination.

There is one course of study for the AM in Film and Media Studies (FMS). There is no thesis option for this degree. Students complete 36 semester units (12 courses) that consist of required courses, electives and a practicum. During their final semester of courses, students complete a comprehensive written examination and meet with the examining committee for an oral defense. The examining committee will consist of the director of graduate studies (DGS), the student's advisor, and one other faculty member who is either core or affiliated with FMS. These exams are based on reading and screening lists as well as on courses. The student must meet expectations for broad knowledge of the field appropriate for a master's degree student in the humanities. Normally, if the student expects a May graduation date, they must complete the examinations earlier in the spring semester. All courses should be completed by the end of the semester in which the examination is scheduled.

Students should consult with the DGS during their first semester in the program to obtain the master's students' reading and screening list, and they should also consult regularly with their advisors. Students entering the program from outside the university should expect to take two years to finish the master's degree if they take 9 units per semester; it may take less time if they take more units per semester.

Students may select up to 6 units of Film 5000 Independent Study, which involves study in an area of film and media that is not ordinarily covered by regular course offerings.Any instance of Film 5000 Independent Studymust be approved by the DGS. With permission of the DGS, students may also satisfy up to 6 units of elective requirements by taking courses at the 5000 level offered through other departments or programs that are relevant to the FMS degree's intellectual focus.

Students must complete one course (3 units) that consists of professional experience that brings to bear academic knowledge and skills associated with the study of FMS. Every student presents a written proposal/plan to the DGS and to the faculty mentor/advisor they select for their practicum. Both faculty must approve the plan.

The practicum may take a number of forms, but in every case, the experience must be planned in a way that contributes to the student's professional development. It might consist of curating films for a screening or mini-festival accompanied by screening notes, a website, or other forms of writing that enhance the academic value of the event. The student might organize a scholarly symposium or lecture to further the understanding of a particular aspect of the moving image at Washington University. The practicum may also consist of archival or curatorial work in film, television or other forms of the moving image (e.g., digital art) at an archive, a museum or another nonprofit organization (e.g., a film festival) where the student will have an on-site supervisor.

Students interested in combining primary research with their development as a "public intellectual" might write a book proposal and develop a bibliography in anticipation of writing a book. Alternatively, they may develop a website with consistent and significant critical, historical or theoretical usefulness to those interested in film and media studies, such as one that offers critical analyses of current films or bibliographic information addressing one area of research in the field. The practicum student might participate in other activities related to moving image exhibition, archival preservation or grant application writing. The practicum may also be oriented toward teaching, with the creation of a course syllabus and sample lectures delivered by the graduate student in a venue organized by faculty.

Students may initiate other projects, but any practicum requires a faculty mentor and, in circumstances in which there is a collaborating organization, a letter of endorsement of the practicum from the student's on-site supervisor at the organization. This supervisor will also provide a letter upon completion of the practicum detailing the student's work and its quality. The faculty advisor will award the grade for the practicum.

Required Courses (18 units)

- **Visual Analysis**

Students complete the following course (3 units):

Code	Title	Units
Film 5501	Advanced Moving Image Analysis and Criticism	3

- **Moving Image Theory**

Students complete one of the following courses (3 units):

Code	Title	Units
Film 5419	Theories of Mass Media	3
Film 5420	Film Theory	3
Film 5502	Seminar in Film and Media Theory (rotating topics)	3

- **Historiography of the Moving Image**

Students complete one of the following courses (3 units):

Code	Title	Units
Film 5421	Film Historiography	3
Film 5423	Histories of Media Convergence	3

- **Television & Digital Studies**

Students complete any of the following 5000-level FMS course in television or electronic media (3 units):

Code	Title	Units
Film 5424	Broadcasting Equality: Radio, Television, and Social Change in Postwar America	3
Film 5425	Seminar in Video Games: Video Games, Gender and Sexuality	3
Film 5430	Topics in Chinese Media Culture: Charting Identity in the Digital Age	3
Film 5451	American Television Genres	3
Film 5453	Experiential Design for Immersive Media	3
Film 5457	From Vitaphone to YouTube: Popular Music and the Moving Image	3
Film 5478	Topics in Transmedia Franchises	3

- **Cinema and Television Beyond the United States**

Students complete any of the following 5000-level national, regional, or transnational cinema or television studies course offered in FMS (3 units):

Code	Title	Units
Film 5430	Topics in Chinese Media Culture: Charting Identity in the Digital Age	3
Film 5431	Renegades and Radicals: The Japanese New Wave	3
Film 5432	Global Art Cinema	3
Film 5443	Memory, Tears and Longing: East Asian Melodrama Film	3
Film 5444	Topics in Chinese Language Cinema	3
Film 5445	Horror in Japanese Media	3
Film 5446	The Israeli-Palestinian Conflict Through Cinema	3
Film 5458	Major Film Directors (rotating topics; depends on topic)	3
Film 5479	(In)Visible Media: Connection and Crisis in Contemporary Japan (rotating topics; depends on topic)	3

- **Practicum**

Students complete the following course (3 units):

Code	Title	Units
Film 5510	Graduate Practicum in Film & Media Studies	3

Electives (18 units)

Students may select any of the 5000-level FMS course not used to fulfill the requirements, including the following:

Code	Title	Units
Film 5000	Independent Study	3
Film 5422	Film Stardom, Performance, and Fan Culture	3
Film 5424	Broadcasting Equality: Radio, Television, and Social Change in Postwar America	3
Film 5425	Seminar in Video Games: Video Games, Gender and Sexuality	3
Film 5429	Mass Culture and Modern Media: Fantasylands: Cinema, Spectatorship, and the Spatial Imagination	3
Film 5430	Topics in Chinese Media Culture: Charting Identity in the Digital Age	3
Film 5432	Global Art Cinema	3
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History

The Department of History offers the **Doctor of Philosophy (PhD) in History**. The department specializes in American political culture; the ideas, culture, and society of Central Europe; early modern Europe; East Asia; international urban history; religion in the medieval Mediterranean world; and slavery and freedom in national and transnational contexts in 17th- through 19th-century America. These core fields draw on the expertise of substantial segments of the faculty and provide significant opportunities for innovative graduate study that bridges conventional historical fields and fosters interdisciplinary research. The department also offers any historical specialization covered by a tenured faculty member.

The graduate program admits only a small number of graduate students each year to promote a close working relationship between students and faculty. We invite applications from mature and self-directed students with well-defined research interests. Our seminars are small and flexible, and we encourage students to develop creative, self-tailored programs of doctoral study. The Department of History funds most doctoral candidates for up to six years at highly competitive levels and is committed to providing additional financial resources to support advanced research.

Our graduates are accomplished professionals in academia, private high schools, nonprofits, business, and the public sector.

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David T. Konig
PhD, Harvard University

Linda J. Nicholson
Susan E. and William P. Stiritz Distinguished Professor Emerita of Women's Studies
PhD, Brandeis University

Max J. Okenfuss
PhD, Harvard University

Laurence Schneider
PhD, University of California, Berkeley

Richard J. Walter
PhD, Stanford University

Degree Requirements

- History, PhD (p. 275)

Courses

Visit online course listings to view semester offerings for L22 History.

L22 History 500 Independent Work
Prerequisite: Permission from the chair of the department.
Credit 4 units.

L22 History 501 Dissertation Research in History
Credit variable, maximum 4 units.

L22 History 511 Teaching in History
Credit 2 units.

L22 History 5113 Seminar: Perceptions of Time and Place in Early Modern England
This seminar analyses perceptions of time and place in England, c.1500-1800, and their relationship to both personal and social identity. These issues will be explored using appropriate theoretical and substantive readings and both visual and textual primary sources. Particular attention will be given to the use of visual images as historical evidence. Specific issues addressed include the development of cartography, chorography and antiquarianism; conventions of time reckoning and the dating of events; perceptions of the life course; the creation of social memory and historical narratives; representations of social place; agrarian change and the transformation of the landscape; the impact of the Reformation on the calendar, the landscape, and senses of the past; and representations of previously unknown places and peoples. Primary sources for discussion include maps and prospects; chorographical surveys; illustrated antiquarian writings; almanacs; pictorial representations of notable events; engravings; paintings (portraits; 'country house portraits'; landscapes; 'conversation pieces'; history painting and 'documentary' works); memorials; family histories; extracts from court records.
Same as L22 History 3113
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L22 History 512 Teaching in History
Credit 2 units.

L22 History 513 Teaching in History
Credit 4 units.

L22 History 5149 The Late Ottoman Middle East
This course surveys the Middle East in the late Ottoman period (essentially the 18th and 19th centuries, up to the First World War). It examines the central Ottoman state and the Ottoman provinces as they were incorporated into the world economy, and how they responded to their peripheralization in that process. Students will focus on how everyday people's lived experiences were affected by the increased monetarization of social and economic relations; changes in patterns of land tenure and agriculture; the rise of colonialism; state efforts at modernization and reform; shifts in gender relations; and debates over the relationship of religion to community and political identity.
Same as L22 History 3149
Credit 3 units. A&S IQ: HUM, LCD, SD Arch: HUM Art: HUM BU: HUM, IS EN: H

L22 History 5150 The Middle East in the 20th Century
This course surveys the history of the Middle East since World War I. Major analytical themes include: colonialism; Orientalism; the formation of the regional nation-state system; the formation and political mobilization of new social classes; changing gender relations; the development of new forms of appropriation of economic surplus (oil, urban industry) in the new global economy; the role of religion; the Middle East as an arena of the Cold War; conflict in Israel/Palestine; and new conceptions of identity associated with these developments (Arabism, local patriotism, Islamism).
Same as L22 History 3150
Credit 3 units. A&S IQ: HUM, LCD Art: HUM BU: HUM, IS EN: H

L22 History 5154 Decolonization to Globalization: How to End an Empire
The conventional markers of the twentieth century - imperialism, decolonization and globalization - are acutely compromised if we mobilize gender and sexuality as modes of analysis. In this course we bring questions of sexual difference and gender to the wider stories of colonialism, nationalism, decolonization, neocolonialism, US

imperialism, neoliberalism, globalization, WoT, and majoritarianism. We "engender" the contradiction between enormous turning points and the lived experiences of billions. We probe how the non-profit industrial complex, development aid, and the normative family have shaped and given shape to the very idea of gender. Finally, we examine the capacious power of gender to interrupt the power of the state and to reorganize extractive relations of race and caste.
Same as L77 WGSS 4154
Credit 3 units. A&S IQ: HUM, LCD, SC Arch: HUM Art: HUM EN: H

L22 History 5168 Theories and Practices of U.S. Empire, 1776 to Present
This historically-based, cross-disciplinary course investigates theories and practices of American empire in the long era of US nationhood, 1776-to present. We will pay special attention to definitional questions--in what sense can the United States be considered an "empire"? To what extent has it been so considered, and why (or why not)? In what ways has the empire-building project in the U.S. been "imperial" or/and "colonial"? "Formal" or/and "informal"? How have fundamental imperial contradictions--the search for unity as opposed to the need to manage the politics of difference--been experienced? What have been the dynamics of imperial violence and anticolonial resistance in US history? How have the practices of anticolonial resistance and anticolonial violence shaped the course of US empire? And what are the politics of collective memory and/or amnesia that have followed in the wake of these experiences? Such questions will be explored with both a comparative awareness and with attention to the fields of literature, law, political theory and art history where problems of representing and historicizing US empire have been addressed. The course takes the form of an intensive seminar, requiring commitment to weekly readings, informed discussion, and critical writing; it will include a final essay that can either be a research paper based on the analysis/interpretation of primary sources, or a historiographical essay.
Credit 4 units.

L22 History 519 Independent Reading
Credit variable, maximum 9 units.

L22 History 520 Independent Reading
Credit variable, maximum 9 units.

L22 History 522 Advanced Reading
Credit variable, maximum 9 units.

L22 History 523 Advanced Reading
Credit variable, maximum 9 units.

L22 History 5262 The Early Medieval World: 300-1000
This course begins with the crisis of the Roman Empire in the third century and the conversion of the Emperor Constantine to Christianity in 312. We will study the so-called "barbarian invasions" of the fourth and fifth centuries and the collapse of the Roman Empire in the West. The Roman Empire in the East (and commonly known as the Byzantine Empire after the seventh century) survived intact, developing a very different style of Christianity than in the lands of the former western empire. Apart from examining Christianization in the deserts of Egypt or the chilly North Sea, we will discuss the phenomenon of Islam in the seventh century (especially after the Prophet Muhammad's death in 632) and the Arab conquests of the eastern Mediterranean and north Africa. In the post-Roman world of the West we will read about the Anglo-Saxons, the Carolingians, and the Vikings. In exploring these topics we will have to think about the relationship of kings to popes, Emperors to patriarchs, of missionaries to pagans, of cities to villages, of the sacred to the profane. Our attention will be directed to things as various as different forms of monasticism, the establishment of frontier communities, the culture of the Arabian peninsula, magic, paganism, military tactics, Romanesque churches, sea travel, manuscript illumination, the architecture of mosques, early medieval philosophy, the changing imagery of Christ, holiness, and violence as a redemptive act.
Same as L22 History 3262
Credit 3 units. A&S IQ: HUM, LCD BU: HUM, IS EN: H

L22 History 5263 Graduate Seminar: Race, Crime, and American Prisons
This course will explore the politics of race, crime, policing, criminal justice, and the American prison system. Students will read a number of important texts that engage these subjects and will become familiar with the prominent ideas in a growing historiography that addresses inequality in law enforcement. We will also examine a number of historical theories that have shaped this scholarship in order to understand how historians have dealt with the problem of racial prejudice in crime and punishment. As a result, the class will begin with themes of criminalization along lines of gender and racial identity, and ultimately lead to a history of the American carceral state.
Credit 4 units.

L22 History 5274 Palestine, Israel, and the Arab-Israeli Conflict
This course examines the history of the Arab-Israeli conflict from the mid-nineteenth century to the present. Topics include: Palestine in the late Ottoman period; the development of modern Zionism; British colonialism and the establishment of the Palestine Mandate; Arab-Jewish relations during the Mandate; the growth of Palestinian nationalism and resistance; the establishment of the state of Israel and the dispersion of the Palestinians in 1948; the Arab-Israeli wars; both Palestinian uprisings; and the peace process.
Same as L22 History 4274
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM, IS EN: H

L22 History 5280 Historiography of Late Imperial China
This course introduces students to the variety of scholarly interpretations of late imperial, primarily Ming (1368-1644) and Qing (1644-1911), Chinese history. This course is designed for M.A. and PhD students in history, Chinese Literature, and East Asian Studies.
Credit 4 units.

L22 History 5301 Middle Eastern History: Law and Revolution in Modern Egypt
This is a small-group reading course in which students are introduced to the skills essential to the historian's craft. Emphasis will be on acquiring research skills, learning to read historical works critically, and learning to use primary and secondary sources to make a persuasive and original argument. See Course Listings for current topics. Required for history majors. Preference given to History majors; other interested students welcome.
Credit 3 units. BU: HUM, IS EN: H

L22 History 5314 Islamic History: 1200-1800
An introduction to Islamic polities and societies from the Mongol conquests to the thirteenth century to the collapse and weakening of the colossal "gunpowder" empires of the Ottomans, Safavids and Mughals in the early eighteenth century. Broadly speaking, this course covers the Middle Period (1000-1800) of Islamic history, sandwiched between the Early and High Caliphal Periods (600-100) on the one hand and the Modern Period (1800-Present) on the other hand. Familiarity with the Early and High Caliphal periods is not assumed. The course will not be a "survey" of this period but a series of "windows" that will allow you to develop both an in-depth understanding of some key

features of Islamic societies and a clear appreciation of the challenges (as well as the rewards!) that await historians of the Middle Period. Particular attention is given to the Mamluk and Ottoman Middle East, Safavid Iran and Mughal India.
Same as L22 History 314C
Credit 3 units. A&S IQ: HUM, LCD Art: HUM BU: HUM, IS

L22 History 532 Theory, History, Asia and Empire
In this seminar we consider how historically minded scholars use the theoretical insights of others to enrich their tellings of the past. First we read, summarize in writing, and discuss our understanding of a particular theoretical essay. Then we read a work of history that makes specific use of the essay. This approach provides us with the opportunity to practice writing about our theoretical work, compare our understanding with scholars who have made use of the same set of ideas, and assess their use of those ideas.
Credit 4 units.

L22 History 5320 Japan Since 1868
For some, the word Japan evokes Hello Kitty, animated films, cartoons, and sushi. For others, it makes them think of the Nanjing Atrocity, "comfort women," the Bataan Death March, and problematic textbooks. Still others will think of woodblock prints, tea ceremonies, and cherry blossoms or perhaps of Sony Walkmans and Toyota automobiles. At the same time, still others may have no image of Japan at all. Tracing the story of Japan's transformations - from a preindustrial peasant society managed by samurai-bureaucrats into an expansionist nation-state and then into its current paradoxical guise of a peaceful nation of culture led by conservative nationalists - provides the means for deepening our understandings of historical change in one region and grappling with the methods and aims of the discipline of history.
Same as L22 History 320C
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: IS EN: H

L22 History 5331 The Christian Middle Ages
This course examines the ways in which the European Middle Ages can appropriately be characterized as "Christian" and explores how notions of what it meant to be Christian shifted over the thousand years of the Middle Ages. The assigned readings mix important recent monographs with some classic treatments of the topic, allowing students to measure developments in scholarship over the last generation and trace the roots of current debates. Brief extracts from primary sources will be used to illustrate the range of medieval documents and ground our discussion of their modern interpretations.
Credit 4 units.

L22 History 5334 Crusade, Conflict, and Coexistence: Jews in Christian Europe
This course will investigate some of the major themes in the history of the Jews in Europe, from the Middle Ages to the eve of the French Revolution. Jews constituted a classic, nearly continuous minority in the premodern Christian world-a world that was not known for tolerating dissent. Or was it? One of the main purposes of the course is to investigate the phenomenon of majority/minority relations, to examine the ways in which the Jewish community interacted with and experienced European societies, cultures, and politics. We will look at the dynamics of boundary formation and cultural distinctiveness; the limits of religious and social tolerance; the periodic eruption of persecution in its social, political, and religious contexts; and the prospects for Jewish integration into various European societies during the course of the Enlightenment era.
Same as L22 History 334C
Credit 3 units. A&S IQ: HUM, LCD, SC, SD BU: ETH, HUM, IS EN: H

L22 History 5335 Becoming "Modern": Emancipation, Antisemitism, and Nationalism in Modern Jewish History
This course offers a survey of the Jewish experience in the modern world by asking, at the outset, what it means to be-or to become-modern. To answer this question, we look at two broad trends that took shape toward the end of the eighteenth century-the Enlightenment and the formation of the modern state-and we track changes and developments in Jewish life down to the close of the twentieth century with analyses of the (very different) American and Israeli settings.
The cultural, social, and political lives of Jews have undergone major transformations and dislocations over this time-from innovation to revolution, exclusion to integration, calamity to triumphs. The themes that we will be exploring in depth include the campaigns for and against Jewish "emancipation;" acculturation and religious reform; traditionalism and modernism in Eastern Europe; the rise of political and racial antisemitism; mass migration and the formation of American Jewry; varieties of Jewish national politics; Jewish-Gentile relations between the World Wars; the destruction of European Jewry; the emergence of a Jewish nation-state; and Jewish culture and identity since 1945.
Same as L22 History 335C
Credit 3 units. A&S IQ: HUM, LCD, SC, SD Art: HUM BU: HUM, IS EN: H
UColl: HEU, HSM

L22 History 5336 History of the Jews in Islamic Lands
This course is a survey of Jewish communities in the Islamic world, their social, cultural, and intellectual life from the rise of Islam to the Imperial Age.Topics include: Muhammad, the Qur'an and the Jews; the legal status of Jews under Islam; the spread of Rabbinic Judaism in the Abbasid empire; the development of new Jewish identities under Islam (Karaites); Jewish traders and scholars in Fatimid Egypt; the flourishing of Jewish civilization in Muslim Spain (al-Andalus); and Sephardi (Spanish) Jews in the Ottoman empire. On this background, we will look closely at some of the major Jewish philosophical and poetical works originating in Islamic lands. Another important source to be studied will be documents from the Cairo Genizah, reflecting social history, the status of women, and other aspects of daily life.
Same as L22 History 336C
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM, IS EN: H

L22 History 5340 Gender in Early Modern Europe
This course will examine the major scholarly developments in the study of women's history, masculinity, and gender(ed) representations in early modern Europe. Topics covered will include: gender and politics; gender and work; marriage and family life; honor and social control; sodomy; witchcraft; religious experience and Reformation; and masculinity and science.
Credit 4 units.

L22 History 5342 The Reformation
This graduate seminar will examine the Protestant Reformation from its late-medieval roots to the toward religious toleration in the seventeenth century. We will also study Catholic responses to the changing religious and political environment and the impact of these changes on society and culture within and beyond the boundaries of Latin Christendom.
Credit 4 units.

L22 History 5354 Vienna, Prague, Budapest: Politics, Culture and Identity in Central Europe
The term Central Europe evokes the names of Freud and Mahler; Kafka and Kundera; Herzl, Lukács, and Konrád. In politics, it evokes images of revolution and counter-revolution, ethnic nationalism, fascism, and communism. Both culture and politics, in fact, were deeply embedded in the structures of empire (in our case, the Habsburg

Monarchy)--structures which both balanced and exacerbated ethnic, religious, and social struggles--in modern state formation, and in the emergence of creative and dynamic urban centers, of which Vienna, Budapest, and Prague were the most visible. This course seeks to put all of these elements into play--empire, nation, urban space, religion, and ethnicity--in order to illustrate what it has meant to be modern, creative, European, nationalist, or cosmopolitan since the 19th century. It engages current debates on nationalism and national identity; the viability of empires as supra-national constructs; urbanism and modern culture; the place of Jews in the social and cultural fabric of Central Europe; migration; and authoritarian and violent responses to modernity.
Same as L22 History 3354
Credit 3 units. A&S IQ: HUM, LCD, SC, SD Arch: HUM Art: HUM BU: HUM, IS EN: H

L22 History 5355 Graduate Seminar in History
This graduate seminar is a topics course, topics vary by semester. Please see semester course listings for current topics.
Credit 4 units.

L22 History 5356 Graduate Seminar in History: The Second British Empire
This world history seminar traces the history of the "Second" British Empire from its inception during the "new" imperial era of the 1880s to its demise in the decades after the Second World War. Topics include: imperial administration; police and military institutions; settlement commerce and investment; economic development; gender; race and racism; agriculture; urbanization; education; and popular culture.
Credit 4 units.

L22 History 5360 Methods and Materials for Research on Early Modern China
This seminar provides an introduction for graduate students to the methods and materials used in conducting research on early modern (or late imperial) China. Lectures, discussions, and exercises will present fundamental paradigms and problems specific to the study of early modern China, as well as familiarizing students with the vast body of print and web-based research tools necessary to work with original texts in Chinese. We will also explore how social, cultural, and literary historians have used various texts in their scholarly works. Students will be encouraged to use the course to pursue individual research interests as they explore the broader contexts, approaches, and questions central to the study of early modern China and introduces graduate students to important recent scholarly literature on the history of early modern (essentially Ming and Qing) Chinese history.
Credit 4 units.

L22 History 5361 The History of the Jews in Islamic Lands
This course is a survey of Jewish communities in the Islamic world, their social, cultural, and intellectual life from the 7th to the 19th century c.e. Topics include: Muhammad and the Jews; the legal status of Jews under Islam; the spread of Rabbinic Judaism in the Islamic empire; the development of new Jewish identities under Islam (Karaites); Jewish traders and scholars in Medieval Egypt; the flourishing of Jewish civilization in Muslim Spain; and Sephardi (Spanish) Jews in the Ottoman empire. On this background we will look closely at some of the major Jewish philosophical and poetical works originating in Islamic lands. Another important source to be studied will be documents from the Cairo Genizah, reflecting social history, the status of women, and other aspects of daily life. Primary and secondary readings (in translation) will be supplemented by adiovisual materials.
Credit 4 units.

L22 History 540 Proseminar in History
Credit 4 units.

L22 History 5411 Proseminar: Introduction to Graduate Study of American History to 1865
This course will serve as an introduction to graduate-level work in American history. It surveys major historical works, themes and controversies, beginning with the earliest contacts between Europeans, Africans, and Native Americans on the North American continent and continuing through the Civil War. What constitutes "good" history and the relation of theory and practice in the writing of history are among the issues that will be addressed. The course is required for all departmental graduate students doing advanced work or field preparation in American history (and strongly suggested for non-historians incorporating history in an American Culture Studies program); advanced undergraduates may be admitted with permission of the instructor.
Credit 4 units.

L22 History 5412 Core Seminar in American History: Introduction to American History Since 1865
Graduate reading and critical discussion of major secondary works that address principal problems in analyzing and understanding change in the United States since 1865.
Credit 4 units.

L22 History 5420 Renaissance Italy
This reading seminar will survey the scholarly literature on Renaissance Italy, beginning with Jacob Burckhardt's classic "Civilization of the Renaissance in Italy," before focusing on the approaches and interpretations that have defined and dominated the field over the last half-century. Our subject is defined broadly as the history of Italy--social, political, religious, and economic, as well as cultural and intellectual--between 1300 and 1600. Students will have an opportunity to pursue their own interests while developing a broad familiarity with the field as a whole.
Credit 4 units.

L22 History 5431 Core Seminar in Comparative and World History
The Core Seminar in Comparative and World History examines a historical institution, idea, phenomenon, or process across range of cultures and regions. Although the specific case studies will vary from year to year, topics might include: empires, urbanization, revolutions, famines, or evangelism. The seminar will be of interest to students of all historical fields seeking to develop comparative historical models to their own areas of research.
Credit 4 units.

L22 History 5442 Core Seminar in World and Comparative History
The course examines a historical institution, idea, phenomenon, or process across range of cultures and regions. Although the specific case studies will vary from year to year, topics might include: empires, urbanization, revolutions, famines, or evangelism. The seminar will be of interest to students of all historical fields seeking to develop comparative historical models to their own areas of research.
Credit 4 units.

L22 History 5450 Modern Germany
This course surveys the political, social, economic, and cultural forces that have shaped German history since 1800. After examining the multiplicity of German states that existed in 1800, we will identify the key factors that resulted in unification in 1871. We then turn to a study of modern Germany in its various forms, from the Empire

through the Weimar Republic and Third Reich, to post-war division and reunification. A major focus will be the continuities and discontinuities of German history, particularly with regard to the historical roots of Nazism and attempts to "break with the past" after 1945.
Same as L22 History 3450
Credit 3 units. A&S IQ: HUM, LCD Art: HUM BU: HUM, IS EN: H

L22 History 5470 Writing Historical Proposals and Prospectuses
This course is designed to introduce students to the craft of dissertation and grant proposal writing. It is organized as a weekly workshop that will culminate in the production of one funding application and a dissertation prospectus that will serve as a first draft and model for the submission of that prospectus as part of the qualifying requirements. While the course is intended for PhD students in History, students in related disciplines may also find it useful.
Credit 4 units.

L22 History 5471 Literature of History
This course is designed to introduce you to some of the most significant works in the writing of history, books and articles that have changed fields, generated new strategies for analyzing historical events, and deployed new or innovative theories in historical studies. The texts chosen for this course are, in a sense, some of the greatest hits in the literature of history and at the same time an idiosyncratic list, skipping many significant works and including some that might not make it onto another scholar's list. The aim is to trace some of the changes in theory and methods of historical studies over the course of the second half of the twentieth century and, most importantly, to offer students of varied periods and places diverse strategies for tackling particular historical problems.
Credit 4 units.

L22 History 5549 Histories of the Japanese Archipelago
This course seeks to provide graduate students with an understanding of the sweep of the Japanese past, from the early modern period through the twenty-first century. Students will engage in several key debates in Japanese historiography and learn how scholars of Japan have drawn on and contributed to important methodologies. This course is ideal for graduate students who plan to cultivate Japanese history as an area of research and teaching expertise, and who intend to use Japanese history as one of the three fields necessary for completing the qualifying exams required by the Department of History. Advanced undergraduates with an interest in the topic should contact the instructor for permission to enroll.
Credit 4 units.

L22 History 556 Graduate Seminar in History
Credit 4 units.

L22 History 5564 American Pragmatism
This course examines the history of American pragmatism through three of its primary founders, the philosophers Charles Peirce, William James, and John Dewey. It considers pragmatism as a response to the experience of uncertainty brought on my modernity, and contextualizes it amidst late nineteenth and early twentieth century thought and politics, namely, scientific methodology, evolutionary theory, the probabilistic revolution, Transcendentalism, the rise of secularism, slavery, Abolitionism, and the Civil War. Major essays by each thinker will be read as well as three intellectual biographies and one critical survey.
Same as L22 History 4564
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L22 History 5612 Proseminar in History: African History
This course is a graduate level readings seminar in African history. Selected topics will include: African geography and environmental history; the classical kingdoms of the Sahel; the development of Swahili culture; the trans-Atlantic slave trade; the historical roots of Apartheid; the intellectual and material culture of colonialism; African resistance and adaptation to social change during the colonial era; decolonialization; and roots of some of the major problems facing modern Africa.
Credit 4 units.

L22 History 5675 Beyond the Harem: Women, Gender, and Revolution
This course examines the history and current situations of women in Middle Eastern societies. The first half of the course is devoted to studying historical changes in factors structuring women's status and their sociopolitical roles. The second half of the course will focus on several case studies of women's participation in broad anticolonial social revolutions and how these revolutions affected the position of women in those societies.
Same as L22 History 4675
Credit 3 units. A&S IQ: HUM, LCD BU: BA, HUM EN: H

L22 History 5699 American Intellectual History Since 1865
This course concentrates on social, cultural, philosophical and political thought since the end of the Civil War, and investigates how American thinkers have responded to the challenge of modernity. After an examination of the end of the old religious order and the revolt against Victorianism, it analyzes the subsequent rise of pragmatism, progressivism, literary modernism, radical liberalism, political realism, protest movements and the New Left, neo-conservatism and the New Right, and the current state of intellectuals in post-911 America.
Same as L22 History 469
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: BA, HUM EN: H

L22 History 56CA Heroes and Saints in India: Religion, Myth, History
This course provides an introduction to the history of modern India and Pakistan through the voices of the Indian subcontinent's major thinkers. We will spend time in the company of saints, from the "great-souled" Mahatma Gandhi to the Sufi scholar Ashraf 'Ali Thanawi, and we will travel alongside the heroes of peasant politics, women's rights, and struggles for national and social freedom and equality. We will immerse ourselves in the rich narrative heritage of India -- as it has been challenged, reworked, and harnessed for present and future needs -- from the 19th century through the present. Lecture and discussion format; prior knowledge of India or Pakistan not required.
Same as L22 History 36CA
Credit 3 units. A&S IQ: HUM, LCD BU: ETH, IS EN: H

L22 History 574 Seminar in Modern European History
Credit 3 units.

L22 History 5746 Modern European Intellectual History
With a focus on Western Europe, this course is designed to make you familiar with the major intellectual movements and thinkers in the modern period. We cover both the towering, canonical figures and those critical of the canon. We look at the main schools of thought, the major political doctrines, and key literary and artistic groups, including humanism, Protestantism, Enlightenment rationalism, Romanticism, realism, nationalism, liberalism, capitalism, socialism, racism, feminism, colonialism, impressionism to surrealism, fascism, existentialism, and postmodernism. We also discuss the most significant conceptual categories that have defined the modern European world, including the concepts of nature, human nature, God,

truth, reason, freedom, justice, gender, and race. The course differs from other history courses in that its emphasis is on intellectual matters--ideas, discourses, thinkers, schools of thought--and differs from a philosophy, literature or social science course in its emphasis on how ideas both reflect and contest their historical contexts.
Credit 3 units.

L22 History 5803 Advanced Seminar: Partition: The Making of India and Pakistan
The division of India and Pakistan at the time of Independence from British colonial rule was a major event that has left its mark on the lives, memories, and politics of contemporary South Asians. Why did British India break apart along apparently religious lines? Was sectarian or "communal" violence inevitable, or endemic in South Asian society? How was Partition - a time of violence, mistrust, dispossession, displacement, and mass migration -- experienced by ordinary people? How is the traumatic memory of this event borne by individual women, children, by families? How does its legacy persist, and how is it being remembered, and reckoned with, today? In this course, we will not find final answers to these difficult questions, but we will learn how to explore them responsibly, using literature, film, and other archival sources. This course provides students with a forum to discuss and explore topics of their own choosing.
Same as L22 History 4803
Credit 3 units. A&S IQ: HUM, LCD, SC Arch: HUM Art: HUM EN: H

L22 History 5810 Between Sand and Sea: History, Environment, and Politics in the Arabian Peninsula
Although it is today primarily associated with oil, the Arabian peninsula was for most of its history defined by water: its surrounding seas, its monsoon-driven winds, and its lack of water in its vast and forbidding interior deserts. As home to the major holy cities of Islam and a key source of global oil, the region has played an important role in the Western European and North American imagination. Despite being relatively sparsely populated, the peninsula hosts millions of believers each year on the annual Muslim pilgrimage, and it has been the site of major wars and military occupations by European, American, and other Middle Eastern countries for much of the 20th and 21st centuries. It has been an outpost of the Ottoman Empire, a center of British colonialism and (at Aden) an axis of its global empire, the location of Egypt's "Vietnam" (its long war in Yemen in the 1960s), the Gulf Wars I and II, and the recent wars in Yemen, to name just a few of the major conflicts. Often depicted as unchanging until caught up by the influx of massive oil wealth, this region is frequently characterized as a place of contradictions: home to some of the world's largest skyscrapers and also the most inhospitable and largest sand desert in the world, known as "the Empty Quarter"; the location of crucial American allies and the home of al-Qa'eda founder `Usama Bin Laden. In this course, we will examine the development of the peninsula historically to understand these contradictory images. We will investigate changes in the following arenas: environment and society; colonial occupation; newly independent states; the demise and development of key economic sectors (pearling; shipping; agriculture; oil; finance; piracy); political regimes; resources such as water, oil, and date palms; the growth of oil extraction infrastructure and its effects on the political regimes and societies in the region; the emergence of new Gulf cities; Islamic law; women's rights; human rights debates; and religious and ethnic minorities.
Same as L22 History 3810
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM, IS EN: H

L22 History 5870 Topics in American History: Race and Drugs in American History
This course explores the racial construction of the use of legal and illegal substances in American history from the mid-19th century to the present. We will spend time engaging in a historical analysis of the social, economic, and racial dynamics that defined drug addiction in popular imagination, and examine how these factors contributed to discussions about legality, access to substances, one's ability to be rehabilitated, and criminal status. Regarding criminality we will particularly explore sociological and theoretical perspectives of labeling, habitual and occasional offenders, and moral panic in order to understand how racial minority groups were targeted for different rhetorical, legislative, and economic purposes. One major goal of the course will be to outline the early 20th century beginnings of the war on drugs and connect it to the century long growth of a militarized police system and prison industrial complex. We will secondly work to understand the role of local and national political actors, law enforcement, and the media in manufacturing and maintaining connections between race, crime and drugs. Ultimately, we will use our study of drugs to contextualize 21st century issues of police violence, increases in homicide in minority communities, mass incarceration, poverty, segregation, and mass movements of protest.
Same as L22 History 487
Credit 3 units. A&S IQ: HUM BU: HUM EN: H

L22 History 5872 Colonial Cities and the Making of Modernity
Massive urban growth has been a central result of the incorporation of many areas--both central and peripheral--into the global economy in the 19th and 20th centuries. Scholars have long theorized urbanization as a key component of modernity, but they have usually done so by looking at urbanization and modernization from the perspective of the West. This course will investigate the character of cities in the colony and then use these empirical and analytical entry points to examine critically some theories of modernity. The geographical focus of the course will be primarily on cities in the Middle East, North Africa, and South Asia.
Credit 4 units.

L22 History 5876 Mexican Agriculture: Land, Politics and Development
Access to and ownership of land has been a major issue in Mexican history. Land tenure in economic development has been a constant source of tension and debate since the 18th century. Paradoxically, land tenure has been put forth as both the obstacle and the solution to the country's modernization. Given its centrality in the construction of the modern period, this course examines liberalism, agrarian revolts, the revolution, the green revolution and neoliberalism through the lens of land issues. This course will also explore how these have shaped and have been shaped by indigenous peoples and peasants, from land disentailment to the fight against GMO maize. Students will evaluate agrarian reforms, agricultural modernization programs, concepts of and transformations of natural resources, food production/consumption and social policies.
Same as L22 History 4876
Credit 3 units. A&S IQ: HUM, LCD, SD Arch: HUM Art: HUM EN: H

L22 History 5884 Advance Seminar: The Roots of the American Working Classes: Myths, Realities, Histories
The diverse realities of American labor and working-class experience have long been submerged under layers of politics and ideology. How should we study the lives of working people? What questions should we ask? Where do we go to answer them? This research seminar engages the lived experiences of the American working classes, in all their complexity, over the long 19th- and 20th-centuries, to the present. The course has the double project of (1) exploring the roots of mythologies about American working people that have the effect of distorting or

erasing their experiences, efforts and accomplishments, and struggles for organization, visibility, citizenship, and power, with special attention to mythologies about American workers who are non-white, non-male, and non-U.S.-born who did/do not fit conventional tropes of "American labor" or "the white worker"; and (2) exploring the roots of working people's experiences, as shaped by forces of technology, class, race, gender and sexuality, religion, nationalism, and violence : what are the challenges, conceptual and archival, of studying the people, in their working and familial/community lives, as producers and consumers, in their organizing efforts, and in their civic and political capacities? How did the transformation of work, technology, culture, and society over this long era from Enslavement to Artificial Intelligence, from Blackface Minstrelsy to Hip Hop, shape working people's lives and struggles? How did working people survive cataclysmic crises, from the Civil War to Covid, and mold the evolution of American citizenship and democracy? Each student will produce a 12-15 page original research paper related to the course material, based on an analysis of primary sources, in consultation with the instructor, and due at the end of the semester; the course is designed to closely mentor students in this project.
Same as L22 History 4884
Credit 3 units. A&S IQ: HUM, SC EN: H

L22 History 5885 Advanced Seminar: Medicine, Disease and Empire
This course examines the history of medicine in connection to the politics of colonialism and empire-building, spanning the sixteenth century through the twentieth century. Topics covered include: epidemic disease outbreaks (e.g. smallpox, cholera, malaria); the role of science and medicine in endorsing the "civilizing missions" of empires; tropical climates and tropical diseases as western constructs; tensions between western medicine and indigenous healing practices and beliefs; ideas of race and racism in science and medicine; modern advancements in sanitation and public health and their implementation overseas; and the historical roots of the modern global health movement.
Same as L22 History 4885
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM, IS EN: H

L22 History 5887 Advanced Seminar: DIgital Frontiers in History
Can digital technologies offer new ways to rethink historical narratives? Is DH the future of the humanities and of history as a profession? Can DH and critical inquiry be brought together? This course explores the history, present, and future of digital humanities (DH) to seek responses to these questions. From its origins in the Cold War to its rise to fame in the 1990s, the digital turn in the humanities has garnered excitement and support as well as critique and even disavowal from historians. In this course, we will examine the debates in the field of DH and learn about new ways in which historians are using digital tools for academic research as well as public outreach and activism. The course will be divided into two parts. The first half of the course will be devoted to understanding the historical growth and the present status of the field. In the second half, students will be learning basic digital tools to conduct research. The purpose of the course is not to turn historians into coders; it is to understand what codes can do for historians.
Same as L22 History 4887
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L22 History 5894 The U.S. in Vietnam: Origins, Developments and Consequences
This course will focus on America's involvement in Vietnam from the era of French colonialism through the collapse of United States intervention. Special attention will be given to political, military, economic, and cultural aspects, as well as to international relationships, and the significance of the experience and subsequent developments upon both American and Vietnamese societies.
Same as L22 History 4894
Credit 3 units. A&S IQ: HUM, LCD EN: H

L22 History 5914 Japan in World History--History and Memory
This course examines the history of World War II in Asia and how it has been remembered in the postwar era. We will trace the war, from the first Japanese military attack on China in 1931 through the US atomic bombings of Hiroshima and Nagasaki in 1945. We will also examine several postwar controversies concerning how the war has been forgotten and remembered in Japan, in the rest of Asia, and in the United States. Goals include grasping the empirical history of the war as a step to becoming familiar with the theories and methods of Memory Studies in History.
Same as L22 History 4914
Credit 3 units. A&S IQ: HUM, LCD Art: HUM BU: HUM, IS EN: H

L22 History 5918 Sexuality in the United States
Does sex have a history, and if so, how can we study it? This seminar examines important themes in the history of sexuality: the relationship between sexual ideologies and practices; racial hierarchy and sexuality; the policing of sexuality; construction of sexual identities and communities; and sexual politics at the end of the century. Students will also spend time discussing theoretical approaches to the history of sexuality, as well as methodological issues, including problems of source and interpretation.
Same as L22 History 4918
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L22 History 5919 Gender and Power in Comparative Perspective
This course provides a thematic overview of the intellectual question, methodoligical challenges, and historiographical innovations that arise when gender as a category of historical analysis is used to interrogate the ideologies and institutions of public and private power in comparative perspective.
Credit 4 units.

L22 History 5951 The Inquisition in Europe, Asia, and Latin America, 1200-1700
This seminar will study the history of the Inquisition from its beginnings in southern France in the first half of the 13th century up to the investigations undertaken by Dominicans and Franciscans in 17th century Mexico and Peru. Along the way the seminar will focus upon other inquisitions in Europe (especially those made in Italy, Spain, and Germany), and the hunt for heresy in Goa and the Phillipines. This course will read inquisitional manuals (books on how to conduct an inquisition), and original inquisitional documents (the records of the trials and interrogations). Consequently, the history of heresy and witchcraft, as understood by people in the past and historians in the present, will be discussed.
Same as L22 History 4941
Credit 3 units. A&S IQ: HUM, LCD Art: HUM

L22 History 5965 Magic, Heresy, and Witchcraft in the Medieval World, 350-1550
This seminar will study the history of magic, heresy, and witchcraft in the medieval world. It will begin in the fourth century after the conversion of Constantine the Great and end with the great witchcraft trials of the fifteenth and sixteenth centuries. The seminar will read magical treatises, ecclesiastical polemics against vulgar belief, inquisitorial trials, chronicles, and histories, in our attempt to define what was considered the ordinary and the extraordinary, the natural and the supernatural, good and evil, the boundaries of heaven and earth. How do modern historians use medieval documents to evoke the lives of men, women, and children who believed in magic or were accused of heresy? Can this only be done through a form of historical anthropology? What methods do historians use in trying to understand

past ideas and practices? What is historical truth then? What is the relationship of supposedly heterodox belief and behavior with religious orthodoxy? How do we define religion? A theme throughout this seminar will be the definition of evil and the powers of the devil. Students will write a short historiographic essay and a long research essay. Pre-modern, Europe. PREREQUISITE: Sophomore standing or permission of the instructor.
Same as L22 History 4965
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L22 History 5976 The American Trauma: Representing the Civil War in Art, Literature and Politics
This seminar is an interdisciplinary examination of how Americans represented the Civil War during and after the titanic conflict, with special attention given to the period between 1865 and 1915. The course explores how painters, novelists, photographers, sculptors, essayists, journalists, philosophers, historians, and filmmakers engaged the problems of constructing narrative and reconstructing national and individual identity out of the physical and psychological wreckage of a war which demanded horrific sacrifice and the destruction of an enemy that could not be readily dissociated from the self.
Same as L22 History 4976
Credit 3 units. A&S IQ: HUM EN: H

L22 History 5981 Advanced Seminar: Historical Perspectives on Human Rights
This course offers a historical perspective on the modern international human rights regime, using materials drawn from diplomatic, legal, political, and cultural studies. Successful completion of this seminar involves designing, researching, and writing a 25-30 page paper on a historically-oriented, human-rights-related topic of your choice.
Same as L22 History 4981
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L22 History 5984 The Problem of Freedom: The Age of Democratic Revolution in the Americas
Ever since the improbable alliance of the English pirate and slave trader Sir Francis Drake and the fugitive slave Cimarrons on the Atlantic coast of Panama many centuries ago, the history of freedom in the New World has unfolded in unlikely fits and starts. The course will explore two related conjectures: first, that maroon politics (the often short-lived alliances between slaves, quasi-free blacks and white allies), slave rebellion, provincial secession and civil war were the widespread and normative conditions of post-colonial regimes throughout the New World; and second, that the problem of freedom was especially challenging in a New World environment in which freedom was fleeting and tended to decompose. Special attention will be given to antislavery insurgencies, interracial politics and alliances in the Unites States and the perspectives on freedom they produced, but the readings will also include materials on debates over freedom in the Caribbean and South America over the course of the long age of democratic revolution, 1760-1888.
Same as L22 History 4984
Credit 3 units. A&S IQ: HUM, SD EN: H

L22 History 5993 Women and Religion in Medieval Europe
This course explores the religious experience of women in medieval Europe and attempts a gendered analysis of the Christian Middle Ages. In it, we will examine the religious experience of women in a variety of settings - from household to convent. In particular, we will try to understand how and why women came to assume public roles of unprecedented prominence in European religious culture between the twelfth century and the sixteenth, even though the institutional church barred them from the priesthood and religious precepts remained a principal source of the ideology of female inferiority.
Same as L22 History 4993
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L22 History 5998 The Crusades
This seminar will study the phenomenon of crusading in medieval Latin Christendom, from the First Crusade proclaimed by Pope Urban II in 1095 to the late crusades of the fourteenth and fifteenth centuries. We will particularly focus on crusading in the twelfth and thirteenth centuries, when the ideas and practices of being a martial pilgrim were developed and formalized by the Church. The concept of holy war in Latin Christianity and Islam will be examined. We will analyze the Fourth Crusade and the sack of Constantinople in 1204. We will investigate the Albigensian Crusade (1208-1229) into what is now southern France, when Christians were promised salvation for killing other Christians and whether "genocidal moments" occurred during this holy war against heretics. Topics to be discussed are the Kingdom of Jerusalem and other crusader colonies in the Levant, women on crusade, the poetry of crusading, chivalry, military orders like the Knights Templars and the Hospitallers, and violence as a redemptive act. One historiographic paper and a research essay are required.
Same as L22 History 4998
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L22 History 59CA Religion and the Secular: Struggles over Modernity
A generation ago, scholars and observers around the world felt assured that modernization would bring the quiet retreat of religion from public life. But the theory of secularization now stands debunked by world events, and a host of questions has been reopened. This course provides students with a forum to think through these issues as they prepare research papers on topics of their own choosing.
Same as L22 History 49CA
Credit 3 units. A&S IQ: HUM, LCD EN: H

L22 History 59DM Advanced Seminar: Meet me in St. Louis
This seminar uses the 1904 Louisiana Purchase Exposition held in St. Louis as a lens to explore the intersection of exhibitionary culture, nation building and history. In the second half of the 19th century, world's fairs became a fact of life in many parts of the world. By the end of the century, American historian and cultural critic Henry Adams argued there was indeed a "religion of world's fairs." These international expositions, as sites of pilgrimages not only informed people's perception of the world but also were ideal stages for young countries to showcase their achievements, to attract investors and to craft a national identity. Students will examine the rise of exhibitionary culture and the construction of patriotic histories and national symbols, the manufacturing of racial ideologies and otherness, and how these were all embedded in debates on civilization, modernity and progress.
Same as L22 History 49DM
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L22 History 59IR Independent Research for Capstone
This course is to be taken in addition to any Advanced Seminar for which a student registers. Course is 1 unit.
Same as L22 History 49IR
Credit 1 unit. EN: H

L22 History 59JK Advanced Seminar: Blood & Sacred Bodies: Ritual Murder & Host Desecration Accusations
This seminar follows the history of the Ritual Murder and Host Desecration accusations from the origins in 12th and 13th century Europe to the 20th century. It pays close attention to the social and political functions of the narratives; their symbolic importance in Christianity's salviric drama; attacks on such beliefs from both within

and outside the community of the faithful; the suppression and decline of the ritual murder accusation; the integration of Jews into European societies in the 19th century; and the reappearance of the blood libel in the aftermath of emancipation.
Same as L22 History 49JK
Credit 3 units. A&S IQ: HUM, LCD EN: H

L22 History 59MB Advanced Seminar: Women and Gender in Modern Caribbean History
This course will highlight women in the "making" of Caribbean history, and it will consider how "men" and "women" were made in the English-speaking Caribbean from emancipation (1838) to the present. We will explore women and gender issues within the context of significant political shifts including the transition from slavery to wage and indentured labor, the labor rebellions of the 1930s, the rise of labor unions and political parties, anti-colonial activism, decolonization and nationalism. The course will also situate the Caribbean within an international context, paying attention to migration, black internationalism and the Third World movement.
Same as L22 History 49MB
Credit 3 units. A&S IQ: HUM, LCD, SD BU: IS EN: H

L22 History 59MG Planning Global Cities
This team-taught advanced seminar will address the history and theory of a variety of metropolitan environments from the mid-nineteenth century to the present. Readings will move from the nineteenth century state-centered urbanism of Paris of Vienna, through the colonial remaking of cities like Manila or Caracas and their connections to urban reform and the City Beautiful movement in the U.S., then through the rise of planning, zoning, auto-centered cities, federal interventions like urban renewal, the emergence of the preservation movement and new urbanisnm.
Same as L22 History 49MG
Credit 3 units.

L22 History 59NR Egypt and the Arab Spring: Middle Eastern Revolution in Historical Perspective
The uprisings of the "Arab Spring" of 2011 captivated global media and observers. The movements brought down established regimes in Tunisia, Libya, Yemen, and Egypt. The focus of this course will be to understand the historical background and primary contemporary issues that have shaped Egypt's Arab Spring, and to examine the huge popular effort to document Egypt's revolution. Each student will design, research, and write a 25-page paper on a topic of his/her choice related to the Arab Spring.
Same as L22 History 49NR
Credit 3 units. A&S IQ: HUM, LCD EN: H

L22 History 59PK The Founding Fathers' Government in an Electronic Age
This is a research seminar that examines how Americans sought to translate their notions of government into a realistic set of priorities and a functioning set of public institutions. Extending from 1789 through the 1820s, this course investigates how the federal government came into being, what it did, and who populated the civilian and military rank of American officialdom. This is also a course in digital history. Students will create new knowledge through their own contributions to an ongoing digital project that seeks to reconstitute the early federal workforce. In the process, students will learn a variety of digital techniques, ranging from encoding languages to electronic systems to software packages.
Same as L22 History 49PK
Credit 3 units. A&S IQ: HUM EN: H

L22 History 59SA Slavery in America: The Politics of Knowledge Production
TThis course focuses on the long history of chattel slavery in North America, from origins through emancipation, encompassing Black and Indigenous enslavement. The course foregrounds the struggles over power, over life and death, that were at the heart of slavery's traumatic and grotesquely violent two-hundred-fifty-year career in North America, with attention to hemispheric context. At the same time, it highlights the fiercely contested historical battleground where scholars have argued about how to define American slavery--as a system or site of labor, production, and reproduction; law, property, and dispossession; racial and gender domination; sexual violation, rape, and incest; psychological terror and social death; containment and marooning; selfhood and nationality; agency and resistance; anti-colonial and revolutionary liberation and millennial redemption. Finally, it engages the "politics of knowledge production" that have produced the slavery "archive," replete with its annihilating silences, repressions, and erasures, and overdetermined "presences." In the end, the course's overarching question is how the politics of slavery, of its material experiences, interpretations, and archives, have shaped the lives and afterlives of slavery and race, to the present day. Students will conduct original research on topics related to North American slavery in consultation with the instructor that will culminate in a 12-15-page final essay. The course includes attention to the role of slavery in the founding and development of Washington University, and research projects that engage the University's slavery "archive" and questions related to enslavement in the history of the University and/or the history of St. Louis are welcome and will be supported by Olin Library Special Collections and other resources. Modern, U.S. PREREQUISITE: SEE HISTORY HEADNOTE.
Same as L22 History 49SA
Credit 3 units. A&S IQ: HUM, SD BU: BA, ETH, HUM EN: H

L22 History 59SC Inventing India
From Christopher Columbus' misguided search for a mythical notion of India, to the Incredible India branding campaign launched by the Indian State's Department of Tourism, to the allure of yoga and true love, the notion of "India" has its own history. In this Advanced Seminar we trace the invention of India - as a concept - over time. We'll learn how the fabrication of India has proceeded through the centuries, and how the many meanings of "India" coalesce, nimbly side-stepping any popular or professional narrative of Indian history. Mobilizing an array of interdisciplinary tools, we will plot how the fetishization of "India" has itself become a flexible industry, how the management of Indian exceptionalism drives caste expansion. We'll study how the process renders certain subject positions and hierarchies as neutral and hegemonic while violently discarding others; how "India" is a product collectively manufactured, circulated, and consumed by a range of people around the world; the very real work of translation in bringing "India" into our everyday lives and imaginaries. This course fulfills the History major capstone requirement as an Advanced Seminar.
Same as L22 History 49SC
Credit 3 units. A&S IQ: HUM, LCD EN: H

L22 History 600 Readings in Religion and Politics
Credit variable, maximum 4 units.

L22 History 601 Readings in Early American History
Credit variable, maximum 4 units.

L22 History 602 Readings in Modern United States History
Credit variable, maximum 4 units.

L22 History 603 Readings in Latin American History
Credit variable, maximum 4 units.

L22 History 604 Readings in British History
Credit variable, maximum 4 units.

L22 History 605 Readings in European History
Credit variable, maximum 4 units.

L22 History 606 Readings in African-American History
Credit variable, maximum 4 units.

L22 History 607 Readings in Women's History
Credit variable, maximum 4 units.

L22 History 608 Readings in Middle Eastern History
Credit variable, maximum 4 units.

L22 History 609 Readings in Jewish History
Credit variable, maximum 4 units.

L22 History 610 Readings in East Asian History
Credit variable, maximum 4 units.

L22 History 611 Readings in Russian History
Credit variable, maximum 4 units.

L22 History 612 Readings in Comparative History
Credit variable, maximum 4 units.

L22 History 614 Readings in World History
Credit variable, maximum 4 units.

L22 History 617 Readings in History of Medicine, Science and Technology
Credit variable, maximum 4 units.

L22 History 618 Readings in American Frontier History
Credit variable, maximum 4 units.

L22 History 619 Readings in American Legal History
Credit variable, maximum 4 units.

L22 History 620 Readings in Modern American Legal History
Credit variable, maximum 4 units.

L22 History 621 Readings in South Asian History
Credit variable, maximum 4 units.

L22 History 628 Readings in Caribbean History
Credit variable, maximum 4 units.

L22 History 629 Readings in Atlantic History
Credit variable, maximum 4 units.

History, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 72 graduate credits**
- **Degree Length: 6 years**
- **Notes:**
  - The History PhD program is usually completed in six years, although an enrollment extension of one year may be granted.
  - Students must be enrolled in at least 9 graduate credits each semester to maintain full-time status. Throughout their time in the program, there may be times when a student will be enrolled in less than 9 credits. In this situation, a student may be eligible to enroll in specific Arts & Sciences 9xxx graduate course that will allow the student to maintain the full-time status, but it will not have any credits. Students will need to connect with to the History department to ensure proper enrollment prior to Add/Drop deadline.
  - Students admitted to the History PhD program will receive 100% tuition remission as well as an annual stipend. (**Note:** Tuition remission will only cover 72 graduate credits. This does not include undergraduate courses or summer courses. If a student would like to take summer courses, they will need to apply for summer tuition remission prior to enrolling in a summer course.) In addition, students will receive a 90% health subsidy. Students will receive support for up to six years of full-time study contingent on making satisfactory academic progress and their fulfillment of program requirements.

PhD in History

Requirements and Academic Assessment

Doctoral candidates ordinarily spend two to three full academic years in residence. Before the dissertation defense takes place, doctoral candidates must have completed 72 units of graduate credit. Over the course of their doctoral program, graduate students may not register for more than 72 units of credit without special consideration. Of the 72 required units, no more than 24 units may be transferred from previous graduate work elsewhere.

Course Offerings

Literature of History (History 5471), which is offered during the fall semester on an annual or biannual basis, serves as an introduction to the graduate study of history and is required for all first-year students. In addition, students must complete Writing Historical Proposals and Prospectuses (History 5470), which is offered every other spring semester and is usually taken during the second or third year.

Pro-seminars are devoted to intensive reading and critical discussion, largely of secondary literature. A pro-seminar and research seminar may be linked as a sequence, exposing the student to the literature regarding a historical field, period, or problem before requiring a research paper in that area. These experiences help students to develop a broad understanding of current problems in the fields to be covered in the qualifying examination.

Research seminars are devoted to the writing of a major paper in a particular historical field or on a particular period or topic. They train the student in the analysis of particular historical problems, in research techniques, and in writing, which are the nuts and bolts of later work on a dissertation.

In some fields, students frequently enroll in tutorials (e.g., L22 610 Readings in East Asian History or L22 613 Readings in African History). In tutorials, between one and four students work closely with a tenured faculty member (i.e., an associate professor or professor).

Graduate students should only enroll in graduate-level courses. Undergraduate courses open to graduate enrollment will have a corresponding course number at the 500/5000 level to enable students to enroll for graduate credit.

Occasionally, a graduate student may need to enroll in undergraduate courses to acquire a broader mastery of a specific field or topic, but the course may not have a corresponding graduate level course. A student in this situation will need to contact the History department to discuss what options, if any, are available to enroll prior to enrollment. If the student is allowed to enroll in the undergraduate course, they may need to arrange extra course work with the instructor to qualify for full graduate credit.

Grades

The performance of students in Arts & Sciences is marked by the grades A, B, C (Conditional), and F. The grade of C indicates unsatisfactory work and will be awarded academic credit only if matched by an equivalent number of units graded A. Plus or minus grades may be given, except for grades of B- or C+. Some courses may be graded S (Satisfactory) or U (Unsatisfactory).

Graduate students should expect to earn a grade of A or A- as a mark of good progress through the program. Although a grade of B+ or B will qualify a student for full credit, these grades should be viewed as a warning that the student has not sufficiently demonstrated a full mastery of the course material at the doctoral level. More than one or two grades at this level carry the risk of negatively affecting a student's chances on the academic job market.

Mentored Teaching Experiences

As part of their graduate training, students will complete six semesters of Mentored Teaching Experiences (MTEs). At least four semesters of those MTEs will be in history courses.

Students enroll for MTEs through registration in LGS 600. In addition, students simultaneously enroll in a 2-unit advanced reading course in a field relating to the primary topic of the MTE and in a 2-unit Teaching in History course (History 511 or History 512). As part of the department's commitment to support a diversity of career outcomes from our doctoral program, students may fulfill one Mentored Experience requirement with a Mentored Professional Experience.

Annual Letters of Review and the Second-Year Review

The Department of History uses annual letters of review and the second-year review to keep students informed about the department's expectations of their progress and to identify any problems. At the end of each academic year (except the second year), students receive annual letters of review based on the observations of all faculty members with whom they have worked during the academic year, whether in a class, in a directed readings course, or in a Mentored Teaching Experience. The letters will identify any areas in which the student needs to improve and will provide clear steps for addressing any concerns. In January of the second year, students receive a second-year review letter. The department uses the second-year review to identify students who are not performing at a satisfactory level. In consultation with the student's primary advisor, the department then sets goals for that student to meet by the end of the second semester of the second year. If these goals are not met, the student will not be allowed to proceed to the PhD qualifying examinations; instead, the student will be offered an opportunity to secure an AM degree before leaving the PhD program.

In such cases, requirements for the AM degree are as follows:

- Students must satisfactorily complete a minimum of 36 units of credit. The Department of History does not require an AM thesis. Therefore, none of the required 36 units will be awarded for thesis research.
- Students must successfully complete the course Literature of History (History 5471).
- Students must develop expertise in two fields of historical study: one primary field and one secondary field.
- Students must pass an oral examination in these two fields of history.

Qualifying Examinations

To advance to PhD candidacy, in addition to completing the necessary course work, students must meet the following requirements:

1. The qualifying examination, which entails the following three requirements:
    a. Successful completion of the qualifying examination, which consists of a written component and an oral component (see below)
    b. Two research papers that meet the approval of the committee (see below)
    c. Evidence acceptable to the committee of competence in foreign language(s) or other skills relevant to the proposed research
2. The dissertation prospectus (see below)

These two basic requirements may be met in any order at the discretion of the student's primary advisor. In consultation with the primary advisor, the student may either take the qualifying examination (in addition to completing the required research papers and proving language competency) before submitting the dissertation prospectus or vice versa. Please note that the examining committee and the dissertation committee will not necessarily consist of the same faculty members; however, the student's primary advisor will serve on both committees.

The qualifying examination evaluates the student's competence in three fields of history or in two fields of history and one other discipline or program. The examining committee also assesses the student's readiness to undertake independent research for the dissertation, as indicated by the student's two research papers. The qualifying examination takes place during the second or third year and no later than June 30 of the third year.

Based on the review of the student's performance on the qualifying examination, the committee will declare whether, in their judgment, the student is qualified to proceed to PhD candidacy or if further procedures are required. These additional procedures may take the form of written or oral examinations in one or more of the three fields, further written work prepared to the committee's specifications, or further courses of study. Subsequent meetings may be required to evaluate such work. The qualification process, including any post-examination procedures, must be completed before classes begin the following fall term (i.e., the student's fourth year of graduate work).

Examiners do not formally grade performance on the qualifying examination except to indicate passage or failure. Passing constitutes qualification for the master's degree as a step toward the doctoral degree. A student who fails to qualify for dissertation research may nevertheless be recommended for a master's degree.

Languages and Quantitative Skills

Each graduate student's need for linguistic and quantitative skills is determined during their first semester in consultation with their advisor. This determination is subject to review by the Graduate Studies Committee. The student's examining committee will ascertain, by the time of the qualifying examination, if sufficient progress toward acquiring these skills has been made.

The minimum requirement is normally competence in the language of the documents or culture in which the student proposes to do dissertation research as well as competence either in one other language (other than English) or in the practice of a quantitative or other technical skill. Students normally demonstrate competency by successfully taking a particular course, by passing a translation examination, or by using foreign-language primary sources to write a research paper.

Dissertation Prospectus

The dissertation prospectus is a detailed statement describing the dissertation the student proposes to write. The dissertation should make an original contribution to historical scholarship.

Before choosing a subject, the student should consult the American Historical Association's list of theses in progress to avoid duplication. In roughly six to twelve pages, the prospectus should answer, as explicitly as possible, the following four questions:

1. *What are the major hypotheses or generalizations that the student expects to develop and test in the dissertation?* The prospectus should describe the historical phenomena (i.e., events, figures, situations, trends, or problems) to be explored. It should, however, look beyond mere narrative and description to the kinds of questions and potential answers the research itself will produce. In doing so, the prospectus should indicate the significance of the topic and hypotheses for the growth of historical knowledge. Since hypotheses are subject to the test of research, the prospectus may include tentative assertions that contradict as well as complement one another.
2. *What is the present status of relevant historical literature, and how will the proposed research contribute to ongoing debates in the field?* The answer will indicate how far the student has gone in thinking about the problem, demonstrate the student's familiarity with secondary materials, and attempt to situate the student's own investigation relative to other scholars in the field. A bibliography should be appended to the prospectus.
3. *What kinds of sources and data will the project involve, and what research procedures and techniques will be required?* The writer must have a conception of the resources needed, where they may be found, and how they can be tapped and analyzed. Unexpected data or documents are sure to turn up, but the researcher must know where to begin. Some indication is needed of the documents, archives, published primary materials, and oral histories that will be consulted.
4. *What are the specific limits to the research that will keep the dissertation within manageable scope and length?* Reasonable care must be taken to develop a practicable dissertation problem and research plan that can be brought to completion. The prospectus should include information about any completed research work, manuscript drafts, and a tentative schedule for the project.

Since research alters the character of any proposed dissertation, the student is not bound to carry out the exact program described in their prospectus. However, the student should be able to present a reasonable plan at this stage. Those students intending to apply for Fulbright scholarships or foundation grants for their fourth year of study should have the prospectus ready at the beginning of their third year.

Dissertation Prospectus Defense

The dissertation prospectus is defended before the Research Advisory Committee. The Research Advisory Committee consists of three faculty members, and the formation of the committee is a required milestone for program completion. The primary advisor (i.e., the faculty member supervising the dissertation) is the first reader and the chair of the committee. The student and the first reader select appropriate faculty members to serve as second and third readers on the student's dissertation advisory committee. At least two of the three must be drawn from history department faculty.

Proficiency in significant original research, which is a major requirement for the PhD, is demonstrated chiefly in the dissertation. Students are encouraged to look beyond the dissertation to its publication.

Title, Scope, and Procedure

After passing the qualifying examination, the candidate files two copies of the dissertation prospectus (revised, if necessary) with the department and submits the Title, Scope, and Procedure Form to the Office of Graduate Studies, Arts & Sciences. The student should also register the thesis in progress with the American Historical Association. Students may file the Title, Scope, and Procedure Form as soon as the research advisory committee has signed it. The Title, Scope, and Procedure Form must be filed before the start of the fifth year of graduate study.

Dissertation Defense

Prior to submitting the final dissertation to the Office of Graduate Studies, Arts & Sciences, the student must successfully defend their dissertation in an oral examination before a committee approved by the Office of Graduate Studies, Arts & Sciences.

Committee approval. The examining committee consists of at least five members who normally meet three independent criteria:

- Three of the five members (or a similar proportion of a larger committee) must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study. One of these three members must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty.
- All other committee members must be active in research/scholarship and have appropriate expertise in the proposed field of study whether at Washington University, at another university, in government or in industry.
- At least one of the five members must bring expertise from outside of the student's field of study to the committee, as judged by the relevant school's graduate program oversight body.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, or their designee. To have their committee approved, students must fill out the Dissertation Defense Committee Form. This form must be signed by the department's director of graduate studies (DGS). The DGS or a department staff member will submit it to the Office of Graduate Studies, Arts & Sciences. Only after this step has been completed should the defense be scheduled.

After the committee has been approved and at least 15 days before the defense, students must send a copy of their curriculum vitae and the time, date, and location of the defense to the DGS and the department administrator. The DGS or department administrator will submit the Defense Notification to the Office of Graduate Studies, Arts & Sciences.

Procedure. Attendance by a minimum of four members of the Dissertation Defense Committee, including the committee chair and an outside member, is required for the defense to take place. This provision is designed to permit the defense to proceed in case of a situation that unexpectedly prevents one of the five members from attending. Students should not plan in advance to have only four members in attendance; if one of those four cannot attend, the defense must be rescheduled. Note that the absence of all outside members or of the committee chair would necessitate rescheduling of the defense.

Submission of the Dissertation

Students who defend their dissertations successfully have not yet completed their PhD requirements. They finish earning the degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences. The exact dates for the deadline to submit the dissertation to the Office of Graduate Studies, Arts & Sciences, are set yearly.

Academic Probation and Dismissal

The Department of History closely follows the guidelines of the Office of Graduate Studies, Arts & Sciences, as described in the Policy on Probation and Dismissal for Academic Reasons.

All students in the PhD program are expected to satisfy the academic performance requirements of the Office of Graduate Studies, Arts & Sciences, which can be found in the General Requirements section of the Graduate Arts & Sciences *Bulletin.*

Additional History Department Requirements and Explanations

A full-time graduate student is not allowed more than one incomplete per semester, and that incomplete must be resolved within 120 days of the last day of the semester in which it was awarded. Within this requirement, faculty and students may wish to enter into contracts specifying conditions for the resolution of the incomplete.

To remain in good standing, a student should take the qualifying examinations by the first semester of their fourth year, at the very latest.

The Department of History's Graduate Studies Committee manages all departmental decisions regarding placement on probation, removal from probation, recommendations for dismissal after a probationary period, and recommendations for immediate dismissal due to extreme underperformance. The Graduate Studies Committee consists of the Director of Graduate Studies and three or four additional Department of History faculty members appointed by the department chair at the beginning of each academic year.

Otherwise, there are no additional requirements beyond those of the Office of Graduate Studies, Arts & Sciences.

These guidelines will remain posted on the Department of History website, and hard copies will be distributed at the annual Department of History orientation for new PhD students, which is held in August each year.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Phone:	314-935-5450
Email:	history@wustl.edu
Website:	https://history.wustl.edu/graduate

Jewish, Islamic, and Middle Eastern Studies

Jewish, Islamic, and Middle Eastern Studies is an academic department, unique in North America, in which Jewish Studies and Islamic Studies are integrated. It is an interdisciplinary department with the purpose of allowing students to explore the historical experience; the literary, religious, and cultural expression; and the political and material life of the Jewish, Islamic, and Middle Eastern civilizations. Whether students favor the study of language, literature, religion, history, or politics, they will find a way to deepen their appreciation of these complex and diverse societies and cultures in our courses. Students will also be encouraged to explore the interaction of Jews and Muslims with neighboring societies and cultures in the Middle East, Europe, North Africa, and other parts of the world.

The department offers both a **Master of Arts in Jewish Studies** and a **Master of Arts in Islamic and Near Eastern Studies**.

The department does not currently offer a home-based PhD program. Students who would like to pursue a PhD in one of the fields of Jewish Studies or Islamic and Near Eastern Studies may do so under the auspices of a PhD-granting department or program (e.g., History, Anthropology, Comparative Literature and Thought) in cooperation with participating faculty from Jewish, Islamic, and Middle Eastern Studies. In such instances, the prospective student should apply directly to the appropriate disciplinary department or program at Washington University.

Phone:	314-935-8567
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Faculty

Chair

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Director of Graduate Studies

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Associate Professor of Arabic and Islamic Studies
PhD, University of Chicago

Director of Undergraduate Studies

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Director of Undergraduate Studies
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Department Faculty

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MSc, University of Peshawar

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PhD, University of Massachusetts, Amherst

Younasse Tarbouni
Teaching Professor in Arabic
PhD, L'École des Hautes Études en Sciences Sociales (EHESS)

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MA, Patna University

David H. Warren
Lecturer of Middle East Studies and Arabic
PhD, University of Manchester

Noa Weinberg
Lecturer of Hebrew
MA, Tel Aviv University

Degree Requirements

- Islamic and Near Eastern Studies, AM (p. 288)
- Jewish Studies, AM (p. 289)

Courses

Courses include the following:

Arabic

Visit online course listings to view semester offerings for L49 Arab.

L49 Arab 500 Independent Work
Prerequisites: senior standing, and permission of the instructor and the Department Chair.
Credit variable, maximum 6 units.

L49 Arab 571 Topics in Modern Arabic Literature in Translation
Modern Arabic narratives read in English translation foregrounding themes such as the conflict between tradition and modernity, civil war, poverty, alienation, religion and politics, and changing gender roles.
Same as L49 Arab 471
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: ETH EN: H

Hebrew

Visit online course listings to view semester offerings for L74 HBRW.

L74 HBRW 500 Independent Study
Prerequisite: senior standing, and permission of the instructor and the Department Chair.
Credit variable, maximum 6 units.

Hindi

Visit online course listings to view semester offerings for L73 Hindi.

L73 Hindi 5171 Religion and Culture in South and Southeast Asia
Although it is now common to differentiate between South and Southeast Asia, historically these regions have often been conceptualized as part of a single geographical area. Known as the "(East) Indies", this area is marked by a rich history of (earlier) Hindu and Buddhist influences, as well as (later) Islamic and Christian influences. The present course will take an in-depth look at the four aforementioned religious traditions, and examine how they have shaped local forms of culture in premodern and modern times. Students will be introduced to host of phenomena in South and Southeast Asian societies, including religious worship, education, law, traditional governance, colonial governance, art, architecture, economic production, kinship, gender, and sexuality. Countries to be studied in the course include India, Pakistan, Sri Lanka, Thailand, Myanmar, Indonesia, Malaysia, the Philippines, and Papua New Guinea.
Same as L73 Hindi 3171
Credit 3 units. A&S IQ: HUM, LCD, SC, SD BU: ETH, IS

Jewish, Islamic, and Middle Eastern Studies

Visit online course listings to view semester offerings for L75 JIMES.

L75 JIMES 500 Independent Work in Jewish, Islamic and Near Eastern Studies
PREREQUISITES: SENIOR STAND AND PERMISSION OF THE CHAIR OF THE JEWISH, ISLAMIC AND NEAR EASTERN STUDIES PROGRAM.
Credit variable, maximum 6 units.

L75 JIMES 5001 Introduction to the Hebrew Bible/Old Testament
The Hebrew Bible is the foundational text of Judaism and Christianity. It is a complex compilation of materials, reflecting great diversity in ideology, literary expression, social and political circumstances, and theology. In this course, we shall read a significant amount of the Bible in English translation. We shall study the various approaches that have been taken by scholars in trying to understand the Bible in its historical context. We shall also study how the Bible was traditionally interpreted by Jews and Christians during the last two thousand years.
Same as L23 Re St 300
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: ETH, HUM EN: H

L75 JIMES 5002 Capstone Seminar
The capstone course for Jewish, Islamic, & Near Eastern Studies majors, Arabic majors, and Hebrew majors. The course content is subject to change.
Same as L75 JIMES 4001
Credit 3 units. A&S IQ: HUM EN: H

L75 JIMES 5006 Modern Jewish Writers
What is Jewish literature? While we begin with -- and return to -- the traditional question of definitions, we will take an unorthodox approach to the course. Reading beyond Bellow, Ozick and Wiesel, we will look for enlightenment in unexpected places: Egypt, Latin America, and Australia. Recent works by Philip Roth, Andre Aciman, Simone Zelitch and Terri-ann White will be supplemented by guest lectures, film, short stories and significant essays. We will focus on issues of language, memory and place. Background knowledge is not required, though it is warmly welcomed.
Same as L16 Comp Lit 306
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM EN: H

L75 JIMES 5012 Biblical Law and the Origins of Western Justice
This course will explore how law developed from the earliest periods of human history and how religious ideas and social institutions shaped law. The course will also illuminate how biblical law was influenced by earlier cultures and how the ancient Israelites reshaped the law they inherited. It will further analyze the impact of biblical law on Western culture and will investigate how the law dealt with those of different social classes and ethnic groups, and we will probe how women were treated by the law.
Same as L75 JIMES 3012
Credit 3 units. A&S IQ: HUM, LCD BU: ETH, HUM EN: H

L75 JIMES 501C The Jews in the Ancient World
We will trace Israelite and Jewish history from its beginnings in the biblical period (circa 1200 BCE) through the rise of rabbinic Judaism and Christianity until the birth of Islam (circa 620 CE). We will explore how Israel emerged as a distinct people and why the rise of the imperial powers tranformed the political, social, and religious institutions of ancient Israel. We will illuminate why the religion of the Bible developed into rabbinic Judaism and Christianity and how rabbinic literature and institutions were created.
Same as L75 JIMES 301C
Credit 3 units. A&S IQ: HUM, LCD Art: HUM BU: BA, HUM

L75 JIMES 501M Historical Methods-Middle Eastern History
This is a small-group reading course in which students are introduced to the skills essential to the historian's craft. Emphasis will be on acquiring research skills, learning to read historical works critically, and learning to use primary and secondary sources to make a persuasive and original argument. See Course Listings for current topics. Required for history majors. Preference given to History majors; other interested students welcome.
Same as L22 History 301M
Credit 3 units. A&S IQ: HUM, LCD BU: HUM, IS EN: H

L75 JIMES 5035 Antisemitism: History, Causes, Consequences
Why do people hate other people? Why have religion, race, gender, ethnicity and so on led to sectarian violence with terrifying regularity throughout history? Focused on antisemitism from Biblical times to today, this class will grapple with those questions. Please note: L75 5035 is intended for graduate students only.
Same as L75 JIMES 3035
Credit 3 units. A&S IQ: HUM, LCD, SC Arch: HUM Art: HUM BU: BA EN: H

L75 JIMES 5073 The Global War on Terrorism
This course presents an historical assessment of the Global War on Terrorism (GWOT) from the perspective of its major participants: militant Sunni Islamist jihadists, especially the Al-Qaeda network, and the nation states that oppose them, particularly the United States and its allies. The course then concludes by analyzing the current state and future of Islamist jihad and the GWOT.
Same as L22 History 3073
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM, IS EN: H

L75 JIMES 5075 Third-Level Arabic I
This course is a continuation of Intermediate Arabic II. Competence in reading, writing, speaking, listening and culture is developed through intensive exposure to classical and modern standard Arabic in its written and audiovisual forms. Prerequisite: Grade of B- or better in L49 208D or placement by examination. Note: L75 5075 is intended for graduate students only.
Same as L49 Arab 3075
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L75 JIMES 5085 Third-Level Arabic II
This course is a continuation of Third-Level Arabic I. The continued integration of language development will occur through reading, writing, speaking, and listening activities centered around advanced authentic material. This semester will prove critical for making the transition from modern Arabic to classical Arabic, including Qur'anic Arabic. There will also be focus on the continued development of colloquial Arabic. Prerequisite: Grade of B- or better in L49 3075 or placement by examination. Note: L75 5085 is intended for graduate students only.
Same as L49 Arab 3085
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L75 JIMES 5149 The Late Ottoman Middle East
This course surveys the Middle East in the late Ottoman period (essentially the 18th and 19th centuries, up to the First World War). It examines the central Ottoman state and the Ottoman provinces as they were incorporated into the world economy, and how they responded to their peripheralization in that process. Students will focus on how everyday people's lived experiences were affected by the increased monetarization of social and economic relations; changes in patterns of land tenure and agriculture; the rise of colonialism; state efforts at modernization and reform; shifts in gender relations; and debates over the relationship of religion to community and political identity.
Same as L22 History 3149

Credit 3 units. A&S IQ: HUM, LCD, SD Arch: HUM Art: HUM BU: HUM, IS EN: H

L75 JIMES 5150 The Middle East in the Twentieth Century

This course surveys the history of the Middle East since World War I. Major analytical themes include: colonialism; Orientalism; the formation of the regional nation-state system; the formation and political mobilization of new social classes; changing gender relations; the development of new forms of appropriation of economic surplus (oil, urban industry) in the new global economy; the role of religion; the Middle East as an arena of the Cold War; conflict in Israel/Palestine; and new conceptions of identity associated with these developments (Arabism, local patriotism, Islamism).
Same as L22 History 3150
Credit 3 units. A&S IQ: HUM, LCD Art: HUM BU: HUM, IS EN: H

L75 JIMES 5171 Religion and Culture in South and Southeast Asia

Although it is now common to differentiate between South and Southeast Asia, historically these regions have often been conceptualized as part of a single geographical area. Known as the "(East) Indies", this area is marked by a rich history of (earlier) Hindu and Buddhist influences, as well as (later) Islamic and Christian influences. The present course will take an in-depth look at the four aforementioned religious traditions, and examine how they have shaped local forms of culture in premodern and modern times. Students will be introduced to host of phenomena in South and Southeast Asian societies, including religious worship, education, law, traditional governance, colonial governance, art, architecture, economic production, kinship, gender, and sexuality. Countries to be studied in the course include India, Pakistan, Sri Lanka, Thailand, Myanmar, Indonesia, Malaysia, the Philippines, and Papua New Guinea.
Same as L73 Hindi 3171
Credit 3 units. A&S IQ: HUM, LCD, SC, SD BU: ETH, IS

L75 JIMES 5183 The Jews of North Africa

This course examines the colonial and postcolonial experiences of Jews living in North Africa (mainly Algeria, Morocco, Tunisia, Libya and Egypt) in the context of the region's connections with and relationships to the European powers in the 19th and 20th centuries. We will focus on how the intrusion of foreign powers disrupted and shifted long-standing relationships between Jews and their non-Jewish neighbors, particularly the Muslim populations. We will also explore changes that occurred within the Jewish community as Jews negotiated their place within the new European Imperial system and its subsequent dismantling. Students will have the opportunity to engage with European ideas of "regenerating" North African Jews living under Ottoman Rule, the changing political and social statuses of Jews throughout the French and British regions, the changing relationship between Jews and their non-Jewish neighbors, the rupture caused by both World Wars, and how Jews coped with and responded to the dismantling of European empires and the birth of nation-states in the region, including Israel.
Same as L75 JIMES 3183
Credit 3 units. A&S IQ: HUM, LCD, SC Arch: HUM Art: HUM BU: BA, IS EN: H

L75 JIMES 5184 A Rainbow Thread: A History of Queer Identities in Judaism and Islam

The notion that gender and sexuality minorities are forbidden or simply do not exist within traditional judaism and islamic traditions is an assumption that has been questioned in recent years. For these scholars and activists, it is not up for debate whether someone can be queer and Jewish or queer and Muslim. Therefore, what follows is an exploration of how to resurrect gender non-conforming interpretations of religious texts and rediscover the spectrum of gender and sexual identities that have always existed within Judaism and Islam. The course is divided into three parts. First, we will examine the religious textual traditions of both faiths to establish the space for queer identities in both the Qur'an and Torah as well as the traditions of Hadith and Talmud. Second, we will study key communities such as medieval Iberia, the Ottoman Mediterranean, Hasidic communities in Eastern Europe, Qajar Iran, and the colonial empires of the Middle East. This survey will show the influence European christian dominance had (or did not have) on the evolution of jewish and islamic gender and sexual norms from pre-modern times through the 20th century. Finally, we will examine the 21st century by reading the memoirs of trans muslims and trans Jews in order to analyze the ways in which contemporary queer jewish and islamic individuals frame their experiences and tell their stories of faith with agency, in their own words.
Same as L75 JIMES 3184
Credit 3 units. A&S IQ: HUM, LCD, SC, WI Arch: HUM Art: HUM EN: H

L75 JIMES 520 Third Level Modern Hebrew I

Designed to improve proficiency in the oral and written use of modern Hebrew through reading and discussion of short stories, Israeli newspaper articles, and other selected materials. Students will also have an opportunity to discuss, in Hebrew, current events and public issues related to contemporary Israeli society. PREREQ: Grade of B- or better in L74 214D Intermediate Modern Hebrew II or placement by examination. Please note: L75 520 is intended for graduate students only.
Same as L74 HBRW 320D
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L75 JIMES 5211 Conversational Hebrew

Designed to focus on and strengthen oral proficiency, we will explore a variety of different topics together based on our common interests - not limited to current affairs, space travel and exploration, advances in medical technology, climate change, pandemic preparedness, economic inequality, and the future of work. With each topic, we will learn relevant vocabulary and structures and apply them in small group discussions, individual presentations, simulated interviews, and classroom debates. Students will also listen to different to Israeli news reports and documentaries in order to learn how to present at a formal level. The course is designed to simulate a variety of real-life situations, which require the balance of both rehearsal as well as improvisation. By learning Hebrew in different contexts, students will be exposed to a wide range of vocabulary and will be prepared to use the language in a variety of situations. The language of instruction is Hebrew only. PREREQ: Grade of B- or better in L74 214D Intermediate Modern Hebrew II or placement by examination. Please note: L75 5211 is intended for graduate students only.
Same as L74 HBRW 3211
Credit 3 units. A&S IQ: LCD, LS BU: HUM

L75 JIMES 5221 Topics: The Jewish Experience in Italy

This course will examine the social and political history of the Jews of Italy from the period of Italian unification through the end of the Second World War. We will look through two different prisms: first, the constant of Jews' minority status in a Catholic country at a time when Church doctrine was hostile to them and second, their changing status during significant moments in the brief history of the Italian monarchy. Under the latter rubric we will study the rehabilitation of the Jews under liberal political philosophies, their problematic relationship with Fascism, and finally the arrival of the Holocaust in Italy and efforts to defend Jews against Nazi genocide. We will approach these topics wherever possible through primary texts, including essays, memoirs, and novels. Reading knowledge of Italian is not required. Readings

in English; some readings in Italian for Italian majors. Discussion in English. Prerequisite for Italian majors: Italian 307D; no prerequisite for students in other majors. Three five-page papers. PLEASE NOTE: THE L75 5221 CROSS-LISTING COURSE IS FOR GRADUATE STUDENTS ONLY.
Same as L36 Ital 3221
Credit 3 units. A&S IQ: HUM, LCD BU: HUM, IS EN: H

L75 JIMES 522D Third-Level Modern Hebrew II
Designed to develop communicative skills, this course provides opportunities for students to practice the art of speaking and writing correctly, clearly, and effectively. Includes reading and discussion of selected short stories from modern Hebrew literature as well as articles from current Hebrew newspapers. Class discussions deal with literary topics as well as contemporary social and political issues related to life and institutions in Israel. PREREQ: Grade of B- or better in L74 320D Third-Level Modern Hebrew I or placement by examination. Please note: L75 522D is intended for graduate students only.
Same as L74 HBRW 322D
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L75 JIMES 5273 Introduction to Israel Studies
An exploration of Israel in the Jewish experience from antiquity to modernity and in the history and culture of the Middle East. Special attention will be paid to the modern state of Israel and current issues in its politics, economy, and society. L75 5273 is intended for graduate students only.
Same as L75 JIMES 3273
Credit 3 units. A&S IQ: HUM BU: IS EN: H

L75 JIMES 5312 Norms, Networks, and Repertoires: The Anthropology of Institutions
We live our lives in social institutions: schools, courts, offices, hospitals, churches, and so forth, each one shaped by norms or rules, in which people form networks and draw on their repertoires for social action. Anthropologists and sociologists study institutions through ethnography, the close study of everyday interactions, albeit also incorporating approaches from politics and economics, and largely shaped by the traditions of social pragmatism. We explore the theoretical and empirical dimensions of an ethnographic and pragmatist approach through readings of Goffman, Foucault, and Bourdieu, and of more recent analyses of schools, courtrooms, immigration police, science laboratories, art, and other institutions.
Same as L48 Anthro 5312
Credit 3 units.

L75 JIMES 5314 Islamic History: 1200-1800
An introduction to Islamic polities and societies from the Mongol conquests to the thirteenth century to the collapse and weakening of the colossal "gunpowder" empires of the Ottomans, Safavids and Mughals in the early eighteenth century. Broadly speaking, this course covers the Middle Period (1000-1800) of Islamic history, sandwiched between the Early and High Caliphal Periods (600-100) on the one hand and the Modern Period (1800-Present) on the other hand. Familiarity with the Early and High Caliphal periods is not assumed. The course will not be a "survey" of this period but a series of "windows" that will allow you to develop both an in-depth understanding of some key features of Islamic societies and a clear appreciation of the challenges (as well as the rewards!) that await historians of the Middle Period. Particular attention is given to the Mamluk and Ottoman Middle East, Safavid Iran and Mughal India.
Same as L22 History 314C
Credit 3 units. A&S IQ: HUM, LCD Art: HUM BU: HUM, IS

L75 JIMES 5334 Crusade, Disputation, and Coexistence: Jews in Christian Europe
This course will investigate some of the major themes in the history of the Jews in Europe, from the Middle Ages to the eve of the French Revolution. Jews constituted a classic, nearly continuous minority in the premodern Christian world-a world that was not known for tolerating dissent. Or was it? One of the main purposes of the course is to investigate the phenomenon of majority/minority relations, to examine the ways in which the Jewish community interacted with and experienced European societies, cultures, and politics. We will look at the dynamics of boundary formation and cultural distinctiveness; the limits of religious and social tolerance; the periodic eruption of persecution in its social, political, and religious contexts; and the prospects for Jewish integration into various European societies during the course of the Enlightenment era.
Same as L22 History 334C
Credit 3 units. A&S IQ: HUM, LCD, SC, SD BU: ETH, HUM, IS EN: H

L75 JIMES 535C Becoming "Modern": Emancipation, Antisemitism, and Nationalism in Modern Jewish History
This course offers a survey of the Jewish experience in the modern world by asking, at the outset, what it means to be-or to become-modern. To answer this question, we look at two broad trends that took shape toward the end of the eighteenth century-the Enlightenment and the formation of the modern state-and we track changes and developments in Jewish life down to the close of the twentieth century with analyses of the (very different) American and Israeli settings. The cultural, social, and political lives of Jews have undergone major transformations and dislocations over this time-from innovation to revolution, exclusion to integration, calamity to triumphs. The themes that we will be exploring in depth include the campaigns for and against Jewish "emancipation;" acculturation and religious reform; traditionalism and modernism in Eastern Europe; the rise of political and racial antisemitism; mass migration and the formation of American Jewry; varieties of Jewish national politics; Jewish-Gentile relations between the World Wars; the destruction of European Jewry; the emergence of a Jewish nation-state; and Jewish culture and identity since 1945.
Same as L22 History 335C
Credit 3 units. A&S IQ: HUM, LCD, SC, SD Art: HUM BU: HUM, IS EN: H
UColl: HEU, HSM

L75 JIMES 536 History of the Jews in Islamic Lands
This course is a survey of Jewish communities in the Islamic world, their social, cultural, and intellectual life from the rise of Islam to the Imperial Age.Topics include: Muhammad, the Qur'an and the Jews; the legal status of Jews under Islam; the spread of Rabbinic Judaism in the Abbasid empire; the development of new Jewish identities under Islam (Karaites); Jewish traders and scholars in Fatimid Egypt; the flourishing of Jewish civilization in Muslim Spain (al-Andalus); and Sephardi (Spanish) Jews in the Ottoman empire. On this background, we will look closely at some of the major Jewish philosophical and poetical works originating in Islamic lands. Another important source to be studied will be documents from the Cairo Genizah, reflecting social history, the status of women, and other aspects of daily life.
Same as L22 History 336C
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM, IS EN: H

L75 JIMES 5400 Israeli Women Writers
Study of selected novels and shorter fiction by women. Attention to the texts as women's writing and as products of Israeli literature. No knowledge of Hebrew necessary; all readings in English translation.
Same as L74 HBRW 340
Credit 3 units. A&S IQ: HUM, LCD, SC, SD, WI Art: HUM BU: HUM EN: H

L75 JIMES 541 The Jewish People in America
History of the Jews in North America from the colonial era to the present. Close reading of primary sources, with an emphasis on the central issues and tensions in American Jewish life; political, social, and economic transformations; and religious trends.
Same as L75 JIMES 341
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L75 JIMES 5422 Art of the Islamic World
This course surveys the art and architecture of societies in which Muslims were dominant or in which they formed significant minorities from the seventh through the 20th centuries. It examines the form and function of architecture and works of art as well as the social, historical, and cultural contexts; patterns of use; and evolving meanings attributed to art by the users. The course follows a chronological order, and selected visual materials are treated along chosen themes. Themes include the creation of a distinctive visual culture in the emerging Islamic polity; the development of urban institutions; key architectural types such as the mosque, madrasa, caravanserai, palace, and mausoleum; art objects and the art of the illustrated book; cultural interconnections along trade and pilgrimage routes; and Westernization and modernization in art and architecture.
Same as L01 Art-Arch 3422
Credit 3 units. A&S IQ: HUM, LCD Art: AH, GFAH, HUM BU: IS EN: H UColl: CD

L75 JIMES 5431 Core Seminar in Comparative and World History: Islam in the Medieval and Early Modern Mediterranean
The Core Seminar in Comparative and World History examines a historical institution, idea, phenomenon, or process across range of cultures and regions. Although the specific case studies will vary from year to year, topics might include: empires, urbanization, revolutions, famines, or evangelism. The seminar will be of interest to students of all historical fields seeking to develop comparative historical models to their own areas of research.
Same as L22 History 5431
Credit 4 units.

L75 JIMES 5442 Core Seminar in World History:
The course examines a historical institution, idea, phenomenon, or process across range of cultures and regions. Although the specific case studies will vary from year to year, topics might include: empires, urbanization, revolutions, famines, or evangelism. The seminar will be of interest to students of all historical fields seeking to develop comparative historical models to their own areas of research.
Same as L22 History 5442
Credit 4 units.

L75 JIMES 545 Mesopotamian Mythology: Stories from Ancient Iraq
In this course we will read, explore, and interpret various ancient myths originating from the fertile crescent, especially ancient Iraq, between the years 2500 and 400 BCE. The Epic of Gilamesh, the Enuma Elish, myths of the goddess Ishtar as well as various flood and creation accounts will be among those we read. Cultural background information will be examined to situate each myth in its ancient context. Various theories of interpreting myth will also be explored in order to appreciate the power and the many uses of these multivalent stories. Several basic questions will underlie all that we do throughout the semester: What is myth?, How should we understand the conceptualization of the category "myth" (in other words, How does myth work?), and Does myth still play a role in our own modern cultures?
Same as L75 JIMES 345
Credit 3 units. BU: HUM

L75 JIMES 546 Islamic Law
This course will present a general overview of Islamic law and an introduction to the study of religious legal authority, which values consensus. It will then explore the formation of the major schools of law. Next, it will debate the notions of "ijtihad" and "taqlid" and discuss how open and independent legal decisions have been in the Islamic world. It will also trace the transmission of legal knowledge in religious institutions across time and place by focusing on medieval Muslim societies and by closely examining the education of a modern-day Ayatollah. Note: L75 546 is intended for graduate students only.
Same as L75 JIMES 346
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: ETH EN: H

L75 JIMES 549 Yidishkayt: Yiddish Literature in English Translation
This course will trace the emergence, development, flourish, and near-decline of Yiddish literature, beginning with some of the earliest writings to appear in Yiddish in the late middle ages and early modern period, continuing with 19th-century attempts to establish a modern Yiddish literature and the 20th-century emergence of both a classical canon and a literary avant-garde, and ending with post-Holocaust attempts to retain a Yiddish literary culture in the near absence of Yiddish-speaking communities. Focusing on the role of Yiddish as the "national" language of Ashkenaz, the course will examine the ways in which Yiddish literature has responded to the social conditions of European Jewish life, exploring among others the relationship between Yiddish and the non-Jewish cultures in which it existed, the tensions between secular trends versus religious tradition, life in the shtetl and in the metropolis, immigration from the old world to the new, and Yiddish literary responses to the Holocaust.
Same as L75 JIMES 349
Credit 3 units. A&S IQ: HUM, LCD Art: HUM BU: IS EN: H

L75 JIMES 550 Israeli Culture and Society
An examination of critical issues in contemporary Israeli culture and society, such as ethnicity, speech, humor, religious identity, and the Arab population, using readings in English translation from a variety of disciplines: folklore, literary criticism, political science, sociology, psychology, anthropology. Prerequisite: sophomore standing, or permission of instructor.
Same as L75 JIMES 350
Credit 3 units. A&S IQ: HUM, LCD, SD Arch: HUM Art: HUM BU: HUM, IS EN: H

L75 JIMES 5510 Muhammad: His Life and Legacy
This course intends to examine the life and representations of the Prophet Muhammad from the perspective of multiple spiritual sensibilities as articulated in various literary genres from medieval to modern periods. The course is divided roughly into two parts. One part deals with the history of Muhammad and the related historiographical questions. The second part deals with the representations of Muhammad in juristic, theological, Sufi, etc. literature. Because of the availability of primary sources in English translation, there will be a healthy dose of primary source reading and analysis throughout the semester. Those students with advanced Arabic (and Persian and Turkish) skills will be encouraged to engage sources in their original language.
Same as L75 JIMES 351
Credit 3 units. A&S IQ: HUM, LCD, SC BU: ETH EN: H

L75 JIMES 5520 Subgenres and Modern Arabic Literature
Genre is a category, or to use Aristotle's term, a species. It is a category of literature, arts, music, and other forms of composition, to classify works of shared conventions, practices, and aesthetics. A typical example would be poetry. Subgenre is a single division of a given genre. In this example, epic poetry, the sonnet, haiku are subgenres of poetry. But who gets to decide what is genre, subgenre, and how? These would be some of the main questions we willl address in this course. Genre theory can teach us a fascinating history of how various cultures imagine their forms of creative expression. The development of genres and subgenres reveal complex histories on who has the power to define and redefine creative expression. For example, the novel, now a dominant and prestigious global literary genre, was once considered an inferior and working-class genre in Europe over a century ago. The novel genre then developed into numerous subgenres, which are today placed under one large umbrella that is "genre-fiction," such as sci-fi, fantasy, horror, gothic, mystery etc.. However, the borders between these subgenres and the larger genre itself are always contested and reformulated. Through the history of genre and subgenre, we get to learn about literary taste and literary criticism, and whose definitions and conventions have changed the course of literature and the arts, and for what reason. The dominance of the historical novel today, for example, is attributed to larger phenomenon such as decolonization, feminism, and anti-racism. The sociopolitical urge to utilize fiction to address larger issues has not only boosted the impact of the historical novel but "elevated" it to become a common form of the genre itself. Within this grand history, Arabic literature has a complex and rich story to tell about genre and subgenre. The most obvious example here, which will be our entry point in this course, is 1001 Nights (also known as The Nights, or The Arabian Nights). This multi-volumed masterpiece has influenced fiction writers across the globe, especially in the past three centuries as the novel began to formulate into a modern genre. It is an exceptional work where we see a cosmology of subgenres of storytelling, narrative, but also of poetry, and in some editions, illustration and drawing, as well as translation. The Nights is often seen as the first hybrid work of literature where subgenres and forms co-exist but also blur and converge. This dynamic, revolutionary, and mobile nature of The Nights expresses the meeting of various cultures, experiences, and traditions of storytelling during the Abbasid empire. Today, it remains ever more relevant and inspiring in a cosmopolitan world. The question and history of sub/genre, however, will guide us through an exploration of modern and contemporary Arabic literature. We will get to engage with these texts thematically, stylistically, and intellectually. The aesthetic choices made in literature are never isolated from the intellectual, political, and sociohistorical contexts of a given text. Through the assigned texts and artworks, we will also learn about colonization, gender, imperialism, class, migration, ecology, among other pressing topics. No knowledge of Arabic is necessary; all readings in English translation.
Same as L75 JIMES 3520
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L75 JIMES 554 Anthropological and Sociological Study of Muslim Societies
This course introduces students to anthropological and sociological scholarship on Muslim societies. Attention will be given to the broad theoretical and methodological issues which orient such scholarship. These issues include the nature of Muslim religious and cultural traditions, the nature of modernization and rationalization in Muslim societies, and the nature of sociopolitical relations between "Islam" and the "West." The course explores the preceding issues through a series of ethnographic and historical case studies, with a special focus on Muslim communities in the Middle East, Southeast Asia, and Europe. Case studies address a range of specific topics, including religious knowledge and authority, capitalism and economic modernization, religion and politics, gender and sexuality, as well as migration and globalization. Please note: L75 554 is intended for graduate students only.
Same as L75 JIMES 354
Credit 3 units. A&S IQ: LCD, SSC, SC, SD Arch: SSC Art: SSC BU: IS EN: S UColl: CD

L75 JIMES 556 Research Seminar for AM Students in Jewish, Islamic, and Middle Eastern Studies
This course is meant to support graduate students as they write and revise their AM papers for defense in the spring. Central to the undertaking is serious editorial response to others' ongoing research and writing, and the refining effort of revision. Each paper will be work-shopped at least once during the semester. Students will develop their peer-review skills while making progress on their own research. Permission of instructor required.
Credit 3 units.

L75 JIMES 5581 Musica Ebraica: Jewish Identities in Western Music from 1600 to the 21st century
The course explores Western music from the 17th century to the 21st century through the prism of musical works that were written by Jews and for Jews and of musical compositions reflecting their composers' identifying themselves as Jews. Jewish art music from these periods will be examined against the background of musical development in general, the social, political, and religious context of the composers, and written reflections about Jewish music. Examples of Jewish art music will be analyzed through different approaches in order to determine the cultural interrelationships between Jews and non-Jews, Jewish cultural autonomy, and the perception of Jewishness in music.
Same as L75 JIMES 3581
Credit 3 units. A&S IQ: LCD BU: HUM EN: H

L75 JIMES 5582 Music in Jewish Culture and Society
The common term 'Jewish Music' raises numerous questions that emanate from the difficulty to define 'Jewish' identity of any given music. This course will deal with various approaches to the definition of Jewish music, perceived as a cultural and sociological component in the Jewish communities throughout the Diaspora. We will survey the functions in which music is performed in traditional Jewish communities, especially Jewish liturgy, and the substantial vicissitudes in these musics after the European Enlightenment, European colonialism in north-Africa, and in the Mediterranean. We will study the background and the different characteristics of selected Jewish communities - Ashkenazic, Sephardic, Italian, Yemenite, and others - as well as instrumental music, questions of gender, and the relationship between music and text." A secondary goal of this course will be the study of the bibliography and discography of Jewish musics.
Same as L75 JIMES 3582
Credit 3 units. A&S IQ: HUM, LCD EN: H

L75 JIMES 5583 The Soundtrack of Israeli History
This course explores connections between Israeli history, nationality, and culture, and between Israeli art music. Such an encounter between reveals the reflection of, and responses to, local social developments in various historic and constitutive moments in Israeli history such as: the fifth Aliya (wave of immigration) in the 1930s, the statehood years, the waning of nationalistic sentiments in the late 1950s, the aftermath of Israeli wars, the negotiation between Israeli and Jewish identities, and even artistic expressions of postmodernity within the Israeli context. These histories will be surveyed through historical studies as well as through their musics and against the background of developments in 20th century music.
Same as L75 JIMES 3583
Credit 3 units. A&S IQ: HUM, LCD EN: H

L75 JIMES 558C Modern Near Eastern Literatures
This course introduces literary expressions of the struggle for love, self-realization, and liberation. Genres include romanticism, realism, and the surreal. A comparative, team-taught approach is used to instruct students in selected genres, authors, or themes in two or more Near Eastern literatures (Arabic, Hebrew, Persian, Turkish) in English translation.
Same as L16 Comp Lit 358C
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM EN: H

L75 JIMES 559 Travelers, Tricksters, and Storytellers: Jewish Travel Narratives and Autobiographies, 1100-1800
Jewish literature includes highly fascinating travel accounts and autobiographies that are still awaiting their discovery by a broader readership. In this course, we will explore a broad range of texts originating from the Middle Ages to the 19th century. They were written by both Ashkenazi and Sephardi Jews hailing from countries as diverse as Spain, Italy, Germany, and the Ottoman Empire. Among the authors were pilgrims, rabbis, merchants, and one savvy businesswoman. We will read their works as responses to historical circumstances and as expressions of Jewish identity, in its changing relationship to the Christian or Muslim environment in which the writers lived or traveled. Specifically, we will ask questions such as: How do travel accounts and autobiographies enable their authors and readers to reflect on issues of identity and difference? How do the writers produce representations of an "other," against which and through which they define a particular sense of self? This course is open to students of varying interests, including Jewish, Islamic, or Religious Studies, medieval and early modern history, European or Near Eastern literatures. All texts will be read in English translation. Please note: L75 559 is intended for graduate students only.
Same as L75 JIMES 359
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: IS EN: H

L75 JIMES 562 Approaches to the Qu'ran
The place of the Qur'an in Islamic religion and society. Equal emphasis on text: the Qur'an's history, contents, and literary features; and context: the place of the Qur'an in everyday life, its oral recitation, artistic uses, and scholarly interpretation. Knowledge of Arabic not required.
Same as L23 Re St 366
Credit 3 units. A&S IQ: HUM, LCD BU: ETH

L75 JIMES 5622 Topics in Islam: Islam and Human Rights
Selected themes in the study of Islam and Islamic culture in social, historical, and political context. The specific area of emphasis will be determined by the instructor. Please note: L75 5622 is intended for graduate students only.
Same as L75 JIMES 3622
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: IS EN: H UColl: CD

L75 JIMES 566 The Sephardic Experience: 1492 to the Present
In the public perception, modern Jews divide into two subethnic groups: Ashkenazi and Sephardi, or European and Middle Eastern Jews. However, this is an oversimplification that does not do justice to the diversity and complex history of Jewish identities, which are often multilayered. Strictly speaking, Sephardi Jews trace their ancestral lines or cultural heritage to the medieval Iberian Peninsula, present-day Spain and Portugal. That said, according to some scholars, Sephardi Judaism did not even exist before the general expulsion of Spanish Jewry in 1492 and is the result of their subsequent migrations within the Mediterranean and transatlantic worlds. We will start with an introduction into the history of Spanish Jews prior to 1492, asking to what extent memories of pre-expulsion Iberia are at the heart of Sephardi identity. We will then follow the migratory path of Sephardi exiles to North Africa, Italy, the Ottoman Empire, the Netherlands, and the Americas. The questions we will explore include: in what sense did Sephardim form a transnational community? How did they transmit and transform aspects of Spanish culture in form of Ladino (Judeo-Spanish) language and literature? How did they become intermediaries between Christian Europe and the Ottoman Empire? What was their role in Europe's transatlantic expansion and the slave trade? How did Ottoman and North African Jews respond to European cultural trends in the nineteenth century and create their own forms of modernity? How did the Holocaust impact Sephardi Jews?
Same as L75 JIMES 366
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L75 JIMES 56CA Heroes and Saints in India: Religion, Myth, History
This course provides an introduction to the history of modern India and Pakistan through the voices of the Indian subcontinent's major thinkers. We will spend time in the company of saints, from the "great-souled" Mahatma Gandhi to the Sufi scholar Ashraf 'Ali Thanawi, and we will travel alongside the heroes of peasant politics, women's rights, and struggles for national and social freedom and equality. We will immerse ourselves in the rich narrative heritage of India -- as it has been challenged, reworked, and harnessed for present and future needs -- from the 19th century through the present. Lecture and discussion format; prior knowledge of India or Pakistan not required.
Same as L22 History 36CA
Credit 3 units. A&S IQ: HUM, LCD BU: ETH, IS EN: H

L75 JIMES 573 Topics in Near Eastern Cultures: Freedom in the Middle East
The topic for this course will change each semester; the specific topic for each semester will be given in Course Listings.
Same as L75 JIMES 373
Credit 3 units. A&S IQ: HUM, LCD, SD Arch: HUM Art: HUM BU: HUM, IS EN: H

L75 JIMES 577 History of Slavery in the Middle East
This course examines slavery and its abolition in the Middle East and North Africa from 600 C.E. to the 20th Century. It addresses slavery as a discourse and a question of political economy. We begin with an overview of slavery in late antiquity to contextualize the evolution of this practice after the rise of Islam in the region. We then examine how it was practiced, imagined, and studied under major empires, such as the Umayyads, the Abbasids, the Fatimids, the Mamluks, the Ottomans, and the Safavids. In addition to examining the Qur'anic discourse and early Islamic practices of slavery, to monitor change over time we address various forms of household, field, and military slavery as well as the remarkable phenomenon of "slave dynasties" following a chronological order. We discuss, through primary sources, theoretical, religious, and moral debates and positions on slavery, including religious scriptures, prophetic traditions, religious law, and a plethora of narratives from a range of genres. We highlight a distinct theme each week to focus on until we conclude our discussion with the abolition of slavery in the 19th and 20th centuries. Topics of discussion include various forms of male and female slavery, Qur'anic and prophetic discourse on slavery, legal and moral views on slavery, slavery as represented in religious literature, political, military, and economic structures of slavery, issues of race and gender as well as slave writings to reflect on the experiences of slavery from within. The goal is to enable students to understand the histories of slavery in the Middle East and eventually compare it to that of other regions and cultures, such as European and Atlantic slavery. No second language required.
Same as L75 JIMES 377
Credit 3 units. A&S IQ: HUM, LCD, SC Arch: HUM Art: HUM BU: BA, IS EN: H

L75 JIMES 5810 Between Sand and Sea: History, Environment, and Politics in the Arabian Peninsula
Although it is today primarily associated with oil, the Arabian peninsula was for most of its history defined by water: its surrounding seas, its monsoon-driven winds, and its lack of water in its vast and forbidding interior deserts. As home to the major holy cities of Islam and a key source of global oil, the region has played an important role in the Western European and North American imagination. Despite being relatively sparsely populated, the peninsula hosts millions of believers each year on the annual Muslim pilgrimage, and it has been the site of major wars and military occupations by European, American, and other Middle Eastern countries for much of the 20th and 21st centuries. It has been an outpost of the Ottoman Empire, a center of British colonialism and (at Aden) an axis of its global empire, the location of Egypt's "Vietnam" (its long war in Yemen in the 1960s), the Gulf Wars I and II, and the recent wars in Yemen, to name just a few of the major conflicts. Often depicted as unchanging until caught up by the influx of massive oil wealth, this region is frequently characterized as a place of contradictions: home to some of the world's largest skyscrapers and also the most inhospitable and largest sand desert in the world, known as "the Empty Quarter"; the location of crucial American allies and the home of al-Qa'eda founder `Usama Bin Laden. In this course, we will examine the development of the peninsula historically to understand these contradictory images. We will investigate changes in the following arenas: environment and society; colonial occupation; newly independent states; the demise and development of key economic sectors (pearling; shipping; agriculture; oil; finance; piracy); political regimes; resources such as water, oil, and date palms; the growth of oil extraction infrastructure and its effects on the political regimes and societies in the region; the emergence of new Gulf cities; Islamic law; women's rights; human rights debates; and religious and ethnic minorities.
Same as L22 History 3810
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM, IS EN: H

L75 JIMES 584 Intro to Biblical Hebrew
This course will enable students to read the Bible in the original Hebrew. Review of Hebrew grammar. History of the Hebrew language. Intended for students with a foundation in modern Hebrew. PREREQ: Grade of B- or better in L74 214D Intermediate Modern Hebrew II or instructor's permission. Please note: L75 584 is intended for graduate students only.
Same as L74 HBRW 384
Credit 3 units. A&S IQ: LCD, LS BU: HUM EN: H

L75 JIMES 585A Topics in Jewish Studies
Consult Course Listings for current topics. Please note: L75 585A is intended for graduate students only.
Same as L75 JIMES 385
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: IS EN: H

L75 JIMES 585D Topics in Biblical Hebrew Texts: The Book of Isaiah
The topic covered in this course varies. Recent course topics include Jeremiah, The Book of Isaiah, and Biblical Poetry. Prerequisite: Grade of B- or better in L74 384 or permission of instructor. Note: L75 585D is intended for graduate students only.
Same as L74 HBRW 385D
Credit 3 units. A&S IQ: HUM BU: HUM EN: H

L75 JIMES 587 Topics in Jewish Studies
Consult Course Listings for current topics. Please note: L75 587 is intended for graduate students only.
Same as L75 JIMES 387
Credit 3 units. A&S IQ: LCD BU: IS EN: H

L75 JIMES 590A Topics in JIMES: Slow Violence and the Environment in the Modern Middle East
This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests.
Same as L75 JIMES 390
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: IS EN: S

L75 JIMES 591 Directed Writing: Thesis
Credit variable, maximum 6 units.

L75 JIMES 5920 Topics in Classical Arabic Literature in Translation: Animal Fables
Various themes in Arabic religious literature and Belles-Lettres (Adab), e.g., the intertwining of religion and politics, court culture and fashions, social critiques, gender roles, etc., will be read in English.
Same as L49 Arab 470
Credit 3 units. Arch: HUM Art: HUM BU: ETH

L75 JIMES 609 Readings in Jewish History

Same as L22 History 609
Credit variable, maximum 4 units.

L75 JIMES 883 Master's Continuing Student Status

L75 JIMES 885 Masters Nonresident

Islamic and Near Eastern Studies, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36**
- **Degree Length: 4 Semesters / 2 Years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Master of Arts in Islamic and Near Eastern Studies

The AM in Islamic and Near Eastern Studies offers students an opportunity for dedicated interdisciplinary study of the history, literatures and cultures of the Middle East from the Middle Ages to the present. It is designed for students who ideally have some college-level preparation in the field and who wish to deepen their expertise in preparation for a PhD program. It is also well-suited for those planning on professional careers in education, law, publishing, business, government and private agencies whose work touches upon some aspect of Islamic and Near Eastern Studies. Our faculty offer graduate-level instruction in Islamic and Middle Eastern history; Islam in world history; Islamic religion and law; the anthropology of Islam; premodern Muslim political theory and practice; Middle Eastern urban studies; and both classical and modern Arabic literatures. Admission to the AM program normally requires Arabic language proficiency equivalent to one year of college-level study. After a typical two years of courses and prior to receiving the AM degree, students will be expected to have successfully completed third-year Arabic.

Thesis Requirements/Details

Students may elect to graduate *with* or *without* writing a master's thesis. The master's thesis, which is usually about 80 to 100 pages long, represents original work of highly polished quality and is significantly more substantive than a research paper. (For guidelines, please refer to the Master's Thesis Guide issued by the Office of Graduate Studies, Arts & Sciences.) Instead of the thesis, students may decide to (re)submit and defend two significantly revised research papers written in the program, each of which should be at least 30 pages long.

Master's students planning to graduate with a thesis:

First Year

- *End of spring semester:* Approach a primary thesis advisor (who may be, but does not have to be, the academic advisor)

Second Year

- *Fall and spring semesters:* Enroll in JIMES 591 Directed Writing: Thesis
- *First week of spring semester:* Confirm, in conversation with the academic advisor, a thesis committee of three readers, and schedule the oral defense
- *Friday before spring break:* Final draft of the thesis due to the thesis advisor
- *End of March to early April:* Oral defense

Master's students planning to graduate without a thesis:

Second Year

- *First week of fall semester:* Meet with advisor to discuss graduation plans
- *First week of spring semester:* Meet with advisor to determine the two research papers, select the three members of the defense committee, agree on submission deadlines, and schedule the defense
- *End of March to early April:* Oral defense

Required Courses

- A minimum of 36 credits from graduate-level courses, which may include up to 6 units transferred from another institution (**Note:** First- or second-year language classes do not count toward these 36 credits.)
- The successful completion of third-year Arabic
- The ability to use Arabic source material and scholarly articles as demonstrated in at least one major seminar paper
- A second major seminar/research paper to be written either in a second seminar or in an independent study supervised by one of the faculty associated with the program (**Note:** Students have the option of writing a master's thesis in place of the two major research papers.)
- At the end of their program of study, the successful completion of an oral examination, lasting no more than one hour, based on either the two research papers submitted (and revised) for this purpose or the master's thesis

Minimum Grade Requirement: B-

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Jewish Studies, AM

Master's Candidacy

To earn a master’s degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master’s degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master’s Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36**
- **Degree Length: 4 Semesters / 2 Years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Master of Arts in Jewish Studies

The AM in Jewish Studies offers students an opportunity for dedicated interdisciplinary study of the history, literatures and cultures of the Jewish people from biblical to modern times. It is designed for students who have some college-level preparation in the field and who wish to deepen their expertise in preparation for a PhD program. It is also well-suited for those planning on professional careers in areas such as education, law, publishing, business or social work. Our faculty offer graduate-level instruction in the Hebrew Bible; rabbinic Judaism and its sources; medieval, early modern, and modern Jewish history in both Europe and the Middle East; Jewish-Muslim encounters; premodern and modern Hebrew and Jewish literature; and Israeli culture. Applicants to the AM program must show Hebrew language proficiency equivalent to at least one year of college-level study. At the end of two years of courses and prior to receiving the AM degree, students will be expected to have successfully completed third-year Hebrew.

Thesis Requirements/Details

Students may elect to graduate *with* or *without* writing a master's thesis. The master's thesis, which is usually about 80 to 100 pages long, represents original work of highly polished quality and is significantly more substantive than a research paper. (For guidelines, please refer to the Master's Thesis Guide issued by the Office of Graduate Studies, Arts & Sciences.) Instead of the thesis, students may decide to (re)submit and defend two significantly revised research papers written in the program, each of which should be at least 30 pages long.

Master's students planning to graduate with a thesis:

First Year

- *End of spring semester:* Approach a primary thesis advisor (who may be, but does not have to be, the academic advisor)

Second Year

- *Fall and spring semesters:* Enroll in JIMES 591 Directed Writing: Thesis
- *First week of spring semester:* Confirm, in conversation with the academic advisor, a thesis committee of three readers, and schedule the oral defense
- *Friday before spring break:* Final draft of the thesis due to the thesis advisor
- *End of March to early April:* Oral defense

Master's students planning to graduate without a thesis:

Second Year

- *First week of fall semester:* Meet with advisor to discuss graduation plans
- *First week of spring semester:* Meet with advisor to determine the two research papers, select the three members of the defense committee, agree on submission deadlines, and schedule the defense
- *End of March to early April:* Oral defense

Required Courses

- A minimum of 36 credits from graduate-level courses, which may include up to 6 units transferred from another institution (**Note:** First- and second-year language classes do not count toward these 36 credits.)
- The successful completion of third-year Hebrew
- The ability to use Hebrew source material and scholarly articles as demonstrated in at least one major seminar paper
- A second major seminar/research paper to be written either in a second seminar or in an independent study supervised by one of the faculty associated with the program (**Note:** Students have the option of writing a master's thesis in place of the two major research papers; please refer to Policies and Timelines Applying to Both MA Programs on the Jewish, Islamic, and Middle Eastern Studies website.)
- At the end of the program of study, the successful completion of an oral examination, lasting no more than one hour, based on either the two research papers submitted (and revised) for this purpose or the master's thesis

Minimum Grade Requirement: B-

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Latin American Studies

The **Graduate Certificate in Latin American Studies** offers Washington University students the opportunity to pursue a multidisciplinary focus on this region of the world while completing their PhD degree. The certificate combines discipline-based learning

with cultural studies, thus allowing for a rigorous approach to Latin America's social, economic, and political history. At the same time, students are exposed to new theories and current debates on the topics of nation formation, governance, colonialism, development, regionalism, public health, modernization, globalization, and neoliberalism.

At the national level, programs in Latin American Studies date back to the late 1940s, when the area studies paradigm became central to the internationalization of academic focus in the context of the Cold War. Today, as globalization has made internationalization an even more pressing concern, Latin American Studies is part of a new need for the better understanding of other world regions. In fact, Latin American countries consistently play an important role within the intellectual and political spheres of the United States. Latin America is the single largest source of immigrants to the United States today. It contains the third-largest trade partner of the United States (Mexico); one of the most vibrant emergent economies in the world (Brazil); countries that have been at the core of U.S. foreign policy for decades (Colombia, Venezuela, Cuba, and the Andean region, for instance); and a vibrant population and culture that are increasingly the focus of U.S. students.

Application

Students are required to apply to be considered for the certificate program. Their applications are evaluated by the Graduate Certificate Committee. This application is submitted at the beginning of the student's doctoral courses in Arts & Sciences and requires a support letter from the director of graduate studies of the student's PhD home department or program. The chair of the Graduate Certificate Committee will forward recommendations for admission to the Office of Graduate Studies, Arts & Sciences, for final approval. All applicants to the certificate program are expected to be in good academic standing as defined by the Office of Graduate Studies, Arts & Sciences.

Contact:	Professor Ignacio Sánchez Prado
Phone:	314-935-5175
Email:	isanchez@wustl.edu
Website:	http://lasprogram.wustl.edu

Faculty

Core Faculty

Mabel Moraña
William H. Gass Professor in Arts & Sciences
PhD, University of Minnesota
(Romance Languages and Literatures)

Ignacio Sánchez Prado
Jarvis Thurston and Mona Van Duyn Professor in the Humanities
PhD, University of Pittsburgh
(Romance Languages and Literatures)

Eliza Williamson
Lecturer
PhD, Rice University
(Latin American Studies; Romance Languages and Literatures)

Faculty with Courtesy Appointments

Bret Gustafson
Professor
PhD, Harvard University
(Anthropology)

Ila Sheren
Associate Professor
PhD, Massachusetts Institute of Technology
(Art History and Archaeology)

Miguel Valerio
Assistant Professor
PhD, Ohio State University
(Romance Languages and Literatures)

Faculty Specialized in Latin America

William Acree
Professor
PhD, University of North Carolina at Chapel Hill
(Romance Languages and Literatures)

Sarah Baitzel
Assistant Professor
PhD, University of California, San Diego
(Anthropology)

J. Andrew Brown
Professor
PhD, University of Virginia
(Romance Languages and Literatures)

Rebecca Clouser
Lecturer
PhD, Indiana University
(International and Area Studies)

Brian Crisp
Professor
PhD, University of Michigan
(Political Science)

Javier García-Liendo
Associate Professor
PhD, Princeton University
(Romance Languages and Literatures)

Steven Hirsch
Professor of Practice
PhD, George Washington University
(International and Area Studies)

Stephanie Kirk
Professor
PhD, New York University
(Romance Languages and Literatures)

Tabea Linhard
Professor
PhD, Duke University
(Romance Languages and Literatures)

Diana Montaño
Assistant Professor
PhD, University of Arizona
(History)

Christina Ramos
Assistant Professor
PhD, Harvard University
(History)

Guillermo Rosas
Professor
PhD, Duke University
(Political Science)

Elzbieta Sklodowska
Randolph Family Professor in Arts & Sciences
PhD, Washington University
(Romance Languages and Literatures)

Professors Emeriti

David L. Browman
PhD, Harvard University
(Anthropology)

Pedro C. Cavalcanti
PhD, University of Warsaw
(Anthropology)

David Freidel
PhD, Harvard University
(Anthropology)

John F. Garganigo
PhD, University of Illinois
(Romance Languages and Literatures)

Joseph Schraibman
PhD, University of Illinois
(Romance Languages and Literatures)

Richard J. Walter
PhD, Stanford University
(History)

Degree Requirements

- Latin American Studies, Graduate Certificate (p. 294)

Courses

Visit online course listings to view semester offerings for L45 LatAm.

L45 LatAm 512 Studies in Literature of 16th and 17th Centuries: Colonial Masculinities /Masculinidades Coloniales
Same as L38 Span 512
Credit 3 units.

L45 LatAm 525 Latin American Studies Research
For LAS students who are completing a research project.
Same as L45 LatAm 425
Credit 3 units.

L45 LatAm 537 The Production of Culture: Jos Mara Arguedas and the Migrating Andes
Taking the oeuvre of writer, folklorist, and anthropologist José María Arguedas as a case study, this graduate seminar will examine the way 20th-century intellectuals dealt with material transformations in the production and circulation of cultures in the Andean region. Through the analysis of literary texts, ethnographies, journalism, practices of cultural promotion and recordings, we will explore the role of orality, writing and other, more recent technologies (such as the voice recorder, the radio, and music records), as well as that of capitalist markets and cultural commodification, in the configuration of public spheres in the Andes. Similarly, we will analyze the impact of the emergence of said public spheres on the imaginaries and materialities of nation, ethnicity, and the political dimension of culture. Conceptualizing immigration and urbanization as the key historical processes for our case study, the seminar will offer a historical and theoretical framework for understanding the transformations. rural and urban cultures in the Andean region region underwent during the past century, paying close attention to the classical debates these transformation generated in the field of Andean studies. This seminar will have a strong interdisciplinary appproach, combining topics such as cultural production, intellectual and cultural history, media studies, culture history, and public sphere. Readings in English and Spanish; course taught in Spanish. Prereq: Graduate standing.
Same as L38 Span 537
Credit 3 units.

L45 LatAm 538 Literature and Modernity in 20th-Century Mexico
This class will develop a critical reading of the literary history of Mexico from the late Porfiriato to the year 2000. The course will focus on the way in which different genres (novel, short story, essay, chronicle, poetry) engage with four different moments of capitalist modernization in Mexico: The Porfirian reforms, the Mexican Revolution, the "Mexican Miracle" of the 1950s and 1960s and Neoliberalism. Each session will engage in the comparative study of representative texts of two and three authors, with key works of theory and criticism, in order to understand phenomena such as cultural mediation, ideology, urbanization, technology, national identity, cosmopolitanism and the construction of literary institutions. Authors and movements include late MODERNISMO, the stridentist movement, Octavio Paz, Juan Rulfo, José Revueltas, the CASA DE LAGO movement, LA ONDA and the CRACK group. Prereq: Graduate Standing. In Spanish.
Same as L38 Span 538
Credit 3 units.

L45 LatAm 540 Baroque Intellectuals: Sor Juana Ines de la Cruz and Siguenza y Gongora
The multifaceted intellectual and literary production of Sor Juana Inés de la Cruz and Carlos de Sigüenza y Góngora dominates the cultural landscape of seventeenth -century colonial Mexico. In this class we will examine representative works from both of these authors, addressing a wide variety of genres - history, theology, poetry, theater, scientific writing, autobiography and biography - to plot the contours of elite baroque culture. In bringing these two authors together in one class we will be able to examine in detail the preoccupations of these baroque intellectuals - their inferior status as criollos (Mexicans of pure Spanish descent), the challenges involved in disseminating their works, as well as the difficulties imposed by an absolutist state and orthodox

religious power structure. We will also focus on the differences in their works and lives that sprang from their respective genders, taking a close look at the production of femininity and masculinity in colonial Mexico. This class will also strive to create a detailed socio-cultural and historical context in which to place the works of these two figures. Primary texts will include Paraíso occidental, Respuesta a Sor Filotea de la Cruz, Autodefensa espiritual, Infortunios de Alonso Ramírez, Teatro de virtudes políticas, Neptuno alegórico, Libra astronómica, Carta Atenagórica, as well as a selection of Sor Juana's poetry and villancicos. Secondary sources will include works by Foucault, Paz, Moraña, Merrim, More, Glantz and Ross. Graduate standing. In Spanish.
Same as L38 Span 540
Credit 3 units.

L45 LatAm 5549 Art of Mexico
This survey course draws from selected examples of art and architecture to tell the changing story of Mexico. Beginning with the Aztec and ending with contemporary works, this course chronologically traces artistic manifestations of beliefs, politics, and placemaking. Through movements, revolutionary moments, individuals, and trends, the course creates a portrait of Mexico that is multicultural, dynamic, and creative. Course themes include international relationships, diversity, identity, and politics. Prerequisites: L01 113, Intro to Western Art; L01 215, Intro to Modern Art; L45 165; or permission of instructor.
Same as L01 Art-Arch 3549
Credit 3 units. A&S IQ: HUM, LCD Art: AH, GFAH BU: IS EN: H

L45 LatAm 5631 The Binational Condition: The Mexico-U.S. Relationship in Mexican History and Culture
From the 19th century onwards, the relationship between Mexico and the United States has been defined by intense tensions and contradictions. Closely intertwined by geopolitical engagement and integrations, mutual migration flows, and rich cultural exchange, both countries belong to a binational system with few equivalents around the world, which defines the lives of people living across North America. And yet, few people in the United States have access to a clear and rigorous understanding of the Southern neighbor, often leading to conflict at the political and social levels. This class explores this historically, from the early frictions caused by territory and slavery to the binational conditions of the present. The class emphasizes the Mexican perspective of the relationship, often erased in discussions from the U.S. From this perspective, the course will engage critical moments in the history of the relationships, such as the underground railroad to the South, the Mexican American War, the Guadalupe Hidalgo treaty, and the Cold War. The class will also discuss the ways in which Mexico has influenced the United States culturally, from the impact of Mexican post-Revolutionary art in the New Deal to the rise of film directors like Alfonso Cuarón and Gullermo del Toro. Finally, the class will lay out the ways in which Mexicans and scholars of Mexican studies think about questions such as regional development, the border, immigration, and the Drug War. Prereq. L45 165D or prior coursework on Global Studies, Latin American Studies or American Studies. The course covers the seminar requirement for majors and minors in Latin American Studies.
Same as L45 LatAm 4631
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: ETH, IS EN: H

L45 LatAm 564 Nation and Desire in Latin America
The purpose of this course is to analyze the process of nation formation in Latin America, since the imaginaries of the "Creole nation" to the first half of the 20th century. Class discussion will encompass the study of theories on nation formation and nationalism as well as textual representations of national projects, such as Simon Bolivar' letters and discourses, selections from Facundo, Civilization and Barbarism by Domingo F. Sarmiento, selected texts by Andres Bello, Alfonso Reyes, et al, Ariel, by J. E. Rodo, Pedro Henriquez Urena's Seis ensayos en busca de nuestra expresion, Jose Vasconcelos' La raza cosmica, Jose Carlos Mariategui, Siete ensayos de interpretacion de la realidad peruana, Jose Marti's Nuestra America and other essays. Some of the main topics to be discussed are the leading role of Creole elites in the consolidation of national cultures, the marginalization of women as well as indigenous and Afro-Hispanic populations, and the role of nationalism in the shaping of modern societies. Colonialism, Occidentalism, liberalism, positivism, nationalism and modernity are some of the concepts that will be explored both theoretically and in their particular discursive usages. Finally, the concept of nation(alism) will be studied as a political/rhetorical device and as the resulting expression of agency, interest, and desire, in peripheral societies.
Same as L45 LatAm 464
Credit 3 units. A&S IQ: HUM BU: IS EN: H

L45 LatAm 5691 Citizenship in the Hot Seat. Migration and Borders in Latin America
This course is an introduction to concepts, interpretations, and debates related to different forms of human mobilization across borders, particularly in contemporary Latin America. However, class discussions will expand to other scenarios in order to contextualize the experience and characteristics of migration today. Some of the notions to be analyzed in connection to this topic are freedom of movement, citizenship, inequality, the labor market, borders, territoriality, and national security. Borders will be studied as material constructions (i.e., walls, wire fences, technological surveillance, funnel systems, and strategies of deterrence) and as conceptual/symbolic representations. In addition to migratory movements, other phenomena such as diaspora, exile, and forced displacements will also be introduced as they have developed in Latin America. Cultural and psychological aspects related to migratory experiences -- such as the role of memory and affect, individual and collective trauma, social effects of deportation, stereotyping, the role of race and gender, and so on -- will also be considered, as they constitute integral aspects of migratory studies. The course will be conducted in English as a combination of lectures, student presentations, and collective discussions of assigned readings. Fulfills the seminar requirement for Latin American Studies majors and minors. Prerequisite: L45 165D.
Same as L45 LatAm 4691
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: BA, IS EN: H

L45 LatAm 5885 Advanced Seminar: Medicine, Disease and Empire
This course examines the history of medicine in connection to the politics of colonialism and empire-building, spanning the sixteenth century through the twentieth century. Topics covered include: epidemic disease outbreaks (e.g. smallpox, cholera, malaria); the role of science and medicine in endorsing the "civilizing missions" of empires; tropical climates and tropical diseases as western constructs; tensions between western medicine and indigenous healing practices and beliefs; ideas of race and racism in science and medicine; modern advancements in sanitation and public health and their implementation overseas; and the historical roots of the modern global health movement.
Same as L22 History 4885
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM BU: HUM, IS EN: H

Latin American Studies, Graduate Certificate

Certificate Candidacy

To earn a graduate certificate at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. Graduate certificates are not standalone programs and are only available to current students in applicable graduate programs. Thus, graduate certificates are conferred at the same time as the student's primary graduate program.

Program Requirements

- **Total Units Required: 15**
- **Certificate Length: Units must be completed during the course work period of the student's home program.**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
- **Minimum grade requirements:** Students must obtain a minimum grade of B- in graduate courses for them to count toward the degree (certificate). Students are expected to maintain a cumulative grade point average of 3.0 on a 4.0 scale.

Required Courses

Students interested in earning the Graduate Certificate in Latin American Studies must complete 15 graduate units; 6 of those units may also count toward the PhD requirements with the prior approval of the PhD home department director of graduate studies. The graduate certificate is awarded concurrently with the PhD degree. Students in the Latin American Studies graduate certificate program must fulfill all requirements of the PhD required by their respective home departments and the Office of Graduate Studies, Arts & Sciences, in addition to the following certificate requirements:

Complete a total of 15 graduate credits:

- 3 credits from one Latin American Studies program core course
- 3 credits from one 500-level course from the Latin American Studies core program
- 9 credits from three Latin American Studies program–related courses in at least two departments or schools outside the student's major department

Other requirements:

- Students must have proven proficiency in Spanish or Portuguese in accordance with the guidelines established by the Department of Romance Languages and Literatures.
- Students must spend at least one summer abroad conducting research in Latin American Studies.
- Students must participate actively in the Latin American Colloquium for at least one semester. This participation is to include the presentation of a research paper, which should ideally result from the summer research mentioned above.

Contact:	Professor Ignacio Sánchez Prado
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Liberal Arts

Note: This program is moving from CAPS to Arts & Sciences in Summer 2024. Please email Program Coodinator Karen Skinner *(k.skinner@wustl.edu) for more information.*

The **Master of Liberal Arts** (MLA) program fosters intellectual breadth through courses that address a broad range of cultural issues from different academic perspectives. Students may explore questions of identity through art, literature, and religion. They may analyze the politics of race in fiction, historical documents, the visual arts, and music. They may debate ethical choices presented by fiction writers, jurists, philosophers, and scientists from antiquity through to the present. MLA seminars examine literary, artistic, and cinematic masterpieces; historic moments of discovery and change; traditions of thought; cultural differences; and civic responsibilities.

MLA students sharpen their thinking about contemporary values and choices through courses that ask them to reflect on the individual's relationship to society, technology, and the spread of ideas, challenges to freedom, inspiration, and creativity.

Students pursue course work and independent research with Washington University scholars from a number of academic disciplines, including architecture, art, film, history, literature, music, philosophy, religion, and science.

The MLA program emphasizes critical thinking and inquiry, close reading, intensive writing, and problem solving, all of which are hallmarks of a liberal arts education and essential skills for a range of professional contexts.

Contact:	Dr. Karen Skinner, Program Coordinator
Email:	k.skinner@wustl.edu

Degree Requirements

- Liberal Arts, MLA (p. 295)

Liberal Arts, MLA (Part-Time)

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 30 units**
- **Degree length: 3 years maximum**

Master of Liberal Arts

Required Courses

Students complete 30 units total, including at least 15 units of core MLA interdisciplinary seminars and a final research project that typically earns 3 credits.

Core MLA Seminars

The MLA program consists of seminars that introduce students to the methods and questions of different disciplines. These seminars cover a wide variety of topics and issues.

Some students take all required courses in the seminars that are designed specifically for the MLA program; others augment a particular interest by taking related courses drawn from different departments with MLA program approval.

Final Project

A 3-credit final research project, developed under the supervision of an approved instructor, is required for the Master of Liberal Arts degree. This project presents an opportunity for the student to independently and extensively explore an area of personal interest; it must be completed at the conclusion of a student's course work. Under special circumstances and with permission, some students complete a final project that comprises two semesters of research and writing for 6 units of credit.

Contact:	Dr. Karen Skinner, Program Coordinator
Email:	k.skinner@wustl.edu

Mathematics

The Department of Mathematics offers one master's degree in mathematics and one doctoral degree in mathematics. The areas of study for mathematics include algebra, algebraic geometry, real and complex analysis, differential geometry, and topology. Because it is difficult to make up coherent programs for students entering in the middle of the year, students are ordinarily admitted only in the fall.

When they first arrive, graduate students have the opportunity to share common concerns and to become acquainted. One of the most attractive features of our program is the friendly and supportive atmosphere that develops among our graduate students. Advanced courses in the Washington University Mathematics department can build on the common background shared by all students. As a result, these courses are richer and nearer to the level of PhD work than typical advanced courses.

Students typically complete the PhD program in five years, and those students may expect up to five years of support. Continuation of support each year is dependent upon normal progress toward the degree and the satisfactory performance of duties. A student who comes to Washington University with advanced preparation may finish in less time. On the other hand, some students find that it is advisable for them to take preparatory math courses before attempting the qualifying courses. In special cases, the time schedule may be lengthened accordingly. Each student should plan to develop a close relationship with their thesis advisor so that the advisor may have a realistic idea of the student's progress.

Graduate study in mathematics is not for everyone. Entering students usually find that the time and effort required to succeed goes well beyond anything they encountered as undergraduates. Success requires both ample mathematical ability and the determination to grapple with a subject for many days or weeks until the light of understanding shines through, and the experience can be daunting. Those who continue in their studies are largely those for whom the pleasure of attaining that understanding more than compensates for the required effort. For such persons, the life of a mathematician can be richly rewarding.

Email: Gregory Knese, Director of Graduate Studies (geknese@wustl.edu), or Mary Ann Stenner (stenner@wustl.edu)

Phone:	314-935-6760
Website:	https://math.wustl.edu/graduate

Faculty

Chair

John Shareshian
Professor
PhD, Rutgers University
Algebraic and topological combinatorics

Director of Graduate Studies

Gregory Knese
Professor
PhD, Washington University
Complex function theory; operators; harmonic analysis

Director of Undergraduate Studies

Ari Stern
Professor
PhD, California Institute of Technology
Geometric numerical analysis; computational mathematics

Associate Director of Undergraduate Studies

Blake Thornton
Teaching Professor
PhD, University of Utah
Geometric topology

Department Faculty

Roya Beheshti Zavareh
Professor
PhD, Massachusetts Institute of Technology
Algebraic geometry

Alan Chang
Assistant Professor
PhD, University of Chicago
Geometric measure theory; harmonic analysis

Quo-Shin Chi
Professor
PhD, Stanford University
Differential geometry

Lawrence Conlon
Emeriti Professor
PhD, Harvard University
Differential topology

Aliakbar Daemi
Assistant Professor
PhD, Harvard University
Gauge theory; low-dimensional topology; symplectic geometry

Laura Escobar Vega
Associate Professor
PhD, Cornell University
Combinatorics; algebraic geometry

Renato Feres
Professor
PhD, California Institute of Technology
Differential geometry; dynamical systems

Steven Frankel
Associate Professor
PhD, University of Cambridge
Geometric topology; dynamics

Ron Freiwald
Emeriti Professor
PhD, University of Rochester
General topology

Andrew Walton Green
William Chauvenet Postdoctoral Lecturer
PhD, Clemson University
Harmonic analysis; partial differential equations

Gary R. Jensen
Emeriti Professor
PhD, University of California, Berkeley
Differential geometry

Silas Johnson
Senior Lecturer
PhD, University of Wisconsin–Madison
Algebraic number theory; arithmetic statistics

Matt Kerr
Professor
PhD, Princeton University
Algebraic geometry; Hodge theory

Steven G. Krantz
Professor
PhD, Princeton University
Several complex variables; geometric analysis

N. Mohan Kumar
Emeriti Professor
PhD, Bombay University
Algebraic geometry; commutative algebra

Wanlin Li
Assistant Professor
PhD, University of Wisconsin–Madison
Number theory; arithmetic geometry

Henri Martikainen
Associate Professor
PhD, University of Helsinki, Finland
Harmonic analysis; geometric measure theory

John E. McCarth
Spencer T. Olin Professor of Mathematics
PhD, University of California, Berkeley
Analysis; operator theory; one and several complex variables

Minh Nguyen
Postdoctoral Lecturer
PhD, University of Arkansas
Gauge theory; low dimensional topology

Charles Ouyang
Assistant Professor
PhD, Rice University
(Higher) Teichmuller theory; Riemann surfaces; harmonic maps and minimal surfaces

Martha Precup
Associate Professor
PhD, University of Notre Dame
Applications of Lie theory to algebraic geometry and the related combinatorics

Donsub Rim
Assistant Professor
PhD, University of Washington
Applied mathematics

Rachel Roberts
Elinor Anheuser Professor of Mathematics
PhD, Cornell University
Low-dimensional topology

Richard Rochberg
Emeriti Professor
PhD, Harvard University
Complex analysis; interpolation theory

Angel Roman
Postdoctoral Lecturer
PhD, Pennsylvania State University
Representation theory; operator algebras

Jesus Sanchez
Postdoctoral Lecturer
PhD, Pennsylvania State University
Noncommutative index theory; cyclic cohomology; spin Riemannian geometry; high-dimensional gauge theory

Karl Schaefer
Lecturer
PhD, University of Chicago
Algebraic number theory

Jack Shapiro
Emeriti Professor
PhD, City University of New York
Algebraic K-theory

Edward Spitznagel
Emeriti Professor
PhD, University of Chicago
Statistics; statistical computation; application of statistics to medicine

Yanli Song
Associate Professor
PhD, Pennsylvania State University
Noncommutative geometry; symplectic geometry; representation theory

Xiang Tang
Professor
PhD, University of California, Berkeley
Symplectic geometry; noncommutative geometry; mathematical physics

Joel Villatoro
Postdoctoral Lecturer
PhD, University of Illinois at Urbana-Champaign
Differential geometry; Poisson geometry; singular spaces

Brett Wick
Professor
PhD, Brown University
Complex analysis; harmonic analysis; operator theory; several complex variables

Mladen Victor Wickerhauser
Professor
PhD, Yale University
Harmonic analysis; wavelets; numerical algorithms for data compression

Edward N. Wilson
Emeriti Professor
PhD, Washington University
Harmonic analysis; differential geometry

David Wright
Emeriti Professor
PhD, Columbia University
Affine algebraic geometry; polynomial automorphisms

Jay Yang
Postdoctoral Lecturer
PhD, University of Wisconsin–Madison
Commutative algebra; algebraic geometry

Degree Requirements

- Mathematics, AM (p. 300)
- Mathematics, PhD (p. 301)

Courses

Visit online course listings to view semester offerings for L24 Math.

L24 Math 501C Theoretical Physics
The first part of a two-semester course reviewing the mathematical methods essential for the study of physics. Theory of functions of a complex variable, residue theory; review of ordinary differential equations; introduction to partial differential equations; integral transforms. Prerequisite: undergraduate differential equations (Math 217), or permission of instructor.
Same as L31 Physics 501
Credit 3 units.

L24 Math 5021 Complex Analysis I
An intensive course in complex analysis at the introductory graduate level. Math 5021 and Math 5022 form the basis for the Ph.D. qualifying exam in complex analysis. Prerequisite: Math 4111, 4171 and 4181, or permission of the instructor.
Credit 3 units.

L24 Math 5022 Complex Analysis II
Continuation of Math 5021. Prerequisite, Math 5021 or permission of intstructor.
Credit 3 units.

L24 Math 502C Methods of Theoretical Physics II
Continuation of Phys 501. Introduction to function spaces; self-adjoint and unitary operators; eigenvalue problems, partial differential equations, special functions; integral equations; introduction to group theory. Prerequisite: Phys 501, or permission of instructor.
Same as L31 Physics 502
Credit 3 units.

L24 Math 5031 Algebra I
An introductory graduate level course on the basic structures and methods of algebra. Detailed survey of group theory including the Sylow theorems and the structure of finitely generated Abelian groups, followed by a study of basic ring theory and the Galois theory of fields. Math 5031 and Math 5032 form the basis for the Ph.D. qualifying exam in algebra. Prerequisite: Math 430 or the equivalent, or permission of the instructor.
Credit 3 units.

L24 Math 5032 Algebra II
Continuation of Math 5031. Prerequisite: Math 5031 or permission of instructor.
Credit 3 units.

L24 Math 5041 Geometry I
Introductory graduate level course including differential calculus in n-space; differentiable manifolds; vector fields and flows; differential forms and calculus on manifolds; elements of Lie groups and Lie algebras; Frobenius theorem; elements of Riemannian geometry. Math 5041 and Math 5042 (or 5043) form the basis for the Ph.D. qualifying exam in geometry / topology. Prerequisites: Math 4121, 429, and 4181, or permission of the instructor.
Credit 3 units.

L24 Math 5042 Geometry II
Continuation of Math 5041. Math 5042 and Math 5043 are offered in alternate spring semesters as a sequel to Math 5041. Prerequisite: Math 5041 or permission of instructor.
Credit 3 units.

L24 Math 5045 Geometry/Topology I: Algebraic Topology
An introductory graduate-level course in algebraic topology, including fundamental groups, covering spaces, homology, and cohomology. Prerequisites: undergraduate courses in abstract algebra and point-set topology or permission from the instructor. Replaces 5043.
Credit 3 units.

L24 Math 5046 Geometry/Topology II: Differential Topology
An introductory graduate-level course in the topology of smooth manifolds and vector bundles. Prerequisites: Math 5045 (GT I: Algebraic Topology) or permission from the instructor. Replaces 5041.
Credit 3 units.

L24 Math 5047 Geometry/Topology III: Differential Geometry
An introductory graduate-level course in the geometry of smooth manifolds and vector bundles. Prerequisites: Math 5046 (Geometry/ Topology II: Differntial Topology) or permission from the instructor. Replaces 5042.
Credit 3 units.

L24 Math 5051 Measure Theory and Functional Analysis I
Introductory graduate level course including the theory of integration in Euclidean and abstract spaces, and an introduction to the basic ideas of functional analysis. Math 5051 and Math 5052 form the basis for the Ph.D. qualifying exam in real analysis. Prerequisites: Math 4111, 4171, and 4181, or permission of the instructor.
Credit 3 units.

L24 Math 5052 Measure Theory and Functional Analysis II
Continuation of Math 5051. Prerequisite: Math 5051 or permission of instructor.
Credit 3 units.

L24 Math 510 Introduction to Fourier Series and Integrals
The basic theory of Fourier series and Fourier integrals including different types of convergence. Applications to certain differential equations. Prerequisites: Math 4111 or permission of instructor.
Same as L24 Math 410
Credit 3 units. A&S IQ: NSM

L24 Math 5101 Introduction to Analysis
The real number system and the least upper bound property; metric spaces (completeness, compactness, and connectedness); continuous functions (in R^n; on compact spaces; on connected spaces); C(X) (pointwise and uniform convergence; Weierstrass approximation theorem); differentiation (mean value theorem; Taylor's theorem); the contraction mapping theorem; the inverse and implicit function theorems. Prerequisite: Math 310 or permission of instructor.
Same as L24 Math 4111
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L24 Math 5102 Introduction to Lebesgue Integration
Riemann integration; measurable functions; measures; Lebesgue measure; the Lebesgue integral; integrable functions; L^p spaces; modes of convergence; decomposition of measures; product measures. Prerequisite: Math 4111 or permission of the instructor.
Same as L24 Math 4121
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L24 Math 515 Theory of Partial Differential Equations I
A rigorous mathematical study of topics in partial differential equations. Prerequisites: Math 5051 and Math 5052 or equivalent. Some knowledge of complex analysis will also be useful. No prior knowledge of partial differential equations is required.
Credit 3 units.

L24 Math 516 Theory of Partial Differential Equations II
Credit 3 units.

L24 Math 5160 Complex Variables
Analytic functions, elementary functions and their properties, line integrals, the Cauchy integral formula, power series, residues, poles, conformal mapping and applications. Prereq: Math 310 and (Math 318 or Math 4111), or permission of instructor.
Same as L24 Math 416
Credit 3 units. A&S IQ: NSM Art: NSM

L24 Math 517 Hilbert Spaces I
Credit 3 units.

L24 Math 518 Hilbert Spaces II
Credit 3 units.

L24 Math 519 Harmonic Analysis I
Credit 3 units.

L24 Math 520 Harmonic Analysis II
Credit 3 units.

L24 Math 5201 Topology I
An introduction to the most important ideas of topology. Course includes necessary ideas from set theory, topological spaces, subspaces, products and quotients, compactness and connectedness. Some time is also devoted to the particular case of metric spaces (including topics such as separability, completeness, completions, the Baire Caregory Theorem, and equivalents of compactness in metric spaces). Prerequisite: Math 4111 or permission of instructor.
Same as L24 Math 4171
Credit 3 units. A&S IQ: NSM Art: NSM

L24 Math 5202 Topology II
A continuation of Math 4171 featuring more advanced topics in topology. The content may with each offering. Prerequisite: Math 4171, or permission of instructor.
Same as L24 Math 4181
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L24 Math 521 Topics in Complex Variables I
Credit 3 units.

L24 Math 522 Topics in Complex Variables II
Credit 3 units.

L24 Math 523 Topics in Analysis
Analytic Combinatiorics
Credit 3 units.

L24 Math 523C Information Theory
Discrete source and channel model, definition of information rate and channel capacity, coding theorems for sources and channels, encoding and decoding of data for transmission over noisy channels. Corequisite: ESE 520.
Same as E35 ESE 523
Credit 3 units. EN: BME T, TU

L24 Math 527 Functional Analysis I
Credit 3 units.

L24 Math 528 Topics in Functional Analysis II
Credit 3 units.

L24 Math 5301 Linear Algebra
This course is an introduction to the linear algebra of finite-dimensional vector spaces. It includes systems of equations, matrices, determinants, inner product spaces, and spectral theory. Prerequisite: Math 310 or permission of instructor. Math 309 is not an explicit prerequisite, but students should already be familiar with such basic topics from matrix theory as matrix operations, linear systems, row reduction, and Gaussian elimination. (Material on these topics in early chapters of the text will be covered very quickly.)
Same as L24 Math 429
Credit 3 units. A&S IQ: NSM Art: NSM

L24 Math 5302 Modern Algebra
Introduction to groups, rings, and fields. Includes permutation groups, group and ring homomorphisms, field extensions, connections with linear algebra. Prerequisite: Math 310, Math 429 or permission of the instructor.
Same as L24 Math 430
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L24 Math 535 Topics in Combinatorics
Credit 3 units.

L24 Math 537 Topics in Algebra I
Credit 3 units.

L24 Math 538 Topics in Algebra II
Credit 3 units.

L24 Math 539 Topics in Algebraic Geometry
Selected topics in algebraic geometry.
Credit 3 units.

L24 Math 5392 Topics in Algebraic Geometry II
Credit 3 units.

L24 Math 541 Topics in Applied Mathematics
Topic and prerequisites vary with each offering of the course.
Credit 3 units.

L24 Math 543 Geometry and Manifold Theory I
Credit 3 units.

L24 Math 544 Topics in Geometry and Manifold Theory II
Credit 3 units.

L24 Math 545 Topics in Riemannian Geometry I
Credit 3 units.

L24 Math 546 Topics in Riemannian Geometry II
Credit 3 units.

L24 Math 547 Topics in Geometry
An introduction to Geometric Group Theory, concentrating on the theory of hyperbolic groups and group boundaries.
Credit 3 units.

L24 Math 550 Topics in Number Theory: Analytic Number Theory
The course will develop analytic methods for problems which occur in algebraic number theory and algebraic geometry. We will consider Riemann zeta function, Dirichlet L-functions, multiple zeta functions, multiple DirichetL-functions (according to Manin), polylogarithms, reciprocity laws on curves and surfaces and multiple Dedekind zeta functions. Prerequisite: Permission of Instructor
Credit 3 units.

L24 Math 5501 Numerical Applied Mathematics
Computer arithmetic, error propagation, condition number and stability; mathematical modeling, approximation and convergence; roots of functions; calculus of finite differences; implicit and explicit methods for initial value and boundary value problems; numerical integration; numerical solution of linear systems, matrix equations, and eigensystems; Fourier transforms; optimization. Various software packages may be introduced and used. Prerequisites: Math 217 or 312, Math 309, Math 310 and CSE 131 (or other computer background with permission of the instructor).
Same as L24 Math 449
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L24 Math 5502 Topics in Applied Mathematics
Topic may vary with each offering of the course. Prerequisite: CSE 131 and, Math 449, or permission of the instructor.
Same as L24 Math 450
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L24 Math 5560 Topics in Financial Mathematics
An introduction to the principles and methods of financial mathematics, with a focus on discrete-time stochastic models. Topics include no-arbitrage pricing of financial derivatives, risk-neutral probability measures, the Cox-Ross-Rubenstein and Black-Scholes-Merton options pricing models, and implied volatility. Prerequisites: Math 233, Math 3200, Math 310 or permission of instructor.
Same as L24 Math 456
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L24 Math 560 Topics in Topology
Credit 3 units.

L24 Math 563 Topics in Lie Groups and Algebras I
Credit 3 units.

L24 Math 564 Topics in Lie Groups and Algebras II
Credit 3 units.

L24 Math 565 Algebraic Topology I
Credit 3 units.

L24 Math 566 Algebraic Topology II
Credit 3 units.

L24 Math 567 Several Complex Variables I
Credit 3 units.

L24 Math 568 Several Complex Variables II
Credit 3 units.

L24 Math 569 Topics in Homological Algebra
Credit 3 units.

L24 Math 571 Topics in Combinatorics: Spectral Graph Theory
Credit 3 units.

L24 Math 572 Topics in Set Theory and Logic
Credit 3 units.

L24 Math 581 Introduction to Computational Analysis
Credit 3 units.

L24 Math 583 Higher Methods of Computational Analysis
Credit 3 units.

L24 Math 590 Research
Credit variable, maximum 3 units.

L24 Math 595 Seminar
Credit variable, maximum 3 units.

L24 Math 596 Seminar
Credit variable, maximum 3 units.

L24 Math 597 Teaching Seminar
Principles and practice in the teaching of mathematics at the college and university level. Prerequisite: graduate standing, or permission of instructor.
Credit 1 unit.

L24 Math 598 Mathematical Professional Development
This course includes topics on professional development and responsible conduct of research. Prerequisites: none.
Credit 1 unit.

L24 Math 883 Master's Continuing Student Status

Mathematics, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin*.

Master of Arts in Mathematics

- **Total Units Required:** 36 credits (with or without thesis)
- **Degree Length:** minimum one academic year
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

General requirements: There are 36 units of graduate-level course work required, with or without a thesis; 6 units may be for thesis research. The minimum residence requirement is one full academic year of graduate study. If the department consents, a student may transfer up to 6 units from other universities. A grade point average of B (3.0) or better must be maintained in graduate course work.

Thesis Requirements/Details

To be eligible for the thesis option, a student must maintain a cumulative grade point average of 3.5 or above in the first two semesters (or 18 units) of course work satisfying the program requirements. A maximum of 3 units may be used for thesis research.

Required Courses

Course requirements: There are four basic graduate course sequences in pure mathematics:

Code	Title	Units
Math 5021 & Math 5022	Complex Analysis I and Complex Analysis II	6
Math 5031 & Math 5032	Algebra I and Algebra II	6
Math 5045 & Math 5046	Geometry/Topology I: Algebraic Topology and Geometry/Topology II: Differential Topology	3-6
or Math 5047	Geometry/Topology III: Differential Geometry	
Math 5051 & Math 5052	Measure Theory and Functional Analysis I and Measure Theory and Functional Analysis II	6

A candidate for the AM in Mathematics must include two of these sequences (12 units) in the required 36 units. Each student, in consultation with their advisor, selects the remaining 24 units according to the student's interests and needs.

Phone:	314-935-6760
Website:	https://math.wustl.edu/graduate

Mathematics, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 72 units** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: Five years**
  - **Note:** At least 48 hours spent in residence at Washington University. The student must spend at least one academic year as a full-time student; this requirement cannot be met wholly by summer sessions or part-time study. The student may, with departmental permission, transfer a part of the 72 hours from other universities (24 graduate credits for a PhD and only 6 credits for a master's). The typical load is 9 credit hours per semester. A grade point average of B or better is required in graduate course work.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - **Funding note:** Graduate students in mathematics may ordinarily expect up to five years of support. Continuation of support each year is dependent upon normal progress toward the degree and satisfactory performance of duties.
    - For the well-prepared student, "normal progress" usually means the following:
      - At the end of the second year, the student should have successfully completed the specific course requirements and passed six qualifying exams.
      - At the end of the third year, the student should have completed the candidacy requirement.
      - By the end of the fourth year, the student should have completed the 72-hour course requirement and should be making substantial progress on a thesis.

Students must also complete Math 597 Teaching Seminar. This course prepares them for both Assistant to the Instructor work and academic teaching duties, which are integral to all scholarly activities. For a typical PhD student, the course is taken twice: once in the spring of the first year and again in the fall of the second year. Each student will have departmental duties (e.g., grading, proctoring) of no more than 15 hours per week as Assistant to the Instructor.

Students must also complete Math 598 Mathematical Professional Development.

No one can earn a doctorate merely by completing specified courses of study. The doctoral candidate must demonstrate high scholarship and the ability to perform significant original research in mathematics.

Please note that the sequence outlined above is for "well-prepared" students. The exact point at which any student enters the sequence depends on their ability and background. When warranted, deviation from the normal sequence is permissible, and a tailored program that fits the student's ability and background will be followed.

Required Courses

Specific course requirements: The 72 units of course work must include eight of the following nine courses:

Code	Title	Units
Math 5021	Complex Analysis I	3
Math 5022	Complex Analysis II	3
Math 5031	Algebra I	3
Math 5032	Algebra II	3
Math 5045	Geometry/Topology I: Algebraic Topology	3
Math 5047	Geometry/Topology III: Differential Geometry	3
Math 5051	Measure Theory and Functional Analysis I	3
Math 5052	Measure Theory and Functional Analysis II	3

Students may omit one of the following courses when satisfying the course requirement: Math 5022 Complex Analysis II, Math 5047 Geometry/Topology III: Differential Geometry, or Math 5052 Measure Theory and Functional Analysis II.

To satisfy the breadth requirement, the student must pass the required courses with a B (3.0) or better. The courses are typically offered in the following time frame:

> Fall: Algebra I, Real Analysis, Complex Analysis I, Algebraic Topology, Differential Geometry
>
> Spring: Algebra II, Functional Analysis, Complex Analysis II, Differential Topology

In exceptional circumstances, departmental permission may be requested to replace required courses with suitable alternatives. The student may also petition the department to waive one or more of these courses because of work completed previously.

It is in each student's best interest to take the courses that contain the material covered in the qualifying exams as soon as their individual program allows. Sequels to these courses, at the 500 level, are frequently offered. The qualifying exam courses are generally prerequisites to these 500-level courses.

Language requirement: All students must demonstrate proficiency in English.

If English is not the student's native language, they must pass an oral English proficiency exam with a grade of 3 or better. If the student does not score a 3 the first time they take the exam, the director of English Language Programs for Arts & Sciences will recommend that the student take one or more classes to improve reading, writing, pronunciation, listening, or speaking skills. After the recommended classes have been completed, the student is required to retake the English proficiency exam. Once the student has demonstrated the ability to handle teaching a class (by scoring a 3 or better on the exam), they will qualify for Assistant to the Instructor or Course Instructor duties.

Qualifying examinations and candidacy requirements: The qualifying exam and candidacy requirement constitute two separate requirements. The qualifying exam is a series of six written tests that cover a range of topics; the candidacy requirement is an oral presentation and thesis proposal.

The written tests cover the material in one semester of courses:

Code	Title	Units
Math 5021	Complex Analysis I	3
Math 5022	Complex Analysis II	3
Math 5031	Algebra I	3
Math 5032	Algebra II	3
Math 5045	Geometry/Topology I: Algebraic Topology	3
Math 5046	Geometry/Topology II: Differential Topology	3
Math 5047	Geometry/Topology III: Differential Geometry	3
Math 5051	Measure Theory and Functional Analysis I	3
Math 5052	Measure Theory and Functional Analysis II	3

To satisfy the written exam requirement, the student must pass six out of the nine possible qualification exams with the requirement that two be from each of these subgroups:

- Math 5021 Complex Analysis I, Math 5022 Complex Analysis II, Math 5051 Measure Theory and Functional Analysis I, or Math 5052 Measure Theory and Functional Analysis II
- Math 5045 Geometry/Topology I: Algebraic Topology, Math 5046 Geometry/Topology II: Differential Topology, or Math 5047 Geometry/Topology III: Differential Geometry
- Math 5031 Algebra I, Math 5032 Algebra II

To satisfy the qualification examination requirement, the student must pass the final exam for the course with an A- or better.

Because each course varies somewhat in content from year to year, it is recommended that the student take the exams at the conclusion of the course in which they are enrolled. No advantage is gained by delaying the exam. It is required to finish all six qualification exams by the end of the second year of study.

Some students will enter the PhD program with previously acquired expertise in one or more of the required courses. This situation sometimes happens with students who transfer from other PhD programs or who come from certain foreign countries. Such students may formally petition the chair of the graduate committee to be exempted from the appropriate course and its qualifying exam. The petition must be accompanied by hard evidence (e.g., published research, written testimony from experts, records of equivalent courses, examinations and the grades achieved on them). The graduate committee will make the final judgment on all exemption requests.

Once the written phase of the qualifying process is complete, the student is ready to begin specialized study. By the third year of study, the student must complete the candidacy requirement. The student must form a preliminary thesis committee called a *Research Advisory Committee* that includes their advisor and at least two other faculty members. In discussion with the advisor and the preliminary thesis committee, the student will select a topic and a body of literature related to this topic. The student will prepare a one-hour oral presentation related to the topic and a two-page thesis proposal that demonstrates mastery of the selected topic. The oral presentation is designed to expedite specialized study and to provide guidance toward the thesis. The preparatory work for the thesis proposal often becomes the foundation on which the thesis is constructed.

After the student completes the candidacy requirement, work on the thesis begins.

The dissertation and thesis defense: The student's dissertation is the single most important requirement for the PhD degree. It must be an original contribution to mathematical knowledge and is the student's opportunity to conduct significant independent research.

It is the student's responsibility to find a thesis advisor who is willing to guide their research. Since the advisor should be part of the candidacy requirement, the student should have engaged an advisor by the beginning of the third year of study.

Once the department has accepted the dissertation (on the recommendation of the thesis advisor), the student is required to defend their thesis through a presentation accompanied by a question-and-answer period.

For information about preparing the thesis and its abstract as well as the deadlines involved, including the creation of the Research Advisory Committee and the Dissertation Defense Committee, please consult the Office of Graduate Studies, Arts & Sciences. Please use these additional relevant resources: the Doctoral Dissertation Guide, the Forms page, and the Policies and Procedures page.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Phone:	314-935-6760
Website:	https://math.wustl.edu/graduate

Music

The Department of Music offers programs of study leading to the Doctor of Philosophy (PhD) in Music and the Master of Arts (AM) in Music, with emphasis in either musicology or music theory. Each graduate program combines a course of advanced studies in one area of music studies with supporting studies in related fields of music. The number of graduate students admitted each year is small so that each student is assured individual attention. There are traditionally close rapports and mutually supportive interactions among graduate students in all areas of study.

The **AM and PhD programs in musicology** offer concentrations in historical musicology and ethnomusicology. Department faculty interests cover all eras of European art music, American popular musics, film and theatre music, jazz, and African and African diasporic musics. Methodological approaches cover a range of critical perspectives, placing music within its cultural and historical contexts and developing the student's ability to think and write about music and music-making. Intensive study in music theory is a required component of the programs, and diverse opportunities for performance are offered.

The **AM and PhD programs in music theory** focus on the creative analysis and critical examination of assumptions about music and musical discourse. The graduate program prepares students to undertake research in musical analysis and in the language and methodology of music theory. Preparation includes guiding each student in developing their own modes of thought and expression. Faculty interests include improvisation and intermedia, texture and form, music cognition and computational modeling, composition, Schenker, and the interplay of text and music in German art song.

Contact:	Jessica Flannigan
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Faculty

Chair

Patrick Burke
Professor
PhD, University of Wisconsin

Director of Graduate Studies

Paul Steinbeck
Associate Professor
PhD, Columbia University

Director of Undergraduate Studies

Todd Decker
Paul Tietjens Professor of Music
PhD, University of Michigan

Department Faculty

Christopher Douthitt
Lecturer
MFA, Princeton University

Ben Duane
Associate Professor
PhD, Northwestern University

Lauren Eldridge Stewart
Assistant Professor
PhD, University of Chicago

Amy Greenhalgh
Lecturer
MA, Oxford University

Amanda Kirkpatrick
Senior Lecturer
MM, University of Missouri-Columbia

Esther Kurtz
Assistant Professor
PhD, Brown University

Jeffrey Kurtzman
Professor
PhD, University of Illinois

William Lenihan
Professor of Practice
BMus, University of Missouri-Columbia

Hugh McDonald
Avis H. Blewett Professor Emeritus of Music
PhD, Cambridge University

John McDonald
Lecturer
DMA, University of Missouri-Kansas City

Craig Monson
Paul Tietjens Professor Emeritus of Music
PhD, University of California, Berkeley

Dolores Pesce
Avis Blewett Professor Emerita of Music
PhD, University of Maryland

Robert Snarrenberg
Associate Professor
PhD, University of Michigan

Christopher Stark
Associate Professor
DMA, Cornell University

Alexander Stefaniak
Associate Professor
PhD, Eastman School of Music

Vince Varvel
Lecturer
BM, Southern Illinois University at Edwardsville

Parkorn Wangpaiboonkit
Assistant Professor
PhD, University of California, Berkeley

Degree Requirements

- Music Theory, AM (p. 311)
- Music Theory, PhD (p. 312)
- Musicology, AM (p. 313)
- Musicology, PhD (p. 314)

Courses

Visit online course listings to view semester offerings for L27 Music.

L27 Music 500 Independent Study
Supervised independent study in areas in which there are no course offerings. Students must submit to the department chair an outline of work to be covered, the number of hours of credit requested, and the name of the instructor to supervise the research. Prerequisites: permission of the department chair and the instructor. Class hours variable, depending on credit. Refer to **section/faculty list at start of this departmental entry for faculty selections for this course.
Credit variable, maximum 6 units.

L27 Music 500A Summer Music Workshops
Credit variable, maximum 3 units.

L27 Music 501 Introduction to Musicological Research I
An introduction to research techniques, including library skills and the mechanics of scholarly writing and documentation. Prerequisite: graduate standing or permission of instructor.
Credit 3 units.

L27 Music 5011 Elementary Technique of Electronic Music: Synth Lab
Individual and small group instruction in "classical" procedures and relevant electronic technology. Prerequisite: open to music majors; to others by permission of instructor. Credit contingent upon completion of Mus 402.
Same as L27 Music 401
Credit 3 units. A&S IQ: HUM EN: H

L27 Music 501A Studies in Medieval Music
Credit 3 units.

L27 Music 502 Introduction to Musicological Research II
Credit 3 units.

L27 Music 5021 Advanced Techniques in Electronic Music: Studio Songwriting
How does the act of recording and manipulating sound change the way we write songs? How can the tones and moods of a recording interact with notes and rhythms and words? We'll look for answers through experiments in composition, collaboration, and critical listening. Topics will include beatmaking, sound collage, vocal manipulations, sampling, and virtual spaces. Formal training is not required, though we will engage (and learn) basic music theory concepts. PREREQ: permission of instructor.
Same as L27 Music 402
Credit 3 units. A&S IQ: HUM EN: H

L27 Music 5022 Introduction to Popular Music Studies
This seminar offers an introduction to popular music studies from the perspective of the discipline of musicology. The course provides a background to the current state of scholarship, engages ongoing debates and methodological questions, and offers a starting point for research and teaching in this expanding area. Topics include: historiography of popular music studies, bibliography and discography, canon-making, academic and popular scholars and readers, genre definitions, interdisciplinary challenges and opportunities, approaches to institutions and technologies particular to the history of popular music (such as record labels and recording studios), and the study of mixed-media topics. The ability to read music is not required and students from across the disciplines are most welcome.
Credit 3 units.

L27 Music 502A Studies in Music of the Renaissance
Credit 3 units.

L27 Music 503 Notation I
This course is designed to provide students with the skills needed for transcribing the black and white mensural notation in use from the 14th through 16th centuries. Prerequisite: graduate standing or permission of instructor.
Credit 3 units.

L27 Music 503A Studies in Music of the Baroque Period
Credit 3 units.

L27 Music 504 Notation II
This course provides students with the skills needed for transcribing polyphonic notation from the late 14th through 16th centuries, as well as lute tabluture. The latter part of the course is devoted to the principles of editing 16th/17th and 18th/19th century repertories, with sample projects. Prerequisite: Music 503 or permission of instructor.
Credit 3 units.

L27 Music 504A Studies in Music of the Classic Period
Credit 3 units.

L27 Music 504B Studies in Music of Classic-Romantic Period
Credit 3 units.

L27 Music 505 Studies in Performance Practice I
Credit 3 units.

L27 Music 505A Studies in Music of the 20th Century
Credit 3 units.

L27 Music 506 Studies in Performance Practice II
Credit 3 units.

L27 Music 5061 Introduction to Schenker's Analytical Method
Heinrich Schenker's interpretive theory takes as its object the musical mind as manifested in the western European tradition of the 18th and 19th centuries. This introduction to Schenker's approach is based on close reading of Schenker's theoretical and analytical texts as well as contemporary redactions. The course also includes work in the analytical application of Schenker's ideas and systematic study of Shenker's mature theory. Prerequisite: Music 423.
Credit 3 units.

L27 Music 5062 Seminar: Schenker's Analytical Methodology
A continuation of Mus 5061. Students will refine their understanding through analysis of more complex works and continued reading in Schenkerian literature. Class time will be devoted to discussion of student analyses and of conceptual issues that arise from Schenker's analytical perspective. The final project will be a paper on a symphony movement or other piece of comparable breadth. Prerequisite: Mus 5061.
Credit 3 units.

L27 Music 5072 Introduction to the Analysis of 20th Century Music
Credit 3 units.

L27 Music 5073 Seminar: Advanced Analysis 20th Century Music
Credit 3 units.

L27 Music 508 Introduction to Contemporary Music Theory
An introduction to the concepts, idealogies, methods and musical issues of contempory music theory. Intensive reading and discussion of significant writings from the 1960s to the present. Prerequisite: Graduate standing or permission of instructor.
Credit 3 units.

L27 Music 509 Introduction to Ethnomusicology
This seminar will provide an introduction to the discipline of ethnomusicology through an examination of the historical literature and a review of recent scholarship. In keeping with the field's multidisciplinary orientation, we will observe ethnomusicology as a part of wider trends in intellectual inquiry. As such, our discussions of major issues in ethnomusicology will be informed by consideration of related fields, including anthropology, historical musicology, literary theory, folklore, and cultural studies. Seminar members will have the opportunity to explore in depth those issues that are most germane to their own research interests while gaining a broader understanding of ethnomusicology as an academic discipline.
Credit 3 units.

L27 Music 5091 Music Ethnography and Fieldwork Methodologies
Credit 3 units.

L27 Music 5092 Critical Listening
In hearing, the material body senses vibration. We have multiple methods for measuring the generalized, able-bodied process of sound waves making the cilia on the inner ear dance. Yet listening proves a tricky topic of analysis, as it entails subjectivity, attention, motivation, and situatedness. While processes of hearing may engender some sound categorizations (noise from music from silence from voicing), habits of distribution are far from universal. In this course, we will explore and analyze multiple cultural, political, and philosophical issues that are brought to bear in what is called critical listening.

Credit 3 units.

L27 Music 511 Seminar in Medieval Music
Credit 3 units.

L27 Music 5112 Topics in Medieval Music
Credit 3 units.

L27 Music 511A Notation I
Credit 3 units.

L27 Music 512 Seminar in Renaissance Music
Credit 3 units.

L27 Music 512A Notation II
Credit 3 units.

L27 Music 513 Seminar in Music of the Baroque Period
Credit 3 units.

L27 Music 513A Introduction to Histroical Musicology
Credit 3 units.

L27 Music 514 Seminar in Music of the Classic Period
Credit 3 units.

L27 Music 5140 Topics in Embodied Communication
This course is about listening. We will begin by mediated and unmediated listening with the human auditory system and continue into an exploration of multi-modal listening, focusing on vibration and on somatic attention. We will work in the "studio," which will include a music studio, a dance studio, and the environment. Our investigation will include the study of sensing in more-than-human organisms as well as theoretical perspectives from sound studies, critical improvisation and history of science. The course will encourage the perspective that the practice of listening is a political act of tending to the invisible, the non-normative, and the incomplete.
Same as L15 Drama 4140
Credit variable, maximum 3 units. A&S IQ: HUM EN: H

L27 Music 514A Introduction to Historical Musicology II
Credit 3 units.

L27 Music 515 Seminar in Romantic Music
Credit 3 units.

L27 Music 515A Studies in Americana
Credit 3 units.

L27 Music 516 Seminar in 20th Century Music
Credit 3 units.

L27 Music 517 Music History Survey for Graduate Students
Credit 3 units.

L27 Music 518 Music Histroy Survey for Graduate Students
Credit 3 units.

L27 Music 519 Selected Areas for Special Study I: Music and Social Justice: The Aesthetics of Activism
Credit 3 units. EN: H

L27 Music 5190 Sound Theory
The word sound in this course title carries three meanings: 1) solidly made, 2) ethical, and 3) pertaining to the experience of sonic phenomenon of all sorts. The word theory indicates the discourse of philosophers, historians, and scholars (academic and popular). Among the writers who may be included in the course are: Abdurraquir, Adorno, Attali, Auslander, Barthes, Benjamin, Berlant, Biancorosso, Butler, Chion, Chow, Cook, Derrida, Donnelly, DuBois, Foucault, Kittler, Murray Schafer, Ngai, Plato, Proust, Said, Sloterdijk, and Sterne. The class will be useful to graduate students concerned with the phenomenon of sound broadly speaking.
Credit 3 units.

L27 Music 5191 Selected Areas for Special Study II: Methods
Credit 3 units.

L27 Music 519A Ornamentation
Credit 3 units.

L27 Music 519B Musical Style in History
Credit 2 units.

L27 Music 520 Selected Areas of Special Study II
Credit 3 units.

L27 Music 521 Seminar in Music Theory
The Chamber Music of Brahms. Close readings of selected works using a variety of analytical approaches. Emphasis on crafting written communication of interpretive results. PREREQUISITE: Graduate standing or permission of the instructor. Credit 3 units.
Credit 3 units.

L27 Music 522 Seminar in Music Theory
Credit 3 units.

L27 Music 5223 Computational Models of Music Theory and Cognition
We will study computational models that simulate the perception of several aspects of music: phase structure, meter, melody, key, harmony, counterpoint, and texture. In addition to reading about and discussing these models, students will work with them directly by running them on their own. We will also spend some class time on perceptual experiments related to the models we study. Although the course will focus on models of perception, emphasis will be placed on ones that are also pertinent to music theory, and these connections will be discussed.
Same as L27 Music 3223
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L27 Music 523 Compositional Systems of the 20th Century
Credit 3 units.

L27 Music 5230 Analysis I
A study of structural principles underlying music of all periods: motivic usage, melodic shape, varieties of texture and structure with an emphasis on fugue, variation forms and proportional forms such as rondo and sonata-allegro. Prerequisite: graduate standing or permission of instructor.
Same as L27 Music 423
Credit 3 units. A&S IQ: HUM EN: H

L27 Music 5232 Graduate Keyboard Skills
Graduate Keyboard Skills prepares students to take the Keyboard Skills exam.

L27 Music 523A Advanced Composition
Credit 3 units.

L27 Music 524 Compositional Systems of the 20th Century
Credit 3 units.

L27 Music 524A Advanced Composition
Credit 3 units.

L27 Music 525 Advanced Orchestration
Credit 2 units.

L27 Music 526 Asian Music
Credit 3 units.

L27 Music 527 Basic Music Theory for Graduate Students
Credit 3 units.

L27 Music 528 Basic Music Theory for Graduate Students
Credit 3 units.

L27 Music 529 Composition, Advanced
Individual training in free composition for various media, plus group technical projects. Prerequisite: permission of instructor.
Credit variable, maximum 3 units.

L27 Music 530 Composition, Advanced
Individual training in free composition for various media, plus group technical projects. Prerequisite: permission of instructor.
Credit variable, maximum 3 units.

L27 Music 531 Repertoire of the Wind Ensemble
Credit 1 unit.

L27 Music 531A Seminar in Music Education
Credit 3 units.

L27 Music 532 Repertoire of the Wind Ensemble
Credit 1 unit.

L27 Music 532A Seminar in Music Education
Credit 3 units.

L27 Music 533 Chamber Orchestra
Credit 1 unit.

L27 Music 533A Advanced Choral Conducting
Credit 3 units.

L27 Music 533B Advanced Interpretation of Choral Literature
Credit 3 units.

L27 Music 534 Chamber Orchestra
Credit 1 unit.

L27 Music 535 Chamber Choir
Credit 1 unit.

L27 Music 535A Field Workshop Music Education
Credit 3 units.

L27 Music 536 Chamber Choir
Credit 1 unit.

L27 Music 537 Small Chamber Ensembles
Credit 1 unit.

L27 Music 5370 Music and Performance: Pleasure and Politics in Popular Music
Christopher Small has asserted that music is not a thing but an activity--something that people DO. Starting from this premise, this course explores popular music in performance and introduces students to the flourishing scholarship at the intersection of performance studies, sound studies, and popular music studies. We will attend to sound, music, listening, and voice-and we will consider these elements of performance in combination with costume, choreography, stage design, and audience participation and interaction. Exploring the choices of performers and the expectations of audience members in settings from gospel churches to Radio City Music Hall, this course moves through a wide variety of musical genres, including cabaret, blues, opera, musical theater, and rock. We will consider the pleasure and politics embraced by everyday people and activists who have used music in protest movements from the labor movement to Black Lives Matter. We also attend performances around St. Louis, guided by the interests of the class. Upper-level undergraduates and graduate students (enrolled under a 500-number) with an interest in music, theater, dance, cultural history, American studies, and African American studies are especially welcome.
Same as L98 AMCS 4370
Credit 3 units. A&S IQ: HUM BU: HUM EN: H

L27 Music 5371 Chamber Winds
Credit 3 units.

L27 Music 537B Advanced Orchestral and Band Instruments
Credit variable, maximum 3 units.

L27 Music 538 Small Chamber Ensembles
Credit 1 unit.

L27 Music 5381 Chamber Winds
Credit 3 units.

L27 Music 538B Advanced Orchestral and Band Instruments
Credit variable, maximum 3 units.

L27 Music 539 Advanced Conducting I
Credit 2 units.

L27 Music 539A Opera Production and Direction
Credit 2 units.

L27 Music 540 Advanced Conducting II
Credit 2 units.

L27 Music 541 Piano
Credit variable, maximum 3 units.

L27 Music 5413 Fortepiano
Credit variable, maximum 3 units.

L27 Music 542 Piano
Credit variable, maximum 3 units.

L27 Music 5423 Fortepiano
Credit variable, maximum 3 units.

L27 Music 543 Harpsichord
Credit variable, maximum 3 units.

L27 Music 543A Voice
Credit variable, maximum 3 units.

L27 Music 544 Harpsichord
Credit variable, maximum 3 units.

L27 Music 544A Voice
Credit variable, maximum 3 units.

L27 Music 545 Organ
Credit variable, maximum 3 units.

L27 Music 545A Woodwinds
Credit variable, maximum 3 units.

L27 Music 546 Organ
Credit variable, maximum 3 units.

L27 Music 546A Woodwinds
Credit variable, maximum 3 units.

L27 Music 547 Woodwinds
Credit variable, maximum 3 units.

L27 Music 547A Brass
Credit variable, maximum 3 units.

L27 Music 548 Woodwinds
Credit variable, maximum 3 units.

L27 Music 548A Brass
Credit variable, maximum 3 units.

L27 Music 549 Brass
Credit variable, maximum 3 units.

L27 Music 549A Percussion
Credit variable, maximum 3 units.

L27 Music 550 Brass
Credit variable, maximum 3 units.

L27 Music 550A Percussion
Credit variable, maximum 3 units.

L27 Music 551 Percussion
Credit variable, maximum 3 units.

L27 Music 551A Strings
Credit variable, maximum 3 units.

L27 Music 552 Percussion
Credit variable, maximum 3 units.

L27 Music 552A Strings
Credit variable, maximum 3 units.

L27 Music 553 Strings
Credit variable, maximum 3 units.

L27 Music 5531 Lute
Credit 3 units.

L27 Music 553A Organ
Credit variable, maximum 3 units.

L27 Music 554 Strings
Credit variable, maximum 3 units.

L27 Music 5541 Lute
Credit 3 units.

L27 Music 554A Organ
Credit variable, maximum 3 units.

L27 Music 555 Guitar
Credit variable, maximum 3 units.

L27 Music 556 Guitar
Credit variable, maximum 3 units.

L27 Music 557 Voice
Credit variable, maximum 3 units.

L27 Music 557A Harpsichord
Credit variable, maximum 3 units.

L27 Music 558 Voice
Credit variable, maximum 3 units.

L27 Music 558A Harpsichord
Credit variable, maximum 3 units.

L27 Music 559 Psychology of Musical Behavior
Credit 3 units.

L27 Music 561 Seminar in Music Education
Credit 3 units.

L27 Music 561A Selected Areas for Special Study I
Credit 3 units.

L27 Music 562 Seminar in Music Education
Credit 3 units.

L27 Music 562A Selected Areas for Special Study II
Credit 3 units.

L27 Music 563 Field Workshop in Music Education
Credit variable, maximum 3 units.

L27 Music 563A Selected AReas for Special Study III
Credit 3 units.

L27 Music 564 Field Workshop in Music Education
Credit variable, maximum 3 units.

L27 Music 564A Selected Areas for Special Study IV
Credit 3 units.

L27 Music 565 Curriculum and Instruction in Music
Credit 3 units.

L27 Music 5651 Seminar in Undergraduate Teaching
Credit 1 unit.

L27 Music 5671 Graduate Keyboard Musicianship II
Credit 3 units.

L27 Music 569 Research Music Education
Credit variable, maximum 3 units.

L27 Music 570 Research in Music Education
Credit variable, maximum 3 units.

L27 Music 571 Music Theory in College Curriculum
Credit 3 units.

L27 Music 573 Seminar in Teaching Musicianship
Credit 3 units.

L27 Music 574A Introduction to Current Techniques in Experimental Music
Credit 3 units.

L27 Music 575 Guitar
Credit variable, maximum 3 units.

L27 Music 5751 Graduate Keyboard I
Credit 3 units.

L27 Music 575G Guitar
Credit variable, maximum 2 units.

L27 Music 575O Organ
Credit variable, maximum 2 units.

L27 Music 575P Piano
Credit variable, maximum 2 units.

L27 Music 575S Strings
Credit variable, maximum 2 units.

L27 Music 575W Winds and Percussion
Credit variable, maximum 2 units.

L27 Music 576 Guitar
Credit variable, maximum 3 units.

L27 Music 5761 Graduate Keyboard Musicianship II
Credit 3 units.

L27 Music 577 Collegium Musicum
Credit 2 units.

L27 Music 578 Voice
Credit variable, maximum 3 units.

L27 Music 578A Collegium Musicum
Credit 2 units.

L27 Music 581 Theory Qualifying Project I
An extended, detailed analysis of a single piece. While enrolled in Music 423, the student will choose, in consultation with the examination committee, a musical work for close analysis from either the tonal or the post-tonal repertoire. Analytical methodology should be determined in response to the issues raised by the piece. The student will prepare a lecture for a graduate-level audience, to be delivered in Music 502. The purpose of the presentaion is to demonstrate competence in intensive analysis and in the oral presentation of analytical materials.
Credit 1 unit.

L27 Music 582 Theory Qualifying Project II
A project dealing with theoretical systems designed for understanding a particular repertoire of music. The music should be drawn from the repertoire (tonal or post-tonal) not chosen for Qualifying Project I. The purpose of the project is to demonstrate familiarity, competence, and flexibility in the use of theoretical systems. In contrast with the project described in Qualifying Project I, any musical analyses should illustrate the points made about theoretical systems under consideration. Ideally this project will also demonstrate the ability to extrapolate and extend existing systems. OR A project on a more abstract methodological or speculative topic. The purpose of the project is to demonstrate an ability to address the critical and philosophical issues that form the conceptual underpinning of analytical and theoretical work.
Credit 2 units.

L27 Music 583 Theory Qualifying Project III
A project dealing with theoretical systems designed for understanding a particular repertoire of music. The music should be drawn from the repertoire (tonal or post-tonal) not chosen for Qualifying Project I. The purpose of the project is to demonstrate familiarity, competence, and flexibility in the use of theoretical systems. In contrast with the project described in Qualifying Project I, any musical analyses should illustrate the points made about theoretical systems under consideration. Ideally this project will also demonstrate the ability to extrapolate and extend existing systems. OR A project on a more abstract methodological or speculative topic. The purpose of the project is to demonstrate an ability to address the critical and philosophical issues that form the conceptual underpinning of analytical and theoretical work.
Credit 3 units.

L27 Music 590 Research in Music
(Master's level). Credit variable, maximum 6 units. Refer to **section/ faculty list at start of this departmental entry for faculty selections in this course.
Credit variable, maximum 6 units.

L27 Music 600 Research in Music
(Doctoral level). Credit variable, maximum 9 units. Refer to **section/ faculty list at start of this departmental entry for faculty selections in this course.
Credit variable, maximum 9 units.

L27 Music 631 Research in Music Education
Credit 3 units.

L27 Music 632 Research in Music Education
Credit 3 units.

L27 Music 883 Master's Continuing Student Status

L27 Music 884 Doctoral Continuing Student Status

L27 Music 885 Masters Nonresident

L27 Music 886 Doctoral Nonresident

Music Theory, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36**
- **Degree Length: 2 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - A grade of B- or better is required for courses to count toward the degree. Students are expected to maintain a cumulative grade point average of at least 3.0 on a 4.0 scale in courses that count toward their credit units.

Master of Arts in Music (Music Theory)

The master of arts in music theory requires 36 units of graduate study, including 15 units of music theory, 9 units of music history and bibliography, 12 units of electives, keyboard proficiency, reading knowledge of one foreign language, and a thesis.

Required Courses

Code	Title	Units
Music 501	Introduction to Musicological Research I	3
Music 502	Introduction to Musicological Research II	3
Music 508	Introduction to Contemporary Music Theory	3
Music 5230	Analysis I	3

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Website: http://music.wustl.edu/graduate

Music Theory, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 72** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 6 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Music assures funding for up to 12 semesters for full-time students in good academic standing.
  - A grade of B- or better is required for courses to count toward the degree. Students are expected to maintain a cumulative grade point average of at least 3.0 on a 4.0 scale in courses that count toward their credit units.

PhD in Music (Music Theory)

The PhD degree in music theory requires a total of 72 units of graduate study: 30 units of music theory, 15 units of music history and bibliography, 6 units of composition, 6 units outside music, 6 units of qualifying projects, and 9 units of electives or dissertation research. Also required are keyboard proficiency, reading knowledge of two foreign languages (German and either French or Italian; a computer language may be substituted for the second language, according to the student's needs), six to eight semesters of mentored teaching, three qualifying projects, the dissertation, and the final oral defense of the dissertation. Students who have completed a master's degree at another institution may receive up to 24 units of transfer credit toward the PhD.

Required Courses

Code	Title	Units
Music 501	Introduction to Musicological Research I	3
Music 502	Introduction to Musicological Research II	3
Music 508	Introduction to Contemporary Music Theory	3
Music 5230	Analysis I	3

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

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The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

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Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

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Musicology, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin*.

Program Requirements

- **Total Units Required: 36**
- **Degree Length: 2 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - A grade of B- or better is required for courses to count toward the degree. Students are expected to maintain a cumulative grade point average of at least 3.0 on a 4.0 scale in courses that count toward their credit units.

Master of Arts in Music (Musicology)

The master of arts in musicology requires 36 units of graduate study, including 12 units of music history and bibliography, 6 units of music theory, 18 units of electives, keyboard proficiency, reading knowledge of one foreign language, and a thesis.

Required Courses

Code	Title	Units
Music 501	Introduction to Musicological Research I	3
Music 502	Introduction to Musicological Research II	3
Music 5230	Analysis I	3

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Musicology, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 72** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 6 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Music assures funding for up to 12 semesters for full-time students in good academic standing.
  - A grade of B- or better is required for courses to count toward the degree. Students are expected to maintain a cumulative grade point average of at least 3.0 on a 4.0 scale in courses that count toward their credit units.

PhD in Music (Musicology)

The PhD degree in musicology requires a total of 72 units of graduate study: 33 units of music history and bibliography, 12 units of music theory, 6 units outside music, and 21 units of electives and dissertation research. Also required are keyboard proficiency, reading knowledge of two foreign languages (German, Spanish, French, or Latin), six to eight semesters of mentored teaching, written and oral qualifying examinations (which occur after the completion of 60 units), the dissertation, and the final oral defense of the dissertation. Students who have completed a master's degree at another institution may receive up to 24 units of transfer credit toward the PhD.

Required Courses

Code	Title	Units
Music 501	Introduction to Musicological Research I	3
Music 502	Introduction to Musicological Research II	3
Music 5230	Analysis I	3

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Performing Arts

The **Master of Fine Arts (MFA) in Dance** in the Performing Arts Department at Washington University offers an innovative approach to dance technique, composition, improvisation, and production. It involves an energetic interplay of studio work with professionally distinguished dance instructors, seminars with faculty who are experts in their fields, and independent studies in choreography. This two-year program will expand students' dance skills while engaging them with current concepts of dance as an art form, as an expression of culture and identity, and as a mode of critical thinking. The overarching goal of this program is to develop each dancer's personal artistic practice while encouraging a global perspective on dance studies, performance, pedagogy, and choreography.

The department offers performance experience through its repertory company, the Washington University Dance Collective, for which students may audition.

Members of our dance faculty have performed with such companies as American Ballet Theatre; Alvin Ailey American Dance Theater; Dance Theatre of Harlem; National Ballet of Washington, D.C.; Dayton Contemporary Dance Company; and Utah Repertory Dance Theatre. In addition, a distinctive feature of our MFA program is that it is run in collaboration with St. Louis' Center of Creative Arts (COCA), so it involves a sharing of facilities and faculty borne out of a common vision of the importance of the performing arts. As the leading dance school in the region, COCA is also the largest multidisciplinary arts organization in St. Louis, and it has a world-renowned faculty. We have a long history of engaging the talents of contemporary guest choreographers and répétiteurs from ballet and from modern and performance art who bring a broad range of challenging new processes, concepts, and choreography to our students.

The **master's program in Theater and Performance Studies** at Washington University in St. Louis is one of the strongest programs of its kind. Students are offered rigorous scholarly training, opportunities to meet and work with visiting scholars and artists, and support in developing their own independent research projects, all within a collaborative, collegial environment that prizes critical thinking and creative practice.

Our students enroll in small, intensive seminars in theater history and performance theory as well as studio courses in directing, playwriting, and theater for social change. There are ample opportunities for interdisciplinary study, and we have strong relationships with affiliate faculty in allied departments and programs, including Film and Media Studies; English; Music; Comparative Literature; African and African-American Studies; and Women, Gender, and Sexuality Studies.

Our faculty has been recognized with numerous accolades for both their artistic and scholarly work, and the small size of each admitted class allows for individual attention and one-on-one mentorship. We have placed our graduates in top PhD programs in the field, including

programs at Brown, Stanford, Northwestern, University of California San Diego, and University of Minnesota. Other graduates have pursued careers in the arts, social justice work, and education. We invite students who have studied theater and performance as undergraduates as well as students who are following new paths in their scholarship to learn more about our program.

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Faculty

Chair

Julia Walker
PhD, Duke University
(Drama)

Directors of Graduate Studies

Joanna Dee Das
Director of Graduate Studies in Dance (MFA)
PhD, Columbia University

Robert K. Henke
Director of Graduate Studies, M.A. in Performance Studies
PhD, University of California, Berkeley

Directors of Undergraduate Studies

Cecil Slaughter
Director of Undergraduate Studies of Dance
MFA, University of Iowa

Andrea Urice
Director of Undergraduate Studies of Drama
MFA, University of Virginia

Department Faculty

Pannill Camp
Associate Professor of Drama
PhD, Brown University

Antonio Douthit-Boyd
Professor of Practice in Dance
Distinguished Performing Artist

Dominique Green
Lecturer in Costume Design
MFA, University of Cincinnati, College Conservatory of Music

Elinor Harrison
Lecturer in Dance
PhD, Washington University in St. Louis

Ron Himes
Henry E. Hampton Jr. Artist-in-Residence
BSBA, Washington University

Elizabeth Hunter
Assistant Professor of Drama
PhD, Northwestern University

David W. Marchant
Professor of Practice in Dance
MFA, University of Iowa

Jeffery S. Matthews
Professor of Practice in Drama
MFA, Virginia Commonwealth University

Paige McGinley
Associate Professor of Performing Arts
PhD, Brown University

Robert Mark Morgan
Teaching Professor of Drama
MFA, San Diego State University

Elaine A. Peña
Professor of Performing Arts, American Culture Studies, and Anthropology
PhD, Northwestern University

Annamaria Pileggi
Professor of Practice in Drama
MFA, Brandeis University

Sean Savoie
Teaching Professor of Design-Technical Theater
MFA, University of Cincinnati - College Conservatory of Music

Claire Sommers
Lecturer in Drama
PhD, City University of New York

William Whitaker
Professor of Practice in Drama
MFA, Florida Atlantic University

Retired Faculty

Mary-Jean Cowell
PhD, Columbia University

Christine Knoblauch-O'Neal
PhD, Texas Woman's University

Henry I. Schvey
PhD, Indiana University

Degree Requirements

- Dance, MFA (p. 323)
- Theater and Performance Studies, Accelerated AM (p. 324)
- Theater and Performance Studies, AM (p. 325)

Courses

Courses include the following:

- Dance (p. 317)
- Drama (p. 320)

Dance

Visit online course listings to view semester offerings for L29 Dance.

L29 Dance 500 Independent Work
Prerequisite: senior standing and permission of the coordinator of the dance division.
Credit variable, maximum 10 units.

L29 Dance 5020 Jazz III
Jazz III is primarily a studio course based on traditional jazz with strong elements of ballet technique, hip hop, Broadway, and street jazz. The main focus of the class will be on increased technical proficiency and development as an expressive performer. The studio work will introduce exercises and movement phrases that challenge the dancer's skill level, and encourage a personal exploration that further enhances the dancer's individual expression and style. Studio work will be supported by individual research on the field of jazz dance. Variable content: may be repeated once for credit. Prereq: High-Intermediate training in jazz dance technique and permission of the instructor.
Same as L29 Dance 403
Credit 2 units. A&S IQ: HUM EN: H

L29 Dance 5032 Introduction to Screendance Composition & Performance
Introductory studio workshop in screendance composition and digital performance. For students with experience in choreography or improvisation, Screendance Composition explores the intersection of dance and digital media. Students will learn basic camera and videography skills to create screendance projects and learn about this emerging dance genre that combines the artistry of dance with the visual art capabilities that cameras offer. Methods for improvisation and site-specific performance will also be explored. Group critiques by faculty and students contribute analysis and facilitate dialogue regarding both process and artwork. Prerequisites L29 203, or L29 3110 or permission of instructor.
Same as L29 Dance 4032
Credit 3 units. A&S IQ: HUM EN: H

L29 Dance 506 Topics in Contemporary Arts Practice Research
This course offers graduate students an opportunity to engage and conduct contemporary arts practice research. Taught by a member of our arts practice faculty (e.g., in dance/movement, acting/directing, design), this course introduces students to contemporary research on a topic that the faculty member is currently conducting (e.g., reconstructions of historic choreographies, global applications of Boalian technique, robotics and performance). Through these graduate-level courses, students are invited to enter into and contribute to the broader scholarly conversations that have shaped and are shaping our knowledge of that topic through their own research. Assignments will include reading and discussing contemporary scholarship on the topic, writing papers, and participating in arts practice research (often by designing their own performance-oriented work).
Same as L15 Drama 506
Credit 3 units.

L29 Dance 508 Dance Composition Laboratory I: Exploring Process and Format
The studio workshop in dance composition for graduate students emphasizes individual artistic development through a combination of structured assignments, independent work, interaction with visiting artists, and participation in a shared workshop environment. Expanding upon previous applicable skills and experience, graduate students are encouraged to explore and develop personal aesthetic in movement vocabulary, genre, method and process. Consultation with the course instructor supports clarification of the student's choreographic intention and general development of the student's artwork. Group critiques by faculty and students contribute analysis and facilitate dialogue regarding both process and artwork. This course may be taken by qualified undergraduate senior dance majors or minors who have completed 203 (or 208) and 303 (or 309), with permission of instructor.
Credit 3 units.

L29 Dance 509 Dance Composition Laboratory II: Exploring Alternative Venues and Audience Connections
Credit 3 units.

L29 Dance 510 Approaches to Improvisation and Spontaneous Composition
The graduate studio workshop in dance improvisation emphasizes individual and ensemble performance practice through a combination of structured assignments, independent work, and participation in a collaborative workshop environment. In this course, students learn and create processes for improvising dance/performance art, with an aim toward developing integrated skill in: dance technique, intuitive movement invention, partnered dancing, collaborative process, performance presence/expressivity, and compositional form. Improvised practice develops processes for performance applicable to stage, site-specific and camera-based artistic venues, and refines individual and ensemble performance artistry. Students will review history of aesthetic theory and processes developed by improvisation artists of the 20th century. In-class discussion fosters critical thinking/analysis, facilitates dialogue on process, and supports development of artistry and virtuosic performance. Prerequisite: previous or concurrent study of dance composition (L29 508, 509). This course may be taken by qualified undergraduate dance majors or minors who have completed 203 (or 208), 303 (or 309), 3101 and with permission of instructor.
Credit 3 units.

L29 Dance 5100 Theory and Technique of Modern Dance V
The course emphasis is on versatility in movement vocabulary and on more complex and intensive technical work with discussion of theory inherent in the studio work, related readings, and projects. Variable content: may be repeated for credit in a subsequent semester. Prerequisite: Dance 302 with recommendation of the student's previous 302 instructor or permission of the 401 instructors.
Same as L29 Dance 401
Credit 2 units. A&S IQ: HUM EN: H

L29 Dance 5101 Theory and Technique of Modern Dance VI
This course is a continuation of Dance 401 with emphasis on more complex and intensive technical work. Variable content; may be repeated for credit in a subsequent semester. Prerequisite: Dance 401 with recommendation of the student's previous 401 instructor or permission of the 4021 instructors.
Same as L29 Dance 4021
Credit 2 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L29 Dance 5102 Modern Dance and the African American Legacy II
This course will focus on works by 2-3 renowned African-American choreographers. The selected choreographers are chosen for their contributions to the field of American modern dance based primarily on their explorations regarding the process and dynamics of building community--the sense of community as experienced through the lens of African-American cultural values and aesthetics and as it pertains to the creative process. Therefore, the course focuses on viewing the body as a site for the exchange of ideas concerning humanity. Students will investigate these choreographers through learning excerpts of their choreography and choreographing personal responses, as well as through related readings, videos, and independent research.
Same as L29 Dance 413
Credit 2 units. A&S IQ: HUM, SC, SD Arch: HUM Art: CPSC, HUM EN: H

L29 Dance 511 Independent Choreography Project I
This course is designed to assist the MFA students in the development of their craft as choreographers prior to committing to their final projects. The point of entry for each student may depend on his or her previous study of composition or experience within the profession. Each student composes a study or work-in-progress, a dance or dances which culminates in a public showing or concert of the work, on or off-campus, or with WU Dance Collective, the student repertory company. The ongoing work is to be shown 3-4 times a semester to the instructor of record and/or adviser, and any other Performing Arts Department faculty and/or Antonio Douthit-Boyd or Kirven Douthit-Boyd of the Center of Contemporary Arts (COCA) that the student wishes to invite for the viewing and response session.
Credit variable, maximum 3 units.

L29 Dance 5110 Classical Ballet III
Designed for dancers with a solid foundation in beginning and intermediate ballet technique. Related reading, research paper/discussion, video assignments; attendance at 1-2 ballet performnces. Variable content; may be repeated for credit in a subsequent semester. Prerequisite: permission of instructor and B+ or better in Dance 3221 and 415 or 416.
Same as L29 Dance 4281
Credit 2 units. A&S IQ: HUM Arch: HUM EN: H

L29 Dance 5111 Classical Ballet IV
A course designed for dancers with a solid foundation in beginning and intermediate ballet technique. Variable content; may be repeated for credit in a subsequent semester. Prerequisite: permission of instructor, and B+ or better in 3221 and 415 or 416.
Same as L29 Dance 4291
Credit 2 units. A&S IQ: HUM EN: H

L29 Dance 5112 Independent Choreography Project II
Credit variable, maximum 3 units.

L29 Dance 5113 Independent Choreography Project III
This course is designed to assist the MFA students in the development of their craft as choreographers prior to committing to their final projects. The point of entry for each student may depend on his or her previous study of composition or experience within the profession. Each student composes a study or work-in-progress, a dance or dances which culminates in a public showing or concert of the work, on or off-campus, or with WU Dance Collective, the student repertory company. The ongoing work is to be shown 3-4 times a semester to the instructor of record and/or adviser, and any other Performing Arts Department faculty and/or Antonio Douthit-Boyd or Kirven Douthit-Boyd of the Center of Contemporary Arts (COCA) that the student wishes to invite for the viewing and response session.
Credit variable, maximum 3 units.

L29 Dance 512 Performance Artistry
This course offers the MFA in Dance student an opportunity to receive credit for performing in public in choreography crafted by a Washington University dance faculty, or guest artist choreographers for Washington University Dance Theatre, in choreography presented by WU Dance Collective (the student repertory company), or by the Center for Contemporary Arts' Co-Artistic Directors of Dance, either Antonio Douthit-Boyd or Kirven Douthit-Boyd.
Credit 1 unit.

L29 Dance 5120 Performing the Political in American Dance
This course is an exploration of the politics of performance and the performance of politics through the lens of American dance in the 20th and 21st centuries. Through readings, screenings, and discussions, we will examine the ways in which American dance developed against and alongside political movements in the United States, particularly ones concerning nationalism, race, gender, and human rights. We will also investigate how the lens of dance and choreography offers an expansive means to conceptualize political questions of citizenship and social protest, broadening our understanding of embodied performance. Guided by several key philosophical texts, this course will focus on the concepts necessary for examining the convergence of performance and politics (e.g., representation, ritual, spectacle, body, mimesis, propaganda) while also paying special attention to the politics of funding and censorship that has governed the creation and presentation of dance in the United States. No dance experience is necessary.
Same as L29 Dance 426
Credit 3 units. A&S IQ: HUM, LCD, SC, SD, WI Arch: HUM Art: CPSC, HUM BU: BA EN: H

L29 Dance 5130 Dance Pedagogy
In this course students will learn methods of instruction, assessment and how to develop dance curriculum for K-12. Students will design classes based on national standards, grade level expectations and sound dance principles. In the studio they will teach each other sample lessons that they have developed. This class will cover dance competencies required by DESE for beginning teachers of dance. We will pay attention to current trends in arts education. Our discussion will include the diversity of student populations and how to prepare and respond. We will discuss the role of the arts in education and the dance teacher's role as classroom instructor, arts integration instructor, diplomat and arts advocate. Credit may be applied toward the education major and potentially toward state certification. Prerequisite: minimum of two semesters of upper level coursework in dance technique. Prerequisite: minimum of two semesters of upper level coursework in dance technique.
Same as L29 Dance 430
Credit 2 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L29 Dance 514 Methodologies of Global Dance Studies
This course introduces graduate students to methodologies of dance studies. In line with current scholarship, the course emphasizes a global perspective, thinking about the practice of dance in a wide spectrum of spaces and places, including the streets of Oakland, California, the milonga dance halls of Argentina, and the temples of India. We will pay attention both to questions of aesthetics and to how political and cultural contexts influence the practice of dance. Students will learn methods of ethnography, history, and practice-as-research as applied to dance; we will also analyze how dance scholars use feminist theory, critical race theory, queer theory, phenomenology, and performance studies in their work. As a final project, students conduct research on a topic of their choosing and present their results as either a written seminar paper or a performance ethnography.
Credit 3 units.

L29 Dance 5140 Performing Gender and Sexuality in America
This course examines how the performance of gender and sexuality has shaped the social, cultural, and political history of the United States from the early nineteenth century to the present. While performance happens in everyday life, we will primarily focus on how the stage has been a potent space to debate issues about gender and sexuality. This course will put forth the argument that the stage has historically not only reflected broader social concerns, but also actively helped to shape those social dynamics. After an introduction to foundational ideas, we will start the semester with minstrelsy, signaling that the performance of gender and sexuality in America is deeply intertwined with race, class, and national belonging. Reading and viewing assignments bring together feminist theory, queer theory, American social history, and performance texts to build robust seminar discussions.
Same as L29 Dance 433
Credit 3 units. A&S IQ: HUM, SC, SD Arch: HUM Art: CPSC, HUM BU: BA, HUM EN: H

L29 Dance 5150 Presence in Performance: Alexander Technique and Mindful Movement for Performing Artists
This course provides group and individual instruction in principles and methods from Alexander Technique and other somatic arts for training mindful, embodied presence in performance. Mindful movement techniques are widely used by professional dancers, actors, and musicians to enhance performance skill and to address/prevent injury and chronic pain. Through a workshop process of guided learning, students gain awareness of subtle inefficiencies in coordination and balance that cause pain and limit ability. Students gain ability to self-assess and adjust problematic movement patterns to improve freedom and expression. Alexander Technique works at fundamental levels of movement coordination, and its methods are applicable to all performing art genres. Training is tailored to each individual student's needs, skills and goals. This course involves experiential learning supported with related readings, discussion, personal research projects and presentations. Prerequisites: Graduate standing; also open to undergraduate students studying at the 400 level in their discipline with permission of instructor.
Same as L29 Dance 453
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L29 Dance 5160 High Intermediate Ballet I
A course designed as preparation for the advanced level. Emphasis on vocabulary review and individual technique assessment, including placement, movement quality and musicality. Related readings and video assignments; attendance at and critical analysis of 1-2 ballet performances. Variable content; may be repeated in a subsequent semester. Prerequisite: B+ or better in 221, 222, 321, 322 and/or permission of instructor.
Same as L29 Dance 415
Credit 2 units. A&S IQ: HUM EN: H

L29 Dance 517 Workshop in Dance as Cultural Identity
Candidates learn West African and Classical Indian dance forms in a context of assigned reading, individual research, and written responses to movement and textural content.
Credit 3 units.

L29 Dance 5170 High Intermediate Ballet II
A course designed for the high intermediate dancer in preparation for 4281/429. Emphasis on placement, movement quality and musicality. Related readings and projects supplement the classical vocabulary. Prereq: B+ or better in 221, 222, 321, 322 and/or permission of instructor.
Same as L29 Dance 416
Credit 2 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L29 Dance 5180 Variations in the Ballet
Introduces classical choreography within various ballets. Prerequisites: Dance 321 or 4281 with some pointe training, and permission of instructor.
Same as L29 Dance 418
Credit 1 unit. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L29 Dance 5181 Pointe Technique
Designed for dancers with a basic foundation in pointe work. Variable content; may be repeated for credit in a subsequent semester. Prerequisite: concurrent registration in Dance 321 or 4281 and B+ or better in 221, 222, 321, 322 and/or permission of instructor.
Same as L29 Dance 423
Credit 1 unit. A&S IQ: HUM

L29 Dance 519 Guest Artist Residency Workshop
This course is designed as an opportunity for the student to work as an assistant to a guest choreographer during their process of creating new choreography or restaging original choreography. The student will experience the applied nature of critical thinking, problem solving, and collaboration within the choreographic process as the choreographer also administrates the more managerial responsibilities of scheduling and time management. The student will be fully immersed in the unique bifurcated interplay of the dialogic and the corporeal of the choreographic process. The experience should enhance the student's already burgeoning choreographic process. Following the residency, the student will take over the rehearsal process through to tech week and the performances. May be repeated once.
Credit 1 unit.

L29 Dance 5190 Topics in Dance Technique
Explores a variety of special interest topics in dance techniques. Consult the course listings for the semester topic.
Same as L29 Dance 407
Credit variable, maximum 3 units. A&S IQ: HUM EN: H

L29 Dance 520 Research Methods Colloquium
This course is designed around the theory of the "everyday work of art", suggested by Eric Booth. The everyday work of art suggests a persistent interest in and the ability to navigate one's art making from the initial impulse of creation to the fully blossomed form. In this course, the art is that of making dance. Indeed, the work of our art both acknowledges the expectations from within our given domain while fully engaging with the daily, open-ended possibilities for dance making.
Credit 3 units.

L29 Dance 530 Theories of the Body in Performance
Over the past twenty years, "the body" has become a popular subject of study across multiple disciplines, including anthropology, philosophy, women's/gender/sexuality studies, religious studies, and the growing field of performance studies. This graduate seminar pairs critical theory readings about embodiment (and its attendant phenomena, including corporeality, kinesthesia, emotions, the senses, etc) with investigation into how specific artists work out such ideas in performance. Identity categories often marked by the body, including race, gender, and sexuality, will be particularly important. For example, we will wrestle with how "the black dancing body" as a conceptual framework maps (and not) onto the material realities of African American dancers. In addition to discussion of texts, in-class work includes embodied and

creative exercises as a way for students to apply theory to practice. Assignments deepen students' artistry, help them develop analytical writing and presenting skills, and prepare them for professional work in both performative and academic arenas.
Credit 3 units.

L29 Dance 5300 Contemporary Ballet
For intermediate and advanced dancers, this course presents a dynamic fusion of classical ballet technique and the expressive, innovative elements of contemporary dance. We will build upon the foundational ballet principles rooted in an art form dating back to the seventeenth century, during the reign of Louis XIV in France. While ballet traditionally prides itself on classicism, the past forty years have seen the emergence of the genre known as contemporary ballet. This genre pushes the classical ballet vocabulary into new thematic and aesthetic territories, placing emphasis on abstraction, complex rhythms, and movement invention. Many of today's leading dance companies focus is on contemporary ballet, making this course a valuable preparation for entering the evolving world of dance. The course places a strong emphasis on practical, embodied work in the studio to foster the development of technical skills, musicality, and artistry. Prerequisites: Successful completion of L29 Dance 321 or permission of the instructor.
Same as L29 Dance 4300
Credit 2 units.

L29 Dance 543 Critical Thinking in Western Theatrical Dance
Credit 3 units.

L29 Dance 550 Final Project I
This is the first of the two Final Project courses (Final project II, Spring semester) for the MFA in Dance student. The student will spend the Fall semester creating and rehearsing original choreography which will be presented in a Final Project Concert, second semester, that represents the culmination of their studies in the MFA in Dance Program. The Final Project, a concert or public presentation largely expressed in Dance, represents an amalgamation of their growth as an artist, enhanced choreographic process, expanded range as a performer, and comprehensive understanding and application of the collaborative nature of the production elements within their concert. The concert, and the research and rehearsals leading up to it noted in a written statement, will be evaluated by a committee.
Credit 3 units.

L29 Dance 551 Final Project II
Final project for MFA in Dance.
Credit 3 units.

L29 Dance 883 Master's Continuing Student Status

L29 Dance 884 Doctoral Continuing Student Status

L29 Dance 885 Masters Nonresident

L29 Dance 886 Doctoral Nonresident

L29 Dance 887 Masters Resident

L29 Dance 888 Doctoral Resident

Drama

Visit online course listings to view semester offerings for L15 Drama.

L15 Drama 500 Independent Work
Prerequisite: permission of the department. Credit to be determined in each case.
Credit variable, maximum 3 units.

L15 Drama 5008 Graduate Writing Workshop
A structured workshop in which graduate students revise written work with the goal of submission to journals and/or writing samples for submission to competitive graduate programs. Contact hours will be both individual and will accommodate students' schedules.
Credit 2 units.

L15 Drama 5009 Article Writing Workshop
This one-credit course offers guided direction to graduate students in the Master's Program in Theater and Performance Studies who are revising and expanding a seminar paper written for a previous course with the intent to submit it for the required essay exam. The workshop would be aimed at helping the student refine the paper's argument, strengthen its evidence, and polish his or her professional writing skills with the hope of turning the paper into a potentially publishable article. This essay would be submitted to the DGS as part of the student's completion of the Master's Degree requirements pertaining to the exam.
Credit 1 unit.

L15 Drama 506 Topics in Contemporary Arts Practice Research
This course offers graduate students an opportunity to engage and conduct contemporary arts practice research. Taught by a member of our arts practice faculty (e.g., in dance/movement, acting/directing, design), this course introduces students to contemporary research on a topic that the faculty member is currently conducting (e.g., reconstructions of historic choreographies, global applications of Boalian technique, robotics and performance). Through these graduate-level courses, students are invited to enter into and contribute to the broader scholarly conversations that have shaped and are shaping our knowledge of that topic through their own research. Assignments will include reading and discussing contemporary scholarship on the topic, writing papers, and participating in arts practice research (often by designing their own performance-oriented work).
Credit 3 units.

L15 Drama 507 Topics in Contemporary Theoretical and Historical Research
This graduate-level seminar is designed to introduce students to contemporary scholarly debates in the field of theatre and performance studies. Addressing rotating topics that faculty members are currently engaging in their own historical/theoretical research, the course offers students an advanced introduction to the topic at hand, asking them to consider how recent scholarly conversations have shaped and are shaping our knowledge of it. Assignments are designed to invite students to contribute to these scholarly conversations through their own research by helping them hone their skills of analysis, synthesis and argumentation.
Credit 3 units.

L15 Drama 5070 Theater for Social Change
Drawing upon the principles and teachings of Brazilian director Augusto Boal, students will explore ways of effecting positive social change in a theatrical context. Students will study the aesthetic of Boal's "Theatre of the Oppressed" and learn various games and exercises designed to mine issues of social (in)justice. Using Boal's techniques of "image" and "forum" theatre, students will then create and perform plays focused on these issues. This public performance will be an interactive event offered for and with the university community. No prior performance training or experience is required for this course.
Same as L15 Drama 4081
Credit 3 units. A&S IQ: HUM, SC, SD Arch: HUM Art: CPSC, HUM EN: H

L15 Drama 509 Master's Research
Credit for advanced research on a scholarly essay in Theater and Performance Studies.
Credit 3 units.

L15 Drama 5100 Stage Lighting
This course will place an emphasis in the aesthetic practice of lighting design through the understanding of technology as it relates to time and space. Early on the student will learn how to properly use and apply designer's tools and then through reading, research and experimentation explore the limitless boundaries of color and texture. This will culminate in a stage design in collaboration with directing or dance class. Upon completion of the course, the student will be able to speak eloquently on design theory and be able to move on to further design study in Advanced Lighting Design: L15 410.
Same as L15 Drama 310
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L15 Drama 5101 Intro to Graduate Study in Drama
An introduction for the beginning Performing Arts graduate student to theoretical approachesm as well as practical methodoloties and resources, currently employed in professional theatre history, dramatic literature, theory criticism research. The course places equal emphasis on grasping theoretical issues and mastering graduate-level research and writing skills. Students will initiate, design and conduct a research project to the point of a completed first draft.
Credit 3 units.

L15 Drama 5108 Acting Styles: Realism to Nonrealism
This course builds on skills in character development and scene study, beginning with psychological realism and then shifting into various forms of nonrealism. Through written analysis and performance, students apply acting techniques that address a variety of playwriting styles. Prerequisites: Drama 240E/2401 and Drama 341/3411. The semester begins with a deepening understanding of psychological realism through the exploration of Anton Chekhov's plays. Focus then shifts to nonrealism with Harold Pinter. The second half of the semester is solidly rooted in nonrealism. Students hone their skills by exploring two more scenes from classical and/or contemporary texts. Additionally, in the final scene, students are encouraged to explore applicable considerations of gender-identity, race, and ethnicity in play and character selection. Prerequisites: Drama 2401 Fundamentals of Acting, Drama 3411 Intermediate Acting This course is open exclusively to seniors and graduate students
Same as L15 Drama 4224
Credit 3 units. A&S IQ: HUM BU: HUM EN: H

L15 Drama 5125 Topics in English and American Drama: 19th Century American Drama
Varies from semester to semester.
Same as L14 E Lit 434
Credit 3 units. A&S IQ: HUM Art: HUM EN: H

L15 Drama 513 Seminar: Early Modern Theater History Now

Same as L14 E Lit 513
Credit 3 units.

L15 Drama 514 Methodologies of Global Dance Studies
This course introduces graduate students to methodologies of dance studies. In line with current scholarship, the course emphasizes a global perspective, thinking about the practice of dance in a wide spectrum of spaces and places, including the streets of Oakland, California, the milonga dance halls of Argentina, and the temples of India. We will pay attention both to questions of aesthetics and to how political and cultural contexts influence the practice of dance. Students will learn methods of ethnography, history, and practice-as-research as applied to dance; we will also analyze how dance scholars use feminist theory, critical race theory, queer theory, phenomenology, and performance studies in their work. As a final project, students conduct research on a topic of their choosing and present their results as either a written seminar paper or a performance ethnography.
Same as L29 Dance 514
Credit 3 units.

L15 Drama 5140 Embodied Communication: Listening
This course is about listening. We will begin by mediated and unmediated listening with the human auditory system and continue into an exploration of multi-modal listening, focusing on vibration and on somatic attention. We will work in the "studio," which will include a music studio, a dance studio, and the environment. Our investigation will include the study of sensing in more-than-human organisms as well as theoretical perspectives from sound studies, critical improvisation and history of science. The course will encourage the perspective that the practice of listening is a political act of tending to the invisible, the non-normative, and the incomplete.
Same as L15 Drama 4140
Credit variable, maximum 3 units. A&S IQ: HUM EN: H

L15 Drama 515 Graduate Public Speaking: Embodied Multimodal Communication
The class helps students develop their ability to communicate effectively in professional contexts in and beyond academia. It is designed with the needs of scholars in the humanities and humanistic social sciences in mind. Students will receive group instruction in verbal and non-verbal expression, voice, and physical movement, and individual coaching on a series of practiced communication tasks. Assignments will replicate situations in twenty-first century information professions: research presentations, video-conference interviews, and podcast production. Students will develop capacities that help them convey complex ideas clearly and present themselves confidently as colleagues and collaborators.
Credit 3 units.

L15 Drama 5301 Theories of the Body in Performance
Over the past twenty years, "the body" has become a popular subject of study across multiple disciplines, including anthropology, philosophy, women's/gender/sexuality studies, religious studies, and the growing field of performance studies. This graduate seminar pairs critical theory readings about embodiment (and its attendant phenomena, including corporeality, kinesthesia, emotions, the senses, etc) with investigation into how specific artists work out such ideas in performance. Identity categories often marked by the body, including race, gender, and sexuality, will be particularly important. For example, we will wrestle with how "the black dancing body" as a conceptual framework maps (and not) onto the material realities of African American dancers. In addition to discussion of texts, in-class work includes embodied and

creative exercises as a way for students to apply theory to practice. Assignments deepen students' artistry, help them develop analytical writing and presenting skills, and prepare them for professional work in both performative and academic arenas.
Same as L29 Dance 530
Credit 3 units.

L15 Drama 5303 Performance Theory
This course introduces students to contemporary theories of performance, with "performance" understood as both metaphor and event. From a multi-disciplinary perspective, students will consider how cultures produce meanings-and, indeed, perform those meanings-to create and/or disrupt their own social coherence. Theories likely to be studied include: J. L. Austin's speech-act theory and its engagement by John Searle and Jacques Derrida; Victor Turner's analysis of ritual as social process and Richard Schechner's use of it to transform "theater studies" into "performance studies;" Erving Goffman's sociology of the self and its relation to a post-structuralist model of subjectivity; Michael Fried's screed against minimalist art and its relation to Happenings, Body Art, Fluxus, and other mid- to late-20th century examples of "performance art;" and Judith Butler's influential revision of Austin's performative in her theory of queer "performativity."
Same as L15 Drama 497
Credit 3 units. A&S IQ: HUM EN: H

L15 Drama 5305 Seminar in Dramatic Theory
This course is an in-depth exploration of core works of dramatic theory from the ancient world to the present, and it will introduce texts that enunciate what theater is, has been, and should be. We will study authors' expressions of theater's role in society, their articulations of and responses to anti-theatrical prejudice, and their negotiations of the contradiction of putting "the real" on stage. Other significant themes include accounting for the aesthetic pleasures of drama and theater; theater as a means of educating the citizen; and the relationship between dramatic form and social and political revolution. Moving chronologically, we begin with foundational documents of the ancient world, including Aristotle's "Poetics," Bharata's "Natyasastra," and Horace's "Ars Poetica." The course then progresses through the Middle Ages, the Neoclassical and Romantic eras, and the explosion of fin de siecle avant-gardes. We will also read key texts from beyond the European tradition, including works of dramatic theory written in medieval Japan (Zeami), postcolonial Nigeria (Soyinka), and the millennial, multicultural United States (Parks). Along these same lines, we will also be attuned to transnational exchange and influence, particularly as it appears in the 20th-century theories of Bertolt Brecht, Antonin Artaud, and Konstantin Stanislavsky. Although the course will be focused on efforts to describe and prescribe theories of drama, dramatic genre, and theatrical pleasure, it will also position play scripts alongside the theoretical treatises that guide or are guided by them.
Same as L15 Drama 449
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L15 Drama 5307 Topics in American Drama: Tennessee Williams
Topics in American Drama.
Same as L15 Drama 453
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L15 Drama 5309 Shakespeare and Performance
How were Shakespeare's plays performed in their own day--in the Globe theater, with boy actors, and with very short rehearsal times? How, for the actor, did performance work on the outdoor stage, with the Globe's wide and deep acting platform and its intimate relationship to the audience? How might one stage Shakespeare today in an outdoor environment without lighting and with minimal sets, and with the capacity to move easily from one outdoor venue to another? From what social types in Renaissance England-such as merchants, prostitutes, aristocrats, constables, beggars, and princes-did Shakespeare draw? How can evolving ideas about race, gender, and sexuality inform the way we perform Shakespeare today? Addressing these questions and others, the course weaves together performance and literary, critical, and historical study. Topics include blank verse, performing Shakespeare's prose, playing with figures of speech, working the Globe stage, engaging an outdoor audience, acting from a written "part" rather than an entire script, performing types, exploring Shakespeare's sources as performance alternatives, making Shakespeare new- and more. Students will rehearse and perform sonnets, scenes, and monologues based on social figures from Shakespeare's England. The course assumes a willingness to perform but not specialized acting training.
Same as L15 Drama 4692
Credit 3 units. A&S IQ: HUM EN: H

L15 Drama 5310 Borders and Boundaries
This course will draw from the work of performance theorists, playwrights, anthropologists, historians, and geographers to write critically about and devise artistic work that opens up foundational theories, debates, and genealogies in the study of borders and boundaries. This course will use North America as its primary reference point, but it will also draw our attention to border and boundary dynamics elsewhere to think about global challenges such as forced migration and climate change.
Credit 3 units.

L15 Drama 5311 Performing Gender and Sexuality in America
This course examines how the performance of gender and sexuality has shaped the social, cultural, and political history of the United States from the early nineteenth century to the present. While performance happens in everyday life, we will primarily focus on how the stage has been a potent space to debate issues about gender and sexuality. This course will put forth the argument that the stage has historically not only reflected broader social concerns, but also actively helped to shape those social dynamics. After an introduction to foundational ideas, we will start the semester with minstrelsy, signaling that the performance of gender and sexuality in America is deeply intertwined with race, class, and national belonging. Reading and viewing assignments bring together feminist theory, queer theory, American social history, and performance texts to build robust seminar discussions.
Same as L29 Dance 433
Credit 3 units. A&S IQ: HUM, SC, SD Arch: HUM Art: CPSC, HUM BU: BA, HUM EN: H

L15 Drama 535 Graduate Seminar
Credit 3 units.

L15 Drama 540 Prefiguration and Performance
"Prefigurative politics" describes activists' creation of a desired future world in the present. The term has been used to describe social movements (from Occupy to Tahrir Square to the Movement for Black Lives); Black and interracial intentional communities pursuing racial justice (including the Harlem Ashram and the Highlander Folk School); and experiments in radical pedagogy (such as Freedom Schools). Prefiguration takes many forms: in staging a new world, activists might establish systems of mutual aid or other models of care; promote a model of participatory democracy; challenge the relationship between the state and its citizens; establish new histories and myths; reimagine economic models; and/or create new aesthetic forms. Political theorists and sociologists have much to teach us about prefigurative politics and the many debates that surround it. For example, what is the relationship between prefiguration and political strategy? Are the two at odds, or compatible? Students enrolled in this course will work assiduously to assess this literature. We will then put the contemporary

scholarship on prefigurative politics into conversation with a set of conversations emerging from performance theory that traverse similar terrain, among them debates about performance, utopia, and futurity; explorations of rehearsal and simulation; and the performativity of assembly. We will use our work to make sense of our contemporary moment, consider the performance and performativity of politics, and draw inspiration from those who have worked and continue to work to build "a new world in the shell of the old."
Credit 3 units.

L15 Drama 5401 Advanced Playwriting
This course explores the tendencies and relationship between each individual student writer and the page. Exercises dispel any lingering doctrine that presupposes a certain style of writing. A large part of the class centers around collaborations. The writers write scenes as a final project for an acting class, and also work with two professional actors in an extended writing project that culminates in a script-in-hand presentation. The informal moments between collaborations look at the process beyond the first draft -- i.e., the playground of language, non-verbal options, and the maintaining of "the work" through rewrites, readings, workshops, and productions. Prerequisite: Introduction to Playwrighting, Drama 227.
Same as L15 Drama 473
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L15 Drama 5402 Advanced Theater for Social Change
This course is a continuation of exploration begun in Drama 4081, Theater for Social Change: a prerequisite for this advanced course. Students will expand from exploring their own experience with oppression to facilitating that exploration with others. Students will be introduced to the "Joker" system, developed by Brazilian director Augusto Boal. The Joker is the director of a forum theater event. He leads both the exploration and play-making phases of the process. In preparation for stepping into this role, students will read Paulo Freire's Pedagogy of the Oppressed which will give them a foundation in the power and efficacy of collaborative educational techniques. In addition, students will read Theatre for Living, Canadian director David Diamond's book detailing his application of Boalian techniques in a less overtly oppressive society. Students will begin their practical exploration by first working with one another, learning how to lead exercises and games, followed by an exploration of play making and the facilitation of an interactive forum theater event. The course will culminate in an outside project in which each student is placed with a St. Louis area school or social organization. The student will apply skills he has acquired throughout the semester by serving as the "Joker" of the workshop. In this role, the student will lead the entirety of the workshop process with a selected group exploring ways of effecting positive social change in a theatrical context. He will facilitate exercises with the group that mine a chosen area of oppression with which the group is grappling. The student will guide play-making with the group that highlights this area of oppression. The resulting plays will then be presented to the larger school or organization community. This culminating event will be an interactive forum theater presentation that the student will lead as "Joker."
Same as L15 Drama 4082
Credit 3 units. A&S IQ: HUM, SC, SD Arch: HUM Art: CPSC, HUM EN: H

L15 Drama 557 Contemporary Issues in Education and Society: Project-Based Learning in Theatre Pedagogy
Credit 3 units.

L15 Drama 5970 Independent Work
Students may contract with a faculty supervisor for credit for their work on theatrical productions or research. Contracts must be signed by the student and the coordinator of Drama 500 before the student's work on the project commences. Credit and grade option to be determined in each case. In order to enroll for this course, students must complete a contract and submit it to the Performing Arts Department office.
Credit variable, maximum 6 units.

Dance, MFA

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 60 units (15 units per semester)**
- **Degree Length: Two years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
- At the end of their first year, students will propose a culminating project — typically a dance concert or another public presentation of creative work largely expressed in dance — and submit a paper about its production, including analysis and critique, that they will defend orally.
- Students must earn a grade of C- or better in all courses. Students must maintain a minimum cumulative grade point average of at least 3.0 in courses that count toward their credit units.

Required Courses

I. Technical Development: 13 units

Students must take 13 units of credit in studio-based movement praxis that have the 5000-level course designation. The courses can be in any genres that best support the student's development.

II. Choreography and Performance: 20 units

Code	Title	Units
Dance 508	Dance Composition Laboratory I: Exploring Process and Format	3
Dance 509	Dance Composition Laboratory II: Exploring Alternative Venues and Audience Connections	3
Dance 510	Approaches to Improvisation and Spontaneous Composition	3
Drama 5100	Stage Lighting (or equivalent 5000-level course in production)	3
Dance 511	Independent Choreography Project I	3
Dance 5112	Independent Choreography Project II	3
Dance 512	Performance Artistry (must be taken twice)	1

III. Research and Integrated Learning: 12 units

Required:

Code	Title	Units
Dance 520	Research Methods Colloquium	3

Plus 9 units chosen from the following:

Code	Title	Units
Dance 506	Topics in Contemporary Arts Practice Research	3
Dance 5102	Modern Dance and the African American Legacy II	2
Dance 5120	Performing the Political in American Dance	3
Dance 5130	Dance Pedagogy	2
Dance 514	Methodologies of Global Dance Studies	3
Dance 5140	Performing Gender and Sexuality in America	3
Dance 519	Guest Artist Residency Workshop	1
Dance 530	Theories of the Body in Performance	3

IV. Electives: 9 units

Students must complete 9 additional units at the 5000 level or above. These units may be from any areas of the performing arts or relevant areas in other departments or programs. MFA students are encouraged to pursue courses that support or help to define their individual trajectories as artists.

V. Mentored Teaching Experience

- LGS 600

Each Mentored Teaching Experience will be fashioned around the student's interests, when possible, and guided by a full-time member of the dance faculty. For more information, visit the Mentored Teaching Experiences webpage.

VI. Final Project: 6 units

Code	Title	Units
Dance 550	Final Project I (to be taken during the fall semester of the student's second year)	3
Dance 551	Final Project II (to be taken during the spring semester of the student's second year)	3

At the end of the first year, the MFA student will propose a plan for the final project, choose a main advisor, and form a final project committee. A concert is the typical format of the MFA final project, but it can take other forms of public presentation. The primary requirement is that the student's creative work must be largely expressed in dance. In addition to the presentation, the student will write a dramaturgical essay that contextualizes the work from its initial conception through to its reception. The student will submit a final version of the written component as well as a video record of the concert or public presentation for archival purposes within the department.

Phone:	314-935-5858
Email:	pad@wustl.edu
Website:	http://pad.wustl.edu/

Theater and Performance Studies, Accelerated AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

This program allows qualified Washington University undergraduates to complete a Master of Arts (AM) degree in a one-year accelerated program after earning the Bachelor of Arts (AB) degree in drama. The undergraduate and graduate degrees are awarded sequentially, if approved, with admission to the Accelerated AM program occurring during the fall semester after completion of the AB degree during the preceding December, May, or August. Applications may be submitted

at any time during the student's senior year through March 15, and GRE tests are not required. The program is available only to senior students and only for continuous enrollment the next year. There is no option for deferred admission.

The requirements for the Accelerated AM are identical to those for the traditional AM, as detailed below. To complete the AM in one year, students may apply five undergraduate courses at the 400 level or above (a maximum of 16 units) toward the master's degree. Undergraduate courses must be acceptable to the director of graduate studies, and they must be completed with a final grade of B or higher.

Interested students should contact the director of graduate studies, Paige McGinley (pmcginley@wustl.edu) (pmcginley@wustl.edu), during their sophomore or junior year for additional information and application instructions.

- **Total Units Required:** 36 units (20 units at the 500 level)
- **Degree Length:** 1 year
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
- Students must earn a final grade of B or higher in all courses.

I. Required courses: 18 units (6 courses)

1. **Drama 5101 Intro to Graduate Study in Drama.** As a general introduction to advanced scholarship in theater and performance studies, this course is designed to familiarize first-year graduate students with expectations for advanced research and professional writing. It is also intended to provide an overview of theater and performance studies, focusing on the relationship between these two scholarly domains, major works of scholarship that have defined the field, and current debates redrawing its contours.
2. **Drama 5303 Performance Theory.** This course introduces students to contemporary theories of performance, with "performance" understood as both metaphor and event. From a multidisciplinary perspective, students will consider how cultures produce meanings — and, indeed, perform those meanings — to create and/or disrupt their own social coherence. Theorists studied include J.L. Austin, Victor Turner, Erving Goffman, and Judith Butler.
3. **Drama 5305 Seminar in Dramatic Theory.** An in-depth exploration of core works of dramatic theory from the ancient world to the present, this course focuses on texts that enunciate what theater is, has been and should be. Readings address theater's role in society, the anti-theatrical prejudice, the aesthetic pleasures of drama and theater, theater as a means of educating the citizen, and the relationship between dramatic form and social and political revolution.
4. **Theater/Performance History.** One 500-level historically-based seminar from a list of approved courses taught *within* the Performing Arts Department. (Topics vary by semester.)
5. **Theater Practice.** At least one (but no more than three) 500-level course(s) in theater practice: dramaturgy, directing, playwriting, or design.
6. Master of Arts students in Theater and Performance Studies should develop knowledge of and appreciation for aesthetic forms, intellectual paradigms, and cultural conditions beyond the largely white, Eurocentric approaches that have prevailed in the modern university curriculum. To that end, students will complete at least **one graduate-level course examining drama, theater, and/or performance that emerges from racial and/or ethnic communities whose contributions have been historically underrepresented in our field.** Eligible courses include those home-based in the Performing Arts Deparment as well as approved courses offered through other Arts & Sciences departments.

II. Electives: 15 units (5 courses)

Students are invited to develop a broad-based or specialized curriculum in theater and performance studies, choosing courses from within the Performing Arts Department (including Dance) or as many as four courses (12 units) from departments outside the Performing Arts Department. The program works closely with faculty affiliates in other departments, including Anthropology; Classics; English (and non-Anglophone languages and literatures); Film and Media Studies; Music; Women, Gender, and Sexuality Studies; and the Sam Fox School of Design & Visual Arts.

III. Master's Research (3 units)

The capstone to the master's degree is the completion of an essay of publishable length (typically 25 double-spaced pages) and quality. This essay is based on a seminar paper written during the student's first three semesters in the program, which must be extensively revised and expanded under the guidance of an advisor. After the revised seminar paper has been submitted to and approved by the director of graduate studies, the student will meet with a committee of three faculty members for an oral exam.

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Theater and Performance Studies, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of

master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required:** 36 units
- **Degree Length:** 2 years
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
- Students must earn a final grade of B or higher in all courses.

I. Required courses: 18 units (6 courses)

1. **Drama 5101 Intro to Graduate Study in Drama.** As a general introduction to advanced scholarship in theater and performance studies, this course is designed to familiarize first-year graduate students with expectations for advanced research and professional writing. It is also intended to provide an overview of theater and performance studies, focusing on the relationship between these two scholarly domains, major works of scholarship that have defined the field, and current debates redrawing its contours.
2. **Drama 5303 Performance Theory.** This course introduces students to contemporary theories of performance, with "performance" understood as both metaphor and event. From a multidisciplinary perspective, students will consider how cultures produce meanings — and, indeed, perform those meanings — to create and/or disrupt their own social coherence. Theorists studied include J.L. Austin, Victor Turner, Erving Goffman, and Judith Butler.
3. **Drama 5305 Seminar in Dramatic Theory.** An in-depth exploration of core works of dramatic theory from the ancient world to the present, this course focuses on texts that enunciate what theater is, has been, and should be. Readings address theater's role in society, the anti-theatrical prejudice, the aesthetic pleasures of drama and theater, theater as a means of educating the citizen, and the relationship between dramatic form and social and political revolution.
4. **Theater/Performance History.** One 500-level historically-based seminar from a list of approved courses taught *within* the Performing Arts Department. Topics vary by semester.
5. **Theater Practice.** At least one (but no more than three) 500-level course(s) in theater practice: dramaturgy, directing, playwriting, or design.
6. Master of Arts students in Theater and Performance Studies should develop knowledge of and appreciation for aesthetic forms, intellectual paradigms, and cultural conditions beyond the largely white, Eurocentric approaches that have prevailed in the modern university curriculum. To that end, students will complete at least **one graduate-level course examining drama, theater, and/or performance that emerges from racial and/or ethnic communities whose contributions have been historically underrepresented in our field.** Eligible courses include those home-based in the Performing Arts Department as well as approved courses offered through other Arts & Sciences departments.

II. Electives: 15 units (5 courses)

Students are invited to develop a broad-based or specialized curriculum in theater and performance studies, choosing courses from within the Performing Arts Department (including Dance) or as many as four courses (12 units) from departments outside the Performing Arts Department. The program works closely with faculty affiliates in other departments, including Anthropology; Classics; English (and non-Anglophone languages and literatures); Film and Media Studies; Music; Women, Gender, and Sexuality Studies; and the Sam Fox School of Design & Visual Arts.

III. Master's Research (3 units)

The capstone to the master's degree is the completion of an essay of publishable length (typically 25 double-spaced pages) and quality. This essay is based on a seminar paper written during the student's first three semesters in the program, which must be extensively revised and expanded under the guidance of an advisor. After the revised seminar paper has been submitted to and approved by the director of graduate studies, the student will meet with a committee of three faculty members for an oral exam.

Phone:	314-935-5858
Email:	pad@wustl.edu
Website:	http://pad.wustl.edu/

Philosophy

The Washington University Philosophy Department houses two PhD programs: a program in **Philosophy** — with strengths in philosophy of mind, epistemology, political philosophy, philosophy of science, metaphysics, and the history of philosophy — and a special interdisciplinary program in **Philosophy-Neuroscience-Psychology (PNP)** that maintains a core faculty in philosophy and draws on Washington University's exceptional psychology and neuroscience programs.

The department accepts about 10% of the applicants to these PhD programs and maintains about 25 students in both programs. We are especially open to interdisciplinary work, and we are committed to providing methodologically and substantively broad training. We welcome applicants from a wide range of backgrounds, and the most successful applicants have evidence of philosophical talent and promise.

Phone:	314-935-6670
Email:	philosophy@wustl.edu
Website:	http://philosophy.wustl.edu/graduate-programs

Faculty

Chair, Director of Philosophy

Paula "Lori" Watson
Professor
PhD, University of Illinois-Chicago

Director of Graduate Studies

Matt McGrath
Professor
PhD, Brown University

Director of Undergraduate Studies

Anne Margaret Baxley
Associate Professor
PhD, University of California, San Diego

Director of Philosophy-Neuroscience-Psychology

Casey O'Callaghan
Professor
PhD, Princeton University

Department Faculty

Anne Baril
Lecturer
PhD, University of Arizona

Eric Brown
Associate Professor
PhD, University of Chicago

Rebecca "Becko" Copenhaver
Professor
PhD, Cornell University

Carl Craver
Professor
PhD, University of Pittsburgh

Dennis Des Chene
Professor Emeritus
PhD, Stanford University

Marina DiMarco
Assistant Professor
PhD, University of Pittsburgh

J. Claude Evans
Professor Emeritus
PhD, State University of New York–Stony Brook

Jason Gardner
Lecturer
PhD, Washington University in St. Louis

Allan Hazlett
Professor
PhD, Brown University

John Heil
Professor
PhD, Vanderbilt University

Brett Hyde
Associate Professor
PhD, Rutgers University

David Kinney
Assistant Professor
PhD, London School of Economics

Nicholas Koziolek
Senior Lecturer
PhD, University of Chicago

Jonathan Kvanvig
Professor
PhD, University of Notre Dame

Ron Mallon
Professor
PhD, Rutgers University

Stanley Paulson
Professor Emeritus
PhD, University of Wisconsin-Madison

Anya Plutynski
Professor
PhD, University of Pennsylvania

Jerome P. Schiller
Professor Emeritus
PhD, Harvard University

Joseph S. Ullian
Professor Emeritus
PhD, Harvard University

Kit Wellman
Professor
PhD, University of Arizona

Degree Requirements

- Philosophy, PhD (p. 329)

Courses

Visit online course listings to view semester offerings for L30 Phil.

L30 Phil 500 Independent Work
Prerequisites: junior standing and permission of the department.
Credit variable, maximum 6 units.

L30 Phil 502 Proseminar in Philosophy
The chief aim of the seminar is to improve students' philosophical skills, especially their philosophy writing skills. This seminar is limited to first year Philosophy and PNP graduate students.
Credit 3 units.

L30 Phil 509 Formal Methods for Philosophy
This course is an advanced course exploring formal methods in both logic and confirmation theory. It begins with an introduction to metatheory, which is explored in more depth in the 403-404 sequence on Mathematical Logic, addressing the basic metatheory for logic in addition to alternatives to standard first-order logic. The second part of the course focuses on modal and other intensional logics. The final part of the course focuses on non-monotonic logics, focusing especially on Bayesian confirmation theory and decision theory. Prerequisite: 6 units of philosophy or permission of the instructor.
Same as L30 Phil 409
Credit 3 units. A&S IQ: NSM, AN Arch: NSM Art: NSM

L30 Phil 514 Survey Seminar
This is an advanced survey of one of several basic areas of philosophy, covering a different topic each semester. Prerequisite: enrollment in Philosophy or PNP PhD program or permission of instructor.
Credit 3 units.

L30 Phil 5142 Advanced Metaphysics
Through readings from both classical and contemporary sources, a single traditional metaphysical concern will be made the subject of careful and detailed analytic attention. Possible topics include such concepts as substance, category, cause, identity, reality, and possibility, and such positions as metaphysical realism, idealism, materialism, relativism, and irrealism. Prerequisites: one course in Philosophy at the 300-level, graduate standing, or permission of the instructor.
Same as L30 Phil 4142
Credit 3 units. A&S IQ: HUM Art: HUM EN: H

L30 Phil 515 Topics in Philosophy of Mind
Credit 3 units.

L30 Phil 516 Research Seminar
Students in this course have intensive focus on a specific philosophical topic, question, or figure, with an emphasis on philosophical research methods and writing. Prerequisite: enrollment in Philosophy or PNP PhD program or permission of instructor.
Credit 3 units.

L30 Phil 521 Seminar: Scientific Explanation
This course will be a deep dive on recent work on mechanistic theories of scientific explanation in the context of the wider effort to build a theory of scientific explanation. Students are encouraged to approach the subject matter of this course with some particular, actual scientific explanation in mind. We will use the philosophical material as a critical lens on student-specific research topics. Students are expected to be self-driven and active participants in their own learning, and they should be willing to explore independent avenues of research as we read together. Prerequisite: Gradate standing or permission of instructor.
Credit 3 units.

L30 Phil 5310 Metaethics
Ethics asks questions about right and wrong, good and bad, virtue and vice. Metaethics asks questions about ethics, including questions about whether we have any reason to do the right thing or to be virtuous, questions about whether it is possible to know the answer to ethical questions, and questions about what we mean by such ethical terms as "right" and "wrong" or "good and "bad." Influential metaethical views include relativism (on which ethical judgments are only true or false relative to an individual or culture) and moral skepticism (on which ethical knowledge is impossible). This course will introduce metaethics through an examination of selected texts and questions. Prerequisites: One previous course in philosophy at the 300 level, graduate standing, or permission of instructor.
Same as L30 Phil 4310
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L30 Phil 5315 Normative Ethical Theory
An exploration of the three major normative ethical theories debated by philosophers in the last hundred years: Kantian ethics, utilitarianism, and virtue theory. Authors covered in the course may include: Henry Sidgwick, R. M. Hare, R. B. Brandt, John Rawls, Bernard Williams, Philippa Foot, Thomas Nagel, Christine Korsgaard, Michael Slote, and Barbara Herman. Prerequisites: one course in Philosophy at the 300-level, graduate standing, or permission of the instructor.
Same as L30 Phil 4315
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L30 Phil 540 Topics in Social and Political Philosophy
Credit 3 units.

L30 Phil 5400 Advanced Political and Social Philosophy
A selective investigation of one or two advanced topics in the philosophical understanding of society, government, and culture. Readings may include both historical and contemporary materials. Possible topics include: liberalism, socialism, communitarianism, citizenship, nationalism, cosmopolitanism, social contract theory, anarchism, and the rights of cultural minorities. Prerequisites: one course in Philosophy at the 300-level, graduate standing, or permission of the instructor.
Same as L30 Phil 4400
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L30 Phil 5535 Medical Writing in the Greek Intellectual Tradition: Galen and the Hippocratic Corpus
This class will offer an introduction to the writings of the Hippocratic Corpus as well as their reception in the philosophico-medical work of Galen of Pergamum (2nd century CE), which is primarily responsible for the picture of Hippocrates and Hippocratic medicine that survives to the present. We will situate the texts of the Hippocratic Corpus in the intellectual context of the Classical period and examine how their proper interpretation became a contested site for intellectual authority in Hellenistic and Imperial discourse about texual authenticity, climate, the body, empiricism, and the role of theory in scientific endeavors.
Same as L09 Greek 5535
Credit 3 units.

L30 Phil 5570 Kant's Critique of Pure Reason
An in-depth investigation of Kant's Critique of Pure Reason, one of the most important books in the history of Western philosophy. Some supplementary readings from other philosophers will be used to situate Kant's work in a systematic and historical context, to present

some 'Kantian' positions in current philosophy, and to bring in some important contrasting views and criticisms. Prerequisites: one course in Philosophy at the 300-level, graduate standing, or permission of the instructor.
Same as L30 Phil 4570
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L30 Phil 5651 Topics in the History of Philosophy
Study of individual philosophers or themes from the ancient, medieval, and/or modern periods. Examples: Spinoza, St. Thomas Aquinas, neo-Platonism, universals in ancient and medieval thought, ancient and modern theories of space and time. Prerequisite: 6 units in philosophy, or permission of instructor.
Same as L30 Phil 465
Credit 3 units. A&S IQ: HUM EN: H

L30 Phil 571 Seminar in Ethics: Problems of the Self
Work: Oral presentations, term paper in two drafts Prerequisite: Graduate Standing or permission of instructor
Credit 3 units.

L30 Phil 574 Seminar in Metaphysics
Prerequisite: graduate standing or permission of the instructor.
Credit 3 units.

L30 Phil 580 Seminar
Credit 3 units.

L30 Phil 5801 History of Analytic Philosophy
This course will begin with the reaction of G.E. Moore to the dominant idealism of the 19th century, together with the advances in formal approaches launched by Gottlob Frege and Bertrand Russell. It will engage in the rise of ordinary language philosophy through the later work of Ludwig Wittgenstein, as well as the important influence of the Vienna Circle and the rise and fall of Logical Positivism/Empiricism, culminating in the resurgence of metaphysics with the work of Saul Kripke. The course will close with a look at philosophy that is still in the analytic tradition after analytic philosophy itself had been abandoned. Prerequisites: One previous course in philosophy at the 300 level, graduate standing, or permission of instructor.
Same as L30 Phil 480
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM BU: HUM EN: H

L30 Phil 8000 Dissertation Seminar
Advanced research training and professional development for students in the 4th, 5th, and 6th years of the Philosophy and PNP PhD programs.

Philosophy, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 54** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- Courses must be passed with at least a B-.
- **Degree Length: 6 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
- All students offered admission into the Philosophy PhD program are offered an Arts & Sciences Fellowship, which provides 6 years of funding for students in good academic standing.

Colloquium Attendance

Students are expected to attend departmental colloquium talks. Exceptions may be granted by the Director of Graduate Studies when appropriate (e.g., if a student needs to attend a class that is scheduled at the same time).

Required Courses

All students are required to take the following courses:

- During the first semester, Phil 502 Proseminar in Philosophy.
- Six semesters of Phil 514 Survey Seminar, which surveys a different area of philosophy each semester.
- Four semesters of Phil 516 Research Seminar, which focuses on a specific topic, question, or figure each semester, with an emphasis on philosophical research methods and writing.
- At least one course in formal methods, either Phil 509 Formal Methods for Philosophy or another course approved by the Director of Graduate Studies.

Students in their first three years are expected to maintain full-time status by taking at least 9 units (three courses) of 500-level course work each semester. Thus, all students must take at least 18 500-level courses (54 units) in total (although they may take more) and so must at least five 500-level electives. Elective courses may include courses in Philosophy or PNP, courses outside of philosophy, independent studies in philosophy, and graduate philosophy courses at Saint Louis University or the University of Missouri–St. Louis, through the Inter-University Exchange Program.

Students are expected to supplement their required courses by auditing or taking additional courses that are relevant to their research.

To fulfill course work requirements, courses must be passed with at least a B-.

Credits cannot be transferred from other institutions.

Code	Title	Units
Phil 502	Proseminar in Philosophy	3
Phil 514	Survey Seminar	18
Phil 516	Research Seminar	12

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

In the Philosophy PhD program, each section of Phil 514 Survey Seminar includes a final comprehensive examination taken at the end of the course (but which may be retaken in the event of an unsatisfactory performance). The form of the final comprehensive examination (e.g., written or oral, in-class or take-home) varies and is determined by the instructor. All students must complete six such examinations and obtain a grade of at least a B- on each one; these examination grades are distinct from the course grades for the six semesters of Phil 514 Survey Seminar.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

In the Philosophy PhD program, all students are required to complete four Mentored Teaching Experiences, normally in their second and third years.

Dissertation Seminar

Starting in the fourth year all students must satisfactorily complete Phil 8000 Dissertation Seminar, which is devoted to research training and dissertation project development, when the course is offered (normally once a year). (Phil 8000 is a 0-unit course and does not count toward the fulfillment of course work requirements.)

Prospectus

All students must successfully defend a dissertation prospectus before a committee of at least three faculty members, one of whom (the "prospectus advisor") will supervise the preparation of the prospectus and who will normally go on to serve as the dissertation advisor (see below). Normally, students defend their prospectus before the end of their fourth year of study.

A dissertation prospectus states a problem, a response to the problem, a reckoning of how this response contributes to existing philosophical literature, and an overview of the case for the response. The prospectus should be accompanied by a working bibliography. The structure and length of individual prospectuses varies and is to be determined in consultation and collaboration with the prospectus advisor.

The possible outcomes of a prospectus defense are Pass and Fail. Students may make additional attempts in the event of a failed prospectus defense. The prospectus advisor will inform the Director of Graduate Studies and the Graduate Program Administrator when a student has successfully defended their prospectus.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

In the Philosophy PhD program, students prepare a dissertation under the supervision of a faculty member (the "dissertation advisor"). A dissertation is a substantial piece of original philosophical research. The structure and length of individual dissertations varies and is to be determined in consultation and collaboration with the dissertation advisor.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

In the Philosophy PhD program, the possible outcomes of a dissertation defense are Pass, Revisions, and Fail. When revisions are required, the dissertation advisor will provide, in writing, a description of what revisions are required and a deadline for revisions that is no more than three months after the dissertation defense. When the dissertation is resubmitted, the dissertation advisor will determine if the revisions are satisfactory.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way

In the Philosophy PhD program, students can receive a Master of Arts once they have completed their required course work and fulfilled the qualifying examinations requirement.

Phone:	314-935-6670
Email:	philosophy@wustl.edu
Website:	http://philosophy.wustl.edu/graduate-programs

Philosophy-Neuroscience-Psychology

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The department accepts about 10% of the applicants to these PhD programs and maintains about 25 students in both programs. We are especially open to interdisciplinary work, and we are committed to providing methodologically and substantively broad training. We welcome applicants from a wide range of backgrounds, and the most successful applicants have evidence of philosophical talent and promise.

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Faculty

Chair, Director of Philosophy

Paula "Lori" Watson
Professor
PhD, University of Illinois-Chicago

Director of Graduate Studies

Matt McGrath
Professor
PhD, Brown University

Director of Undergraduate Studies

Anne Margaret Baxley
Associate Professor
PhD, University of California, San Diego

Director of Philosophy-Neuroscience-Psychology

Casey O'Callaghan
Professor
PhD, Princeton University

Department Faculty

Anne Baril
Lecturer
PhD, University of Arizona

Eric Brown
Associate Professor
PhD, University of Chicago

Rebecca "Becko" Copenhaver
Professor
PhD, Cornell University

Carl Craver
Professor
PhD, University of Pittsburgh

Dennis Des Chene
Professor Emeritus
PhD, Stanford University

Marina DiMarco
Assistant Professor
PhD, University of Pittsburgh

J. Claude Evans
Professor Emeritus
PhD, State University of New York–Stony Brook

Jason Gardner
Lecturer
PhD, Washington University in St. Louis

Allan Hazlett
Professor
PhD, Brown University

John Heil
Professor
PhD, Vanderbilt University

Brett Hyde
Associate Professor
PhD, Rutgers University

David Kinney
Assistant Professor
PhD, London School of Economics

Nicholas Koziolek
Senior Lecturer
PhD, University of Chicago

Jonathan Kvanvig
Professor
PhD, University of Notre Dame

Ron Mallon
Professor
PhD, Rutgers University

Stanley Paulson
Professor Emeritus
PhD, University of Wisconsin-Madison

Anya Plutynski
Professor
PhD, University of Pennsylvania

Jerome P. Schiller
Professor Emeritus
PhD, Harvard University

Joseph S. Ullian
Professor Emeritus
PhD, Harvard University

Kit Wellman
Professor
PhD, University of Arizona

Degree Requirements

- Philosophy-Neuroscience-Psychology, PhD (p. 333)

Courses

Visit online course listings to view semester offerings for L64 PNP.

L64 PNP 500 Independent Work
Prerequisite: Must be a PNP major/minor; minimum of last semester Junior standing and written permission; Please see the website for details: http://pnp.artsci.wustl.edu/node/478 Credit variable; max 6 units. A maximum of 3 units may be applied toward upper division credits required for the major. Contact the department for further details.
Credit variable, maximum 6 units.

L64 PNP 501 PNP Dissertation Preparation Seminar
The purpose of this course is to provide a forum for graduate students improve their works in progress. Students will receive feedback on written and oral presentations of chapters of their dissertation, qualifying papers, and prospectuses. Students will circulate their written work in advance for written feedback from other members of the course. Students will also present their own work to the group. All registered participants in the group will also be required to provide written feedback and to participate in group discussions. Prerequisite: P-N-P graduate standing.

L64 PNP 595 PNP Seminar
Subject varies per semester. Not always offered as writing intensive, refer to individual semester listing. Prerequisite: A 300 level Philosophy course (Phil/PNP 315 is recommended); and PNP Major standing or approval of Instructor.
Same as L64 PNP 495
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L64 PNP 596 PNP Seminar
Subject varies each semester. Prerequisites: One 300-level philosophy course (Phil 315 or PNP 315 is recommended) as well as PNP major standing or approval of instructor.
Same as L64 PNP 496
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

Philosophy-Neuroscience-Psychology, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 54** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- Courses must be passed with at least a B-.
- **Degree Length: 6 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
- All students offered admission into the Philosophy-Neuroscience-Psychology PhD program are offered an Arts & Sciences Fellowship, which provides 6 years of funding for students in good academic standing.

Colloquium Attendance

Students are expected to attend departmental colloquium talks. Exceptions may be granted by the Director of Graduate Studies when appropriate (e.g., if a student needs to attend a class that is scheduled at the same time).

Required Courses

All students are required to take the following courses:

- During the first semester, Phil 502 Proseminar in Philosophy.
- Six semesters of Phil 514 Survey Seminar, which surveys a different area of philosophy each semester.
- Four semesters of Phil 516 Research Seminar, which focuses on a specific topic, question, or figure each semester, with an emphasis on philosophical research methods and writing.
- At least one course in formal methods, either Phil 509 Formal Methods for Philosophy or another course approved by the Director of Philosophy-Neuroscience-Psychology.
- Five graduate-level empirical courses, including one course in research methods or statistics and four other courses in the sciences of the mind/brain or behavior

Students in their first three years are expected to maintain full-time status by taking at least 9 units (three courses) of 500-level course work each semester. Thus, all students must take at least 18 500-level courses (54 units) in total (although they may take more) and so must take at least one 500-level elective course. Elective courses may include courses in Philosophy or Philosophy-Neuroscience-Psychology, courses outside of philosophy, independent studies in philosophy, and graduate philosophy courses at Saint Louis University or the University of Missouri-St. Louis, through the Inter-University Exchange Program.

Students are expected to supplement their required courses by auditing or taking additional courses that are relevant to their research.

To fulfill course work requirements, courses must be passed with at least a B-.

Credits cannot be transferred from other institutions.

Code	Title	Units
Phil 502	Proseminar in Philosophy	3
Phil 514	Survey Seminar	18
Phil 516	Research Seminar	12

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program,

which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

In the Philosophy-Neuroscience-Psychology PhD program, each section of Phil 514 Survey Seminar includes a final comprehensive examination taken at the end of the course (but which may be retaken in the event of an unsatisfactory performance). The form of the final comprehensive examination (e.g., written or oral, in-class or take-home) varies and is determined by the instructor. All students must complete six such examinations and obtain a grade of at least a B- on each one; these examination grades are distinct from the course grades for the six semesters of Phil 514 Survey Seminar.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

In the Philosophy-Neuroscience-Psychology PhD program, all students are required to complete four Mentored Teaching Experiences, normally in their second and third years.

Dissertation Seminar

Starting in the fourth year all students must satisfactorily complete Phil 8000 Dissertation Seminar, which is devoted to research training and dissertation project development, when the course is offered (normally once a year). (Phil 8000 is a 0-unit course and does not count toward the fulfillment of course work requirements.)

Prospectus

All students must successfully defend a dissertation prospectus before a committee of at least three faculty members, one of whom (the "prospectus advisor") will supervise the preparation of the prospectus and who will normally go on to serve as the dissertation advisor (see below). Normally, students defend their prospectus before the end of their fourth year of study.

A dissertation prospectus states a problem, a response to the problem, a reckoning of how this response contributes to existing philosophical literature, and an overview of the case for the response. The prospectus should be accompanied by a working bibliography. The structure and length of individual prospectuses varies and is to be determined in consultation and collaboration with the prospectus advisor.

The possible outcomes of a prospectus defense are Pass and Fail. Students may make additional attempts in the event of a failed prospectus defense. The prospectus advisor will inform the DGS and the Graduate Program Administrator when a student has successfully defended their prospectus.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

In the Philosophy-Neuroscience-Psychology PhD program, students prepare a dissertation under the supervision of a faculty member (the "dissertation advisor"). A dissertation is a substantial piece of original philosophical research. The structure and length of individual dissertations varies and is to be determined in consultation and collaboration with the dissertation advisor.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty.

A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.

- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

In the Philosophy-Neuroscience-Psychology PhD program, the possible outcomes of a dissertation defense are Pass, Revisions, and Fail. When revisions are required, the dissertation advisor will provide, in writing, a description of what revisions are required and a deadline for revisions that is no more than 3 months after the dissertation defense. When the dissertation is resubmitted, the dissertation advisor will determine if the revisions are satisfactory.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way

In the Philosophy-Neuroscience-Psychology PhD program, students can receive a Master of Arts once they have completed their required course work and fulfilled the qualifying examination requirement.

Phone:	314-935-6670
Email:	philosophy@wustl.edu
Website:	http://philosophy.wustl.edu/graduate-programs

Physics

The Department of Physics offers Master of Arts (AM) and Doctor of Philosophy (PhD) programs in physics. Research in this department covers a wide area of experimental and theoretical physics and benefits from close contacts with nuclear and inorganic chemists in the Department of Chemistry; planetary scientists in the Department of Earth, Environmental, and Planetary Sciences; applied scientists in the McKelvey School of Engineering and the Institute of Materials Science & Engineering; and biological scientists both on the Danforth Campus and at the School of Medicine. The department is a major participant in the McDonnell Center for the Space Sciences, the Institute of Materials Science & Engineering, and the Center for Quantum Leaps.

Experimental research areas include the following:

- Astrophysics (observations of cosmic rays, gamma rays, X-rays, dark matter detection, and high-precision tests of gravity)
- Space sciences (laboratory analysis of meteorites, stardust, and interplanetary dust particles)
- Condensed matter and materials physics (graphene and other two-dimensional atomic crystals, nanostructured materials, metallic glasses and liquids, magnetism and superconductivity, high-pressure physics, and topological materials)
- Quantum information science (quantum sensing and simulation and computation)
- Biophysics (computational neurophysics and systems cell biology)

Theoretical research areas include the following:

- Biophysics (nonequilibrium dynamics in biological cells and theory of the microbiome)
- Condensed matter physics and quantum materials (strongly correlated electron systems, topological phases, excited states of many-electron systems, density functional theory, glasses, quantum equilibrium and non-equilibrium phenomena, quantum memory, statistical mechanics, and networks and machine learning)
- Elementary particle physics (astroparticle physics, dark matter, theoretical cosmology, strong interactions, non-Hermitian Hamiltonians, and quark physics beyond the Standard Model)
- Nuclear theory (atomic nuclei, infinite neutron and nuclear matter, nuclear structure and reactions, ab initio calculations, nuclear models, quark matter, neutron star mergers, and physics beyond the Standard Model)

Students spend their first two years (four semesters) taking graduate courses. At the end of this time, they will typically have completed requirements for the master's degree. Students planning to complete a PhD will also need to find a dissertation advisor and start their research. PhD candidates will receive a stipend and complete two semesters of mentored teaching experiences. After achieving the required course grades and passing an oral examination at the end of their second year, PhD students are normally paid from research funds while working on their research and writing a dissertation. The PhD program typically takes between five and six years to complete.

Website: http://physics.wustl.edu/graduate

Faculty

Chair

Henric Krawczynski
Wilfred R. and Ann Lee Konneker Distinguished Professor in Physics
PhD, University of Hamburg
Experimental high-energy astrophysics

Associate Chair

Saori Pastore
Associate Professor
PhD, Old Dominion University
Theoretical nuclear physics

Director of Graduate Studies

Alexander Seidel
Professor
PhD, Massachusetts Institute of Technology
Theoretical condensed matter physics

Director of Undergraduate Studies

Manel Errando
Assistant Professor
PhD, Universitat Autonoma de Barcelona
High-energy astrophysics, black holes, active galactic nuclei

Department Faculty

Mark Alford
Professor
PhD, Harvard University
Nuclear/particle physics

Sachiko Amari
Research Faculty
PhD, Kobe University
Cosmochemistry, presolar grains

Carl M. Bender
Professor Emeriti
PhD, Harvard University

Claude W. Bernard
Professor Emeriti
PhD, Harvard University

Thomas Bernatowicz
Professor Emeriti
PhD, Washington University

Robert Binns
Professor Emeriti
PhD, Colorado State University

James H. Buckley
Professor
PhD, University of Chicago
Experimental high-energy astrophysics

Anders E. Carlsson
Professor Emeriti
PhD, Harvard University
Biophysics

Yuran (Alex) Chen
Assistant Professor
PhD, Columbia University
High-energy astrophysics, neutron stars, black holes, and plasma physics

John W. Clark
Professor Emeriti
PhD, Washington University

Mark S. Conradi
Professor Emeriti
PhD, Washington University

Ramanath Cowsik
James S. McDonnell Professor of Space Sciences
PhD, University of Bombay
Astrophysics and space sciences

Tansu Daylan
Assistant Professor
PhD, Harvard University
Exoplanets, dark matter, and astrostatistics

Bhupal Dev
Associate Professor
PhD, University of Maryland, College Park
Theoretical astroparticle physics and cosmology

Willem H. Dickhoff
Professor
PhD, Free University, Amsterdam
Many-body theory

Francesc Ferrer
Associate Professor
PhD, Universitat Autònoma de Barcelona
Theoretical astroparticle physics and cosmology

Jeffrey Gillis-Davis
Research Professor
PhD, Rice University
Experimental astrophysics

Patrick C. Gibbons
Professor Emeriti
PhD, Harvard University

Erik Henriksen
Associate Professor
PhD, Columbia University
Condensed matter and materials science

Charles M. Hohenberg
Professor Emeriti
PhD, University of California, Berkeley

Mairin Hynes
Teaching Professor
PhD, Washington University
Physics education, Pedagogy, space sciences

Martin H. Israel
Professor Emeriti
PhD, California Institute of Technology

Jonathan I. Katz
Professor
PhD, Cornell University
Theoretical astrophysics

Kenneth Kelton
Arthur Holly Compton Professor Physics Emeriti
PhD, Harvard University
Silicate Glasses, amorphous materials, metallic liquids

Kazimierz Luszczynski
Professor Emeriti
PhD, University of London

Augusto Medeiros da Rosa
Lecturer
PhD, Washington University
Cosmology, particle physics

Alexander Meshik
Research Professor
PhD, Vernadsky Institute of Cosmochemistry
Astrophysics, solar winds, nano-diamonds

James G. Miller
Professor Emeriti
PhD, Washington University

Shankar Mukherji
Assistant Professor
PhD, Massachusetts Institute of Technology/Harvard Medical School
Systems cell biology

Kater Murch
Charles M. Hohenberg Professor in Experimental Physics
PhD, University of California, Berkeley
Quantum information and materials

Michael Nowak
Research Professor
PhD, Stanford University
High energy astrophysics, compact objects

Zohar Nussinov
Professor
PhD, University of California, Los Angeles
Theoretical condensed matter physics

Michael C. Ogilvie
Professor
PhD, Brown University
Theoretical particle physics

Ryan Ogliore
Associate Professor
PhD, California Institute of Technology
Cosmochemistry and planetary science

Maria Piarulli
Associate Professor
PhD, Old Dominion University
Theoretical nuclear physics

Olga Pravdivtseva
Research Associate Professor
PhD, Vernadsky Institute, Russian Academy of Sciences
Cosmochemistry, early solar system chronology

Sheng Ran
Assistant Professor
PhD, Iowa State University
Condensed matter and quantum materials

Brian Rauch
Research Associate Professor
PhD, Washington University
Cosmic ray astrophysics, neutrinos, gamma rays

James S. Schilling
Professor Emeriti
PhD, University of Wisconsin-Madison

Lee G. Sobotka
Joint Professor
PhD, University of California, Berkeley
(Chemistry)
Experimental nuclear physics

Stuart A. Solin
Professor Emeriti
PhD, Purdue University

Wai Mo Suen
Professor Emeriti
PhD, California Institute of Technology

Mikhail Tikhonov
Assistant Professor
PhD, Princeton University
Microbiome, microbial ecology, and evolution

Xi Wang
Assistant Professor
PhD, Florida State University
Quantum Information and materials

Ralf Wessel
Professor
PhD, University of Cambridge
Biophysics

Clifford Will
Professor Emeriti
PhD, California Institute of Technology

Li Yang
Albert Gordon Hill Professor in Physics
PhD, Georgia Institute of Technology
Condensed matter theory and computational materials physics

Yajie Yuan
Assistant Professor
PhD, Stanford University
Theoretical high-energy astrophysics

Chuanwei Zhang
Professor
PhD, University of Texas at Austin
Quantum Information

Chong Zu
Assistant Professor
PhD, Tsinghua University
Atomic, molecular and optical physics; condensed matter; and quantum information

Degree Requirements

- Physics, AM (p. 343)
- Physics, PhD (p. 344)

Courses

Visit online course listings to view semester offerings for L31 Physics.

L31 Physics 500 Independent Work
Prerequisites: senior standing and apply for approval using the Physics independent study web form https://physics.wustl.edu/independent-study. Program and credit to be determined; maximum 6 units.
Credit variable, maximum 6 units.

L31 Physics 5001 Physical Science in 12 Problems
Exercises related to general chemistry, classical mechanics, quantum mechanics, statistical mechanics, thermodynamics, and kinetics, will be solved with numerical software. Each exercise will be accompanied by a lecture, a software template solving a problem and presenting a related take-home problem. The software will allow us to focus on, and treat in a transparent fashion, physical problems without the unworldly idealizations and contrivances found in textbooks. Prerequisites: Chem 106/112A and/or Physics 192/194, and prior or concurrent enrollment in either Chem 401 or Phys 217. The lectures will be in-person however a complete set of taped lectures will also be available. A remote help session will be scheduled at a mutually agreed to time. There are no quizzes, exams or a final.
Same as L07 Chem 400
Credit 1 unit. A&S IQ: NSM Arch: NSM Art: NSM

L31 Physics 501 Theoretical Physics
The first part of a two-semester course reviewing the mathematical methods essential for the study of physics. Theory of functions of a complex variable, residue theory; review of ordinary differential equations; introduction to partial differential equations; integral transforms. Prerequisite: undergraduate differential equations (Math 217), or permission of instructor.
Credit 3 units.

L31 Physics 5011 Mechanics
Motion of a point particle, rotational motion, oscillation, gravitation and central forces, Lagrangian and Hamiltonian formulation. Prerequisite: Prerequisite: Physics 191 - 192 or Phys 193 - 194 or Physics 197-198 or Phys 205 - 206, Math 217, or permission of instructor.
Same as L31 Physics 411
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L31 Physics 502 Methods of Theoretical Physics II
Continuation of Phys 501. Introduction to function spaces; self-adjoint and unitary operators; eigenvalue problems, partial differential equations, special functions; integral equations; introduction to group theory. Prerequisite: Phys 501, or permission of instructor.
Credit 3 units.

L31 Physics 5021 Electricity and Magnetism I
Starting from Coulomb's law, the Biot-Savart law, and Faraday's law, the electrical and magnetic fields are defined and applied. Maxwell's equations are derived and their consequences, such as electromagnetic waves and relativity, are explored. Prerequisites: Prerequisite: Physics 191 - 192 or Phys 193 - 194 or Physics 197-198 or Phys 205 - 206., Math 217, or permission of instructor.
Same as L31 Physics 421
Credit 3 units. A&S IQ: NSM, AN Arch: NSM Art: NSM BU: SCI EN: BME T, DU, SU, TU

L31 Physics 5027 Introduction to Computational Physics
What does it mean to solve a research problem using a computer? What is the difference between "someone ran a simulation" and an interesting research result? And what skills does it take? Familiarity with a programming language is, of course, essential, but that is only the beginning. This course will focus on the methodology of computational research, touching also on topics in numerical analysis, statistics and visualization. The format will combine lectures and hands-on experience, with emphasis on research-style small-group projects. Prerequisites:Prerequisite: Physics 191 - 192 or Phys 193 - 194 or Physics 197-198 or Phys 205 - 206, Calculus, and familiarity with a programming language.
Same as L31 Physics 427
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L31 Physics 503 Advanced Math Methods for Physicist & Engineers I
The first semester of a two semester course presenting an organized approach to solving hard problems approximately; a self contained and general examination of asymptotics and perturbation theory; local and global analysis of differential and difference equations, summation methods, Pade theory, asymptotic expansion of integrals; emphasis calculational rather than theoretical. Continued in Physics 504. Prerequisite: Physics 501 or an elementary knowledge of differential equations and complex variables.
Credit 3 units.

L31 Physics 5035 Nuclear and Radiochemistry Lab
Application of radiochemistry to problems in chemistry, physics, and nuclear medicine, with emphasis on particle detectors and experimental techniques. Prerequisites: 3 units of physical chemistry or quantum mechanics, or permission of instructor. Five hours of laboratory a week.
Same as L07 Chem 435
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L31 Physics 504 Advanced Math Methods for Physicist & Engineers II
A continuation of Physics 503. A general presentation of perturbation theory. Matched asymptotic expansions. Boundary layer theory, WKB theory, multiple scale analysis. Variational methods, integral equations.
Credit 3 units.

L31 Physics 505 Classical Electrodynamics I
Classical electromagnetism via Maxwell's equations. Electric and magnetic fields from static charge and current distributions. Mathematical techniques for solving electrostatic and magnetostatic problems. Electrostatic and magnetostatic forces and energies.
Credit 3 units.

L31 Physics 506 Classical Electrodynamics II
Time-varying electric and magnetic fields. Electromagnetic waves and radiation; simple antennas. Waveguides and effects of dispersion. Retardation effects and special relativity.
Credit 3 units.

L31 Physics 5063 Statistical Mechanics and Thermodynamics
Basic methods of classical and quantum statistical mechanics, thermodynamics, and transport theory. Prerequisite: Phys 217 or permission of instructor.
Same as L31 Physics 463
Credit 3 units. A&S IQ: NSM, AN Arch: NSM Art: NSM

L31 Physics 507 Classical Mechanics
The culminating achievements in this classical discipline are presented: the Lagrangian and Hamiltonian formulation of the equations of motion, action principles and the Hamilton-Jacobi equation. Applications to constrained systems, many-body systems, continuous systems and classical fields are included. Perturbation theory and general relativity are discussed briefly.
Credit 3 units.

L31 Physics 5071 Quantum Mechanics
Origins of quantum theory, wave packets and uncertainty relations, Schroedinger's equation in one dimension, step potentials and harmonic oscillators, eigenfunctions and eigenvalues, Schroedinger's equation in three dimensions, the hydrogen atom, symmetry, spin and the periodic table, approximation methods for time independent problems, quantum statistics. Prerequisite: Math 217, Physics 217, or permission of instructor.
Same as L31 Physics 471
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM EN: BME T, SU, TU

L31 Physics 5072 Solid State Physics
Crystal structures, binding energies, thermal properties, dielectrics, magnetism, free electron theory of metals, band theory, semiconductors, defects in solids. Prerequisite: Phys 471.
Same as L31 Physics 472
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L31 Physics 5074 Introduction to Particle Physics
Introduction to the standard model of particle physics, including symmetries, conservation laws, the weak interaction, the strong interaction, quark confinement, and some more exotic ideas such as grand unified theories. Prerequisite: Phys 217.
Same as L31 Physics 474
Credit 3 units. A&S IQ: NSM, AN Arch: NSM Art: NSM

L31 Physics 5078 From Black Holes to the Big Bang
An introduction to general relativity. The goal will be to illustrate important features of general relativity without the full-blown mathematics of Einstein's equations by restricting attention to spherically symmetric spacetimes. Topics will include: principle of equivalence; curved spacetime; spherical stars and black holes; the Big Bang model, observational cosmology. Prereq: Physics 411 or permission of instructor.
Same as L31 Physics 478
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L31 Physics 509 Nonlinear Dynamics
The course will treat the theoretical foundations of nonlinear dynamics, and its applications to phenomena in diverse fields including physics, biology, and chemistry. Topics will include phase plane analysis, stability analysis, bifurcations, chaos, and iterated maps. Prerequisites: knowledge of multivariate calculus and ordinary differential equations at the level of Mathematics 217; and Physics 117-118 (mechanics at the level of 411 is desirable but not essential).
Credit 3 units.

L31 Physics 514 Physics of the Heart
A lecture and demonstration course which may be of particular interest to premedical and life-science students. Basic physics of the human cardiovascular system. Elasticity of vessels: properties of elastin and collagen. Energetics of the circulation: arterial and venous blood pressure, total fluid energy, gravitational potential energy, kinetic energy. Streamline flow and turbulence: effects of stenosis. Static and dynamic energy consumption of the heart: cardiac efficiency, the tension-time integral, Laplace's law, Starling's law. Metabolism of cardiac muscle. Electrophysiology: the heartbeat and cardiac arrhythmias. The physics of phonocardiograms, echocardiograms, and other non-invasive techniques for physical assessment of cardiac abnormalities, including ischemia and myocardial infarction. Models of mechanical properties: contractile element, series elastic and parallel elastic elements. Individual special projects dealing with the physics underlying cardiovascular pathophysiology are required in addition to scheduled classroom activities and lectures. Prerequisite: Permission of instructor.
Credit 3 units.

L31 Physics 523 Quantum Mechanics I
Provides a rigorous introduction to quantum mechanics with an emphasis on formalism. The course begins with review of the theory of linear (state) vector spaces and the quantum theory of measurement. Topics covered include dynamics of quantized systems, the quantum theory of angular momentum, density matrix formalism, and advanced topics in quantum measurement theory.
Credit 3 units.

L31 Physics 524 Quantum Mechanics II
Review of wave mechanics, scattering theory. Measurement algebra and the foundations of nonrelativistic quantum theory. Mathematical techniques for solution, perturbation theory. Applications to atomic, molecular, nuclear, and solid state problems. Introduction to relativistic quantum theory and quantized wave fields.
Credit 3 units.

L31 Physics 529 Statistical Mechanics
Gibbs' formalism of statistical mechanics and applications to thermodynamics. Quantum statistical mechanics and degenerate matter. General theory of equilibrium including phase transitions and critical phenomena. Interacting particles including non-ideal gases, ferromagnetism, and superconductivity. Transport theory, irreversible processes.
Credit 3 units.

L31 Physics 530 Advanced Topics in Statistical Mechanics
Critical phenomena and renormalization group theory: scaling, universality, exact solutions, series expansions, computer simulations, e-expansion. Role of solitons and instantons in phase transitions. Quantum fluids: superfluidity and superconductivity. Linear response theory and disordered systems.
Credit 3 units.

L31 Physics 5322 Physical Measurement Laboratory
A variety of classical and modern experiments in physics, including five experiments in nuclear radiation. Use of computers in experiment control, data acquisition, and data analysis. Development of skills in writing lab notebooks and formal reports and giving short oral presentations on experiments. Two laboratory periods each week. Prerequisite: Physics 217 or permission of instructor; junior or senior level standing
Same as L31 Physics 322
Credit 3 units. A&S IQ: NSM, AN, WI Arch: NSM Art: NSM BU: SCI EN: TU

L31 Physics 5330 Planets and Life in the Universe
In this course, we will explore the history, methods, outcomes, and broad impacts of exoplanet research and how these are connected to our search for life beyond planet Earth. Following an engaging contextual introduction at the beginning of the lectures, topics will be presented with an accessible mathematical treatment (e.g., geometrical derivations of the two-body transit problem). Prerequisite: Physics 191 and 192 or Physics 193 and 194.
Same as L31 Physics 3330
Credit 3 units. A&S IQ: NSM, AN Art: NSM

L31 Physics 534 Magnetic Resonance
Quantum mechanical and classical aspects of paramagnetism and of nuclear and electronic magnetic resonance. Phenomenological equations of motion, spin intractions, spin temperature, thermal relaxation, dynamic polarization, multiple resonance phenomena.
Credit 3 units.

L31 Physics 535 Ultrasonics
Credit 3 units.

L31 Physics 537 Kinetics of Materials
A general discussion of phase formation and phase transformation in solids and liquids. Topics include equilibrium and non-equilibrium thermodynamics, equilibrium and metastable phase diagrams, nucleation and growth, spinodal transformations, diffusion and interface limited processes, shear type transformations and order/disorder transformations. Prerequisite: A background in thermodynamics, statistical mechanics, and solid state physics.
Credit 3 units.

L31 Physics 539 Structure and Diffraction in Materials
Topics of interest for the study of materials using diffraction techniques. Includes an introduction to crystallography, defects in crystals and quasicrystals, and introduction to diffraction from materials, electron microscopy of materials touching on electron optics, scanning and transmission electron microscopy and the interaction of high-energy electrons with matter, and an introduction to x-ray techniques. Prerequisite: Permission of the instructor.
Credit 3 units.

L31 Physics 540 Quantum Theory of Many-Particle Systems
Develops a modern approach to quantitative microscopic description of strongly-interacting quantum many-particle systems, including the helium liquids, nuclear matter, neutron star matter, nuclei, and strongly-coupled electron systems. Emphasis is placed on the method of self-consistent Green's functions. Diagram resummation and field theoretic techniques are introduced. Applications are discussed that cover the Hartree-Fock method for atoms, Bose-Einstein condensation of atoms, etc. The microscopic basis for pairing in superfluids and superconductors is also examined.
Credit 3 units.

L31 Physics 542 Physics of finite and infinite nuclear systems
Quantum mechanics of finite and infinite systems of protons and neutrons. Interaction between nucleons. Independent-particle model of nuclei and shell structure. Contrast with atomic shell model. Isospin symmetry. Information from weakly and strongly interacting probes of nuclei. Nuclear decay properties and some historical context. Many-particle description of nuclear systems. Single-particle versus collective phenomena. Properties of excited states. Bulk properties of nuclei. Nuclear and neutron matter. Role of different energy scales in determining nuclear properties: influence of long-range, short-range, and medium-induced interactions. Pairing correlations in nuclear systems. Relevance of nuclear phenomena and experiments for astrophysics and particle physics. Prerequisites: Phys 318 or Phys 471, or permission of instructor
Credit 3 units. Arch: NSM

L31 Physics 543 Group Theory and Symmetries in Physics
Symmetries offer beautiful explanations for many otherwise incomprehensible physical phenomena in nature. Group theory is the underlying mathematical framework for studying symmetries, with far-reaching applications in many areas of physics, including solid-state physics, atomic and molecular physics, gravitational physics, and particle physics. We will discuss many of the fascinating mathematical aspects of group theory while highlighting its physics applications. The following topics will be covered: general properties of groups (definition, subgroups and cosets, quotient group, homo- and iso-morphism), representation theory (general group actions, direct sums and tensor products, Wigner-Eckart theorem, Young tablelaux), and discrete groups (cyclicity, characters, examples), Lie groups and Lie algebra (Cartan-Weyl basis, roots and weights, Dynkin diagrams, Casimir operators, Clebsch-Gordan coefficients, classification of simple Lie algebras), space-time symmetries (translation and rotation, Lorentz and Poincare groups, conformal symmetry, supersymmetry and superalgebra), and gauge symmetries (Abelian and non-Abelian, Standard Model, Grand Unified Theories). Interested undergraduates who have taken Physics 217 or similar can register for this course with prior approval.
Credit 3 units.

L31 Physics 545 Solar System Astrophysics
A survey of current topics of astronomical and astrophysical interest involving the sun, planets, and other solar system objects. The interplanetary medium and galactic process as they relate to the solar system. Theories and understanding of the origin and history of the solar system. Dating methods with applications to lunar and terrestrial ages, solar system chronology, and the age of the elements.
Credit 3 units.

L31 Physics 546 Galactic Astrophysics
In these lectures, the focus is on the dynamics and statistical mechanics of a collection of stars, which is treated as a collisionless system. The course begins with a discussion of potential theory and proceeds to discuss the density and phase distributions of stars in star clusters and galaxies, thus leading to an understanding of the equilibria and stability of these systems. Topics such as Chandrasekhar´s dynamical friction, galaxy formation and dark matter will constitute the final topics of discussion.
Same as L31 Physics 446
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L31 Physics 547 Intro to Elementary Particle Physics
An introduction to the "standard model" of elementary particle physics. The non-Abelian SU() X SU(2) X U (1) gauge theory and its relation to phenomenology and experiments.
Credit 3 units.

L31 Physics 549 Solid State Physics I
Quantum theory of phonons in solids, thermodynamical properties, band theory of solids, free-electron and tight-binding approaches to electronic structure.
Credit 3 units.

L31 Physics 550 Solid State Physics II
Band magnetism and local moments, Ising models, electron-electron and electron-phonon interactions, superconductivity.
Credit 3 units.

L31 Physics 551 Relativistic Quantum Mechanics
Introduction to Quantum Field Theory using simple 1-dimensional and/or scalar field examples. Canonical quantization and path integrals; Feynman diagrams; Lorentz group; discrete symmetries; LSZ theorem. Introduction to regularization and renormalization.
Credit 3 units.

L31 Physics 552 Relativistic Quantum Field Theory
Continuation of Phys 551. Path integral quantization of spin 1/2 and spin 1 fields. Quantum electrodynamics. Ward identities and renormalization. Computation of the electron anomalous magnetic moment and the Lamb shift. Non-Abelian gauge theories and their quantization. Quantum chromodynamics and asymptotic freedom. Spontaneous symmetry breaking and the Standard Model.
Credit 3 units.

L31 Physics 555 Astrophysical Plasmas
Credit 3 units.

L31 Physics 556 Stellar Astrophysics
In the second semester, the focus is on the dynamics and statistical mechanics of a collection of stars which is treated as a collisionless system. The course begins with a discussion of potential theory and proceeds to discuss the density and phase space distributions of stars in star clusters and galaxies, thus leading to an understanding of the equilibria and stability of these systems. Topics such as Chandrasekhar's dynamical friction and dark matter will constitute the final topics of discussion. This course is also available for advanced undergraduates, with the prerequisites as noted. Prerequisites: Physics 411, 421, and 463, or permission of the instructor.
Credit 3 units.

L31 Physics 557 Gravitation and Cosmology
Special relativity, equivalence principle, and fundamental experiments. Mathematics of curved spacetime. General structure of Einstein's equations. Observational tests. Applications of general relativity, relativistic stellar structure, gravitational collapse and black holes.
Credit 3 units.

L31 Physics 558 Relativistic Astrophysics
Applications of general relativity to astrophysics and cosmology. Relativistic stars, gravitational collapse and black holes; generation, propagation and detection of gravitational radiation. Cosmology, the Standard Model; physical processes in the early universe and the microwave background. Inflationary scenario. Origin of galaxies and large-scale structure. Gravitational lenses. Credit 3 units.
Credit 3 units.

L31 Physics 559 Testing Fundamental Physics with Astronomical Observations
Astronomical observations allow us to test fundamental physics laws under more extreme conditions than possible in terrestrial laboratories. In some important cases (i.e. cosmology), astronomical observations present the only way to gather empirical evidence and to formulate and subsequently test the theories. In this one-semester course, we start with a brief summary of the current theoretical framework that is used to explain the cosmos: the theory of General Relativity and the Standard Model of particle physics. Subsequently, we introduce current astronomical observatories and discuss which fundamental physics laws they can probe. We include a detailed discussion of theoretical ideas which are being probed, and avenues for developing more precise tests with future experiments. This class is designed to be highly relevant for theoretical and experimental researchers. Previous exposure to the theory of General Relativity and quantum field theories is beneficial but not required.
Credit 3 units.

L31 Physics 560 X-ray and Gamma-ray Astrophysics
The final semester will provide an up to date coverage of x-ray and gamma-ray astronomy and astrophysics. Generation and observational techniques of energetic radiations from accreting neutron stars and black holes, supernova and supernova remnants, active galactic nuclei, interstellar and intergalactic matter, as well as related physics and model building will be discussed. The course will thus explore the most energetic phenomena in the universe and will also provide insight into diverse topics ranging from planetary exploration to dark matter and cosmology. This course is also available for advanced undergraduates, with the prerequisites as noted in 476/576.
Credit 3 units.

L31 Physics 563 Topics in Theoretical Biophysics
Application of a range of physical models to biological systems. Topics include protein folding, self-assembling molecular systems, and mechanical properties of biological materials. Background material will be provided but some exposure to statistical mechanics or thermodynamics is necessary.
Credit 3 units.

L31 Physics 565 Magnetism and Superconductivity: Basics and Applications
Fundamental and applied aspects of magnetism and superconductivity in solids. The magnetic state in transition metal, rare earth and actinide systems. Exotic forms of magnetism. Conventional, high-Tc, fullerene and organic superconductors. Josephson effect. Bose-Einstein condensation. Coexistence of magnetism and superconductivity. Applications include: SQUID sensors, permanent and superconducting magnets, bubble memories, and magnetic cooling. Prerequisite: Physics 472 or permission of instructor.
Credit 3 units.

L31 Physics 570 Planetary Geophysics
Relationships between solar system dynamics and planetary evolution, with emphasis on orbital mechanics, gravity fields of planets and satellites, heat transfer in planetary interiors, and tidal interactions. Topics include resonant orbits and rotation rates, effects of large-body impact, volcanism on Io, and the origin of the Moon.
Same as L19 EEPS 570
Credit 3 units.

L31 Physics 576 Astrophysics
This is the first of a four-semester course in astrophysics, with two semesters of classical astrophysics of stars and stellar systems, followed by two semesters of high energy astrophysics of cosmic rays, radio, x-ray and gamma-ray astronomies. Each of these is a self-contained course and may be attended by advanced undergraduates and graduate students. In the first semester we discuss observations of stars; stellar populations; physical processes in stars; birth, evolutions, and death of stars; energy generation; nucleosynthesis; variable stars; supernovae; collapsed objects; solar neutrinos; helioseismology; and selected topics in galactic astrophysics, cosmology and exobiology. Additional reading assignments for students registered for 576. Prerequisites: Physics 411, 421, and 463, or permission of the instructor.
Credit 3 units.

L31 Physics 581 Critical Analysis of Scientific Data
Data science" is most commonly associated with topics in computer science. But efficient algorithms, specific software packages, neural nets, etc., are only tools, and are easily misused. In a research setting, working with data is primarily an exercise in critical thinking. The purpose of this interactive, hands-on course is to learn from mistakes by making them in a safe environment. After covering/reviewing probability theory; Bayesian inference; elements of information theory and random matrix theory, the course will focus on case studies of real-world biological data, such as quantitative imaging data, nextgeneration sequencing (metagenomics), and neural recordings. These modules will involve critical reading of research papers and working through puzzle-based assignments. The primary modules will be supplemented by shorter presentations on topics chosen by students. Fair warning: this is explicitly NOT a course on "big data" or machine learning, although students may choose to explore some of these topics in their presentations (required for credit). Experience with MatLab or Python strongly encouraged or will need to be acquired during the course. Open to undergraduates with prior programming experience and a quantitative background (Phys 197/198, Math 203 or similar; contact instructor if unsure). Experience with data or statistics not required. Course mimics a research environment and undergraduates considering an academic research track especially encouraged. Graduate students required to pick an advance topic.
Credit 3 units.

L31 Physics 582 Research Seminar
Designed to introduce students to current developments in physics and to research carried out by faculty. Topics vary each year. Each member of the department addresses issues in their particular specialty. Required of all majors and first-year graduate students. Undergraduates are advised to take this seminar in their junior year.
Credit 1 unit.

L31 Physics 583 Grant Proposal Writing and Research Project Development
Introduction to grant proposal writing. Students will develop a research project and write a graduate student fellowship application based on that project. As part of the fellowship application the student will develop all supporting documents necessary for the application (i.e. curriculum vitae, budget, etc.). Twice during the course students will make an oral presentation of their project in order to get feedback from faculty and other students.
Credit 1 unit.

L31 Physics 584 Computational Methods
This course provides an introduction to the computational techniques that are most widely used in both theoretical and experimental research in physics. Each lecture will use a realistic research problem to introduce the algorithms, software packages and numerical techniques that will be used by the students to develop a solution on the computer. Topics include Monte Carlo techniques, symbolic analysis with Mathematica, data acquisition software used in the laboratory, the numerical solution of quantum mechanical problems, and an introduction to general purpose frameworks based on Python. Prerequisites: Prior of concurrent enrollment in L31 471 or L31 422 or permission of the instructor.
Credit 1 unit.

L31 Physics 586 Commercialization of Science and Technology
Commercialization of Science and Technology is an interdisciplinary course that investigates the issues and decisions that inventor/scientists, engineers, and entrepreneurs encounter when taking early stage scientific discoveries from the laboratory to applied use. The course employs case studies, invited speakers, and team projects to engage graduate and professional students in interdisciplinary collaboration, idea generation and the feasibility of applying scientific discoveries in commercial marketplaces. Participants learn about the basics of commercialization and entrepreneurship and how these relate to their personal goals and scientific interests. The course is ideal for anyone interested in working as an academic, chief scientist, entrepreneur, manager, consultant, or investor.
Credit 3 units.

L31 Physics 589 Selected Topics in Physics I
From time to time, additional courses are offered in specialized physics topics of current interest, such as group theory, general relativity, advanced hydrodynamics, boundary-value problems, celestial mechanics, astrophysics, and so on.
Credit variable, maximum 3 units.

L31 Physics 590 Selected Topics in Physics II
From time to time, additional courses are offered in specialized topics of current interest such as group theory, general relativity, advanced hydrodynamics, boundary-value problems, celestial mechanics, astrophysics, etc.
Credit variable, maximum 3 units.

L31 Physics 593 Introduction to Methods in Physics
Five hours per week of tutorial training in modern experimental and/or theoretical methods in physics. Instruction by faculty members or, with faculty supervision and assistance, by graduate teaching interns who are enrolled in and earning credit for Phys 597-598.A maximum of 3 units of this course may be counted toward the requirement of 36 units of course credit for the Ph.D. degree.
Credit variable, maximum 3 units.

L31 Physics 594 Introduction to Methods in Physics
Five hours per week of tutorial training in modern experimental and/or theoretical methods in physics. Instruction by faculty members or, with faculty supervision and assistance, by graduate teaching interns who are enrolled in and earning credit for Phys 597-598. A maximum of 3 units of this course may be counted toward the requirement of 36 units of course credit for the Ph.D. degree.
Credit variable, maximum 3 units.

L31 Physics 595 Research
The department regularly conducts seminars for review of current progress in research. Fields in which it is active : (a) Space Physics and Astrophysics, (b) Nuclear Physics, (c) Theoretical Physics, (d) Condensed Matter and Magnetic Resonance, (e) Applications of Ultrasound to medical, biological, and physical problems. This course does not count toward the requirement of 36 units of course credit for the Ph.D. degree.
Credit variable, maximum 9 units.

L31 Physics 596 Research
The department regularly conducts seminars for review of current progress in research. Fields in which it is active : (a) Space Physics and Astrophysics, (b) Nuclear Physics, (c) Theoretical Physics, (d) Condensed Matter and Magnetic Resonance, (e) Applications of Ultrasound to medical, biological, and physical problems.This course does not count toward the requirement of 36 units of course credit for the Ph.D. degree.
Credit variable, maximum 9 units.

L31 Physics 597 Supervised Teaching of Physics
Supervised instructional experience as graduate teaching intern. Under faculty supervision, a teaching intern may earn credit in Phys 597-598 by (a) instructing graduate students who are taking Phys 593-594, or (b) instructing undergraduates who are taking Phys 241-242 or 341-342, or (c) as a Graduate Teaching Fellow or Assistant, instructing and evaluating work of undergraduate or graduate students in classroom or laboratory physics courses, or (d) instructional activity connected with journal club, group seminars, special short courses, observatory lectures, etc. Five or more contact hours per week with student(s) being instructed plus associated preparation and evaluation.
Credit 1 unit.

L31 Physics 598 Supervised Teaching of Physics
Supervised instructional experience as a graduate teaching intern. Under faculty supervision, a teaching intern may earn credit in Phys 597-598 by (a) instructing graduate students who are taking Phys 593-594, or (b) instructing undergraduates who are taking Phys 241-242 or 341-342 or 441-442, or (c) as a Graduate Teaching Fellow or Assistant, instructing and evaluating work of undergraduate or graduate students in classroom and laboratory physics courses, or (d) instructional activity connected with journal club, group seminars, special short courses, observatory lectures, etc. Five or more contact hours per week with student(s) being instructed, plus associated preparation and evaluation.
Credit 1 unit.

L31 Physics 883 Master's Continuing Student Status

L31 Physics 884 Doctoral Continuing Student Status

L31 Physics 885 Masters Nonresident

L31 Physics 886 Doctoral Nonresident

Physics, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36**
- **Degree Length: Two years**
  - Students are required to obtain 36 credits including 4 core courses (12 credits) and 8 elective courses (24 credits).
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Master of Arts in Physics

36-Unit Academic Credit Course Requirement

Courses that count toward academic credit are as follows:

- Any regular 500-level lecture courses in the physics department, including Physics 582 Research Seminar
- Courses outside of the physics department, if approved by the master's program director
- Selected Topics courses, for which students should register: Physics 589 Selected Topics in Physics I/Physics 590 Selected Topics in Physics II
- Supervised research, for which students should register: Physics 593 Introduction to Methods in Physics/Physics 594 Introduction to Methods in Physics (Supervised research may be used for a maximum of 6 units of academic credit.)

Core Course Requirements

For qualification, students must pass four core 500-level physics courses. The core courses must be passed with a minimum average grade of B-, and not more than two grades below C+. Core courses may be taken only once. If more than four core courses are taken, the GPA will be determined from the best four course grades.

Students must take the following three courses:

Code	Title	Units
Physics 505	Classical Electrodynamics I	3
Physics 523	Quantum Mechanics I	3
Physics 529	Statistical Mechanics	3

They must also take at least one of the following:

Code	Title	Units
Physics 501	Theoretical Physics	3
Physics 502	Methods of Theoretical Physics II	3
Physics 506	Classical Electrodynamics II	3
Physics 507	Classical Mechanics	3
Physics 509	Nonlinear Dynamics	3
Physics 524	Quantum Mechanics II	3

Master's Degree Along the Way to a PhD

- Complete 36 units of academic credit (detailed below), maintaining an average grade of at least a B (3.0 GPA).
- Pass the PhD qualification procedure.

Website: http://physics.wustl.edu/graduate

Physics, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 5 Years**
- **Funding:** Students who are admitted to the PhD program in Physics receive a complete financial support package including full tuition and a stipend/salary for the academic year. Financial support is guaranteed by the department for the first five years for students who are making satisfactory progress towards their PhD.

Year One

- Fall: Take 3 or 4 courses, plus Physics 582 and Physics 597.
- Spring: Take 3 or 4 courses. Assistant in Instruction for one course. Look for a thesis advisor.

Year Two

- Fall: Take 3 or 4 courses. Assistant in Instruction for one course. Confirm your thesis advisor and qualifying committee by submitting the Research Advisory Committee (RAC) form.
- Spring: Take 3 or 4 courses. Complete the qualification procedure (below).

Year Three

- Thesis research. Students no longer enrolling in 9 units of academic courses must enroll in LGS9000.

Year Four

- Thesis research. Students no longer enrolling in 9 units of academic courses must enroll in LGS9000.
- Submit Title, Scope and Procedure Form.

Year Five

- Complete research. Students no longer enrolling in 9 units of academic courses must enroll in LGS9000.
- Submit dissertation defense committee form to the graduate program administrator.
- Write dissertation, undergo oral defense and submit dissertation to the Office of Graduate Study.

PhD in Physics

Outline of Requirements

- Complete 36 units of academic credit (detailed below), maintaining an average grade of at least a B (3.0 GPA).
- Pass the PhD qualification procedure. This requirement must be completed before a student can formally join a research group and is normally completed before the start of the third year.

- Complete the teaching requirements.
- Write a thesis (doctoral dissertation information below).
- Pass an oral dissertation defense examination.

36-Unit Academic Credit Course Requirement

Courses that count toward academic credit are as follows:

- Any regular 500-level lecture courses in the physics department, including Physics 597 Supervised Teaching of Physics and Physics 582 Research Seminar
- Courses outside of the physics department, if approved by the student's advisor and the director of graduate studies
- Special topics courses, for which students should register: Physics 589 Selected Topics in Physics I/Physics 590 Selected Topics in Physics II
- Supervised research, for which students should register: Physics 593 Introduction to Methods in Physics/Physics 594 Introduction to Methods in Physics (Supervised research may be used for a maximum of 6 units of academic credit.)
- **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

PhD Qualification: Course Requirements

For qualification, students must pass six core 500-level physics courses. In those courses, the student must maintain an average of a B (3.0 GPA), with no more than one grade lower than B-. A given core course may be taken only once. If more than six core courses are taken, the GPA will be determined from the best six course grades.

Students must take the following four courses:

Code	Title	Units
Physics 501	Theoretical Physics	3
Physics 505	Classical Electrodynamics I	3
Physics 523	Quantum Mechanics I	3
Physics 529	Statistical Mechanics	3
Total Units		**12**

They must also take at least two of the following:

Code	Title	Units
Physics 502	Methods of Theoretical Physics II	3
Physics 506	Classical Electrodynamics II	3
Physics 507	Classical Mechanics	3
or Physics 509	Nonlinear Dynamics	
Physics 524	Quantum Mechanics II	3

These requirements can be modified for students who have completed equivalent courses while working toward a master's degree in physics at other universities.

PhD Qualification: Oral Examination Requirement

To qualify, the student must give a presentation to a committee of three physics faculty members (i.e., the prospective research advisor and two others). The student should demonstrate a basic understanding of a major topic of current research in the selected area of study, chosen in consultation with the student's prospective thesis advisor. One week before the oral exam, the student must prepare a written paper (approximately 1500-3000 words) summarizing the content of the presentation and give it to the committee. The student's responses to questions raised by the examination committee are graded as adequate or not. Students have a chance to respond to inadequately answered questions in writing within 48 hours after the examination. The student is not allowed to receive assistance in preparing the written response from any other individuals. The answers should either be given in person to the chair of the examination committee or emailed to the chair as a PDF file so that it is time stamped. The committee will determine whether the written answers are sufficient.

The committee must be chosen and approved by the department chair by the end of a student's third semester (typically in December of the second year). The oral examination should be taken by the end of a student's fourth semester (typically in May of the second year). If the student fails the oral examination, they can take it again one additional time.

Teaching Requirements

These requirements must be completed before the student submits their doctoral dissertation to the Office of Graduate Studies, Arts & Sciences:

- **Complete L31 Physics 597:** Graduate students are required to take Physics 597 Supervised Teaching of Physics prior to serving as an assistant in instruction. Students typically take this course during their first fall semester.
- **Complete at least two semesters of mentored teaching experiences**
- **Complete four hours of oral presentations:** Graduate students must complete a total of four hours of specialized oral presentations. Examples of such presentations include teaching a class (e.g., when substituting for a professor); giving seminars, such as the weekly graduate seminar; or giving oral presentations at conferences, journal clubs, and the like.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way

- Complete 36 units of academic credit, maintaining an average grade of at least a B (3.0 GPA).
- Pass the PhD qualification procedure.

Website:	http://physics.wustl.edu/graduate

Political Science

The doctoral program in political science at Washington University is one of the top political science programs in the country. Graduate students take classes and engage in research with a faculty recognized nationally and internationally as among the most expert, active, and productive in the country.

Our graduate program is relatively small. We admit around 8 to 10 students into the PhD program each year, and most of these students complete the doctorate in five to six years. There are approximately 40 graduate students currently in residence.

Washington University's **PhD program in Political Science** is designed to prepare students for academic careers in research and teaching at major institutions across the country. We stress the importance of political methodology (applied statistics) and formal theory (game theory and mathematical modeling), and our program is designed to teach all students in these methods, regardless of their mathematical background.

We have active research groups in American politics and institutions, comparative politics, international political economy, positive and normative theory, and political methodology. It is important to emphasize that we do not regard these subfields as separate entities. Many of our faculty have research and teaching interests that transcend political science subfields as well as traditional disciplinary boundaries. We have strong connections with other departments in Arts & Sciences at Washington University (including the departments of Economics and Anthropology), with the School of Law, and with various interdisciplinary research centers on campus.

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Faculty

Chair

Betsy Sinclair
Professor
PhD, California Institute of Technology

Associate Chair

Francis Lovett
Professor
PhD, Columbia University

Director of Graduate Studies

Keith Schnakenberg
Associate Professor
PhD, Washington University

Director of Undergraduate Studies

Daniel Butler
Professor
PhD, Stanford University

Department Faculty

Deniz Aksoy
Associate Professor
PhD, University of Rochester

Zoe Ang
Lecturer
PhD, Washington University

Timm Betz
Associate Professor
PhD, University of Michigan

Zachary Bowersox
Lecturer
PhD, The University of Missouri

Christy Boyd
Professor
PhD, Washington University

Randall Calvert
Professor Emeritus
PhD, California Institute of Technology

Taylor Carlson
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PhD, University of California, San Diego

David Carter
Professor
PhD, University of Rochester

Dino Christenson
Professor
PhD, Ohio State University

Brian F. Crisp
Professor
PhD, University of Michigan

Ted Enamorado
Assistant Professor
PhD, Princeton University

Lee Epstein
Ethan A.H. Shepley Distinguished University Professor
PhD, Emory University

Justin Fox
Associate Professor
PhD, University of Rochester

Matthew Gabel
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PhD, University of Rochester

James L. Gibson
Sidney W. Souers Professor of Government
PhD, University of Iowa

Matthew Hayes
Associate Professor
PhD, University of Illinois

Clarissa Hayward
Professor
PhD, Yale University

William R. Lowry
Professor Emeritus
PhD, Stanford University

Christopher Lucas
Associate Professor
PhD, Harvard University

Andrew Martin
Professor of Political Science and Law
PhD, Washington University

Gary Miller
Professor Emeritus
PhD, University of Texas at Austin

Jacob Montgomery
Professor
PhD, Duke University

Lucia Motolinia
Assistant Professor
PhD, New York University

Diana O'Brien
Bela Kornitzer Distinguished Professorship
PhD, Washington University

Michael Olson
Assistant Professor
PhD, Harvard University

Sunita Parikh
Associate Professor
PhD, University of Chicago

Peng Peng
Postdoctoral Scholar
PhD, Duke University

Amy Pond
Associate Professor
PhD, University of Michigan

Xiaoyan (Christy) Qiu
Assistant Professor
PhD, University of Michigan

Andrew Reeves
Professor; Director of the Weidenbaum Center on the Economy, Government, and Public Policy
PhD, Harvard University

Guillermo Rosas
Professor
PhD, Duke University

Itai Sened
Professor Emeritus
PhD, University of Rochester

Stephanie Shady
Lecturer
PhD, University of North Carolina

Steven S. Smith
Professor Emeritus
PhD, University of Minnesota

James Spriggs II
Sidney W. Souers Professor of Government
PhD, Washington University

Michael Strawbridge
Assistant Professor
PhD, Rutgers University

Margit Tavits
William Taussig Professor in Arts & Sciences
PhD, University of Pittsburgh

Carly Wayne
Assistant Professor
PhD, University of Michigan

Degree Requirements

- Political Science, PhD (p. 359)

Courses

Visit online course listings to view semester offerings for L32 Pol Sci.

L32 Pol Sci 500 Independent Work
This course is an independent study taken under the supervision of an instructor in the department.
Credit variable, maximum 3 units.

L32 Pol Sci 5000 Topics in Politics
Credit 3 units.

L32 Pol Sci 5001 Topics in Politics
Credit 3 units.

L32 Pol Sci 5002 Topics in Politics
Credit 3 units.

L32 Pol Sci 5010 Voting, Elections, and the American Electoral Process
In this course we will critically examine the extensive literature on voting and elections in the United States. The course will approach the subject from both a contemporary and historical perspective while emphasizing the importance of American electoral institutions in shaping the behavior of voters, candidates, parties, and the outcomes of elections. Readings and assignments will focus on topics such as: campaign dynamics, electoral institutions, voter turnout, representation, presidential and congressional elections, polling, political behavior, and party identification.
Credit 3 units.

L32 Pol Sci 5014 Political Theory Workshop I
This graduate seminar formalizes graduate student participation in the inter-disciplinary Political Theory Workshop. The workshop will meet 20-24 times a year to discuss papers in history, philosophy and political science. Students taking this seminar are expected to attend all workshop sessions for the entire year, serve as a discussant for one session, and present their original work as the paper for a different session. Up to 6 additional meetings may be convened at participation at the close of their second semester. The course is restricted to graduate students who are currently in their 2nd year of graduate school or higher.
Credit 3 units.

L32 Pol Sci 5015 International Political Economy
It focuses on the key issues in international political economy, such as trade, monetary policy, foreign investment, migration, globalization, development, foreign aid, national security, and international institutions and cooperation.
Credit 3 units.

L32 Pol Sci 5016 Field Experiments in Comparative Politics
This seminar course introduces students to field experiments as a tool to shed light on important questions in the field of comparative politics. Each session, students will learn about an aspect of experimental design with an emphasis on challenges that can arise when taking experimental designs to the field. The course will draw on cutting-edge experimental work on the comparative politics of developing countries to illustrate these concepts. Every week, students will critically engage with the research design and findings of experimental papers on a particular substantive topic. The goal of the course is to enable students to design their own experiments and practically implement them in the field.
Credit 3 units.

L32 Pol Sci 5017 Interest Groups & Social Movements
The formation, evolution and political influence of organized interests and social movements in the US.
Credit 3 units.

L32 Pol Sci 5024 Causal Inference
The course serves as both an introduction for the mechanisms by which political scientists draw causal inferences using quantitative data as well as an introduction for the basic statistical tools necessary for quantitative research in the social sciences. There are three main goals of this course: to teach students to read, understand and criticize quantitative analysis in published and unpublished work, to provide them with the skills necessary to begin conducting their own analyses, and to lay the foundations for quantitative methods. We will cover the fundamentals of how political scientists are able to draw causal inferences. To do so, we will review basic probability and statistics. We will then discuss the types of inferences possible with different data-generating processes, including laboratory experiments, randomized field experiments, and observational data. There are no prerequisites for this class beyond approaching the material with an open and curious mind. Much of the material in this course is technical and a successful student in this course will spend a significant amount of time outside of class working through problem sets and becoming familiar with the necessary statistical software.
Credit 3 units.

L32 Pol Sci 5025 Political Economy Workshop
This course provides students with exposure to recent work in the field of political economy (e.g., game-theoretical models of political phenomena, structural estimation of political phenomena, etc.), with a focus on the work of members of the Wash U political economy community (e.g., political science, economics, law, business). Importantly, graduate students will present their work in progress and provide regular feedback on the work of others.
Credit 1 unit.

L32 Pol Sci 5031 Seminar in International Political Economy: Readings in International Political Economy
The purpose of this course is to offer political science Ph.D. students and faculty the opportunity to explore the theoretical and empirical debates in the international political economy subfield. Each month over the course of the year we will select a packet of readings and discuss the research design, theory, and empirical analysis. All participants will be expected to spend at least one class discussing their own research. Prerequisites: Permission of instructor.
Credit 3 units.

L32 Pol Sci 5035 Political Data Science Lab
The Political Data Science Lab (PDSL) is a venue to foster and improve social science research. Nowadays, researchers and policy-makers use cutting-edge methods to answer important questions. However, the validity of their conclusions depends upon underlying theory, assumptions, design, and correct application of statistical methods. This course will provide students with the foundation necessary to conduct research by immersing the students in a vibrant and intellectually demanding environment. Thus, PDSL's workshops are a course designed to improve the research projects (at any stage) of our members. We strongly believe that persistent efforts will lead to successful outcomes such as many publications and successful dissertations from the members of PDSL.
Credit 1 unit.

L32 Pol Sci 5044 Political Theory Workshop
This course provides a forum for graduate students' development as professional researchers. It achieves this goal in two ways. First, the course provides a setting for students to share research-in-progress and to provide and receive feedback on that research. This both contributes to the development of viable, publishable research projects and affords im-portant experience presenting research. Second, the course facilitates the development of professional skills, such as critical reading and feedback, conference etiquette and norms, job market preparation, and exposure to both politics and political science beyond Washington University. Regular enrollment and attendance is expected and encouraged for all political theory graduate students, and open to graduate students in any field outside the department with an interest in political or social theory.
Credit 1 unit.

L32 Pol Sci 5045 American Politics Workshop
The American Politics Workshop will be a one-credit, repeatable graduate course for students interested in American politics. Its goal is the development of professional researchers in American politics. The workshop will provide a forum for graduate students to present and receive feedback on written work; it will also involve professionalization activities that are directly aimed at helping students thrive as researchers as they proceed through the graduate program.
Credit 1 unit.

L32 Pol Sci 5046 Forced Displacement and the Politics of Seeking Refuge
In the last decade, the number of people who are forcibly displaced has more than doubled, and today the United Nations High Commissioner for Refugees estimates that 108.4 million people are forcibly displaced. Among this group, people face distinct legal, social, economic, and political challenges according to their status as refugees, asylum seekers, internally displaced persons, and others who do not fit these categories. In this course, we will examine the political conditions that forcibly displace people across and within countries including persecution, conflict, and environmental disasters exacerbated by climate change as well as their experiences of seeking refuge. How do international, state, local, and non-governmental institutions cooperate to manage the needs of forcibly displaced persons? In what ways do political pressures create opportunities for and barriers to effective policies to address refugee issues? How do these structural challenges affect forcibly displaced persons, and what strategies do advocates use to improve the human rights of these populations? Throughout the course, we will bear in mind the interconnectedness of macro-level policy-making and micro-level issues that affect the daily lives of individual humans experiencing forced displacement.
Same as L32 Pol Sci 4046
Credit 3 units. A&S IQ: SSC, SC Arch: SSC Art: SSC EN: S

L32 Pol Sci 505 Theories of Individual and Collective Choice I
An introduction to Rational Choices Theory. Topics will include the following: the foundations of Rational Choice Theory, Spatial Theory of Electoral Competition, Cooperative Game Theory, and General Equilibrium Theory. Prerequisite: PolSci 5052, Mathematical Modeling in Political Science (or equivalent).
Credit 3 units.

L32 Pol Sci 5050 Power and Finance: State Formation, Development and Hegemony
We will use political and economic history to explore the formation of the modern state, economic and political development, and the rise and fall of empire and hegemony.
Credit 3 units.

L32 Pol Sci 5052 Mathematical Modeling in Political Science
This course is designed to provide mathematical tools useful for the rest of the statistical methods sequence, as well as for other courses in formal theory or mathematical modeling. Throughout the course, the mathematical tools are motivated by applications to the general problem of how politics can be modeled for purposes of statistical analysis, deductive reasoning, or conceptual theorizing. This motivation is accomplished by means of a consistent focus on such processes as individual decision making, the representation of issues, statistical phenomena, and phenomena of change over time. The course assumes a sufficient background in elementary algebra, logic, functions, and graphs; remedial work in these areas will be offered through a review course during the last week or two of summer. Mathematical topics covered include: sets and relations; probability; differential calculus and optimization; difference equations; and linear algebra.
Credit 3 units.

L32 Pol Sci 5053 State Politics
The course covers major works in the area of US State Politics. Each week covers a different motivation for why people study state politics, including institutional reasons, theoretical reasons, and data-driven reasons. Students are also expected to develop their own research plans.
Credit 3 units.

L32 Pol Sci 5056 Political Borders, Domestic Politics and Patterns of Conflict and Cooperation
Borders are ubiquitous in politics and economics. International borders are what make relations among states international, while sub-state administrative borders are increasingly recognized as central to understanding many aspects of domestic politics. For instance, the status and key characteristics of borders are known to have significant effect on the likelihood and character of militarized conflict among states, the volume of international trade and foreign direct investment, and the propensity for civil conflicts to become "transnational". Furthermore, "informal" political borders, such as states' internal ethnic divisions, have also been found to profoundly influence economic patterns, patterns of political competition, as well as the propensity for states to experience political violence and civil conflict. Despite the ubiquity of borders and their widely recognized importance to politics, there has traditionally been little research directly addressing how and why they shape individual level behavior. Recently, this has changed, as scholars across several literatures in the subfields of international relations, comparative politics and political economy have begun to put greater theoretical and empirical focus on borders and their role in organizing the political and economic behavior of individuals and governments. This course provides a survey of the role of borders in political and economics, drawing from a diverse set of contemporary literatures in political science and economics.
Credit 3 units.

L32 Pol Sci 506 Theories of Individual and Collective Choice II
This course provides an introduction to noncooperative game theory and its application within political science. In-depth coverage of the course will include normal- and extensive- form games, Nash equilibrium and its refinements, games of incomplete information, and Bayesian equilibrium and its refinements. To the degree that time permits, students will be presented introductory material on topics such as epistemological foundations, mechanism design, information aggregation, and specific applied models within political science.
Credit 3 units.

L32 Pol Sci 5065 Formal Models of Conflict
This course is intended for advanced graduate students who are interested in the formal models of conflict. This course may be of particular interest to students interested in international relations. The goal of this course is to provide hands-on experience for students with interest in modeling various substantive ideas by exposing the advantages and limitations of mathematical formalization. To accomplish this, students will (i) deeply engage with selected readings, (ii) identify the contributions of their authors, and (iii) find ways to improve the research or extend the insights.
Credit 3 units.

L32 Pol Sci 507 Seminar in Positive Political Theory
This course will provide you with an introduction to the field of positive political theory, focusing primarily on social choice theory, mechanism design, and various proof techniques. The topics we cover will include preference aggregation, rationalizable choice, tournaments, sophisticated voting, the revelation principle, and ultimately, the implicit trade-offs made by game theoretic versus social choice theoretic approaches to modeling.
Credit 3 units.

L32 Pol Sci 5070 Global Justice
This course examines contemporary debates and controversies regarding global justice. Seminar discussions will be arranged around significant issues in the current literature. for example: What (if anything) do we owe to the distantly needy? Do we have special obligations to our compatriots? Do political borders have normative significance? And so on. This course will be of interest not only to political theorists, but also students in other fields interested in social justice or international relations generally.
Same as L32 Pol Sci 4070
Credit 3 units. A&S IQ: LCD, SSC Arch: SSC Art: SSC EN: S

L32 Pol Sci 5071 Seminar in Political Theory: Game Theory and Politics
This seminar is designed as an eclectic "topics" course in the application of broadly game theoretic models to political science. Topics are chosen both to build skills not covered in Game Theory I and II (505-506) and to introduce areas of application of mutual interest. One likely applications topic isconstitutional stability and democratic backsliding. Prerequisites: L32 505
Credit 3 units.

L32 Pol Sci 5074 Comparative Politics Research Workshop
This course provides a forum for graduate students' development as professional researchers. It achieves this goal in three ways. First, students will present research in progress, receiving feedback on papers they are preparing for publication. This helps improve the quality of their work, and gives them experience presenting and receiving constructive criticism on their research. Second, students will also provide feedback on other students' work, helping them practice skills such as critical reading, crafting constructive feedback, and gaining exposure to different substantive topics and research methods in the subfield of comparative politics. Third, the course will help students build networks of collaboration in the department with other graduate students, faculty, and external scholars who may occasionally participate in some sessions, presenting their own in-progress work. Regular enrollment and attendance is expected for comparative politics graduate students and encouraged for other graduate students (including from other departments) with a significant interest in comparative politics.
Credit 1 unit.

L32 Pol Sci 5075 International Relations Workshop
This course provides graduate students with key professional development skills on their path to becoming professional researchers and academics. The course accomplishes this goal in three ways. First, students will present research in progress week to week, receiving feedback on papers they are submitting for publication. This helps improve the quality of their work and gives them experience presenting and receiving constructive criticism on their work. Second, students will also provide feedback on other students' work, helping them practice skills such as critical reading, crafting constructive feedback, and gaining exposure to different substantive topics and research methods in the subfield of international relations. Third, the course will help students build networks of collaboration in the department with other graduate students, WUSTL faculty, and external faculty who will also participate in some sessions, presenting their own in-progress work for students. Regular enrollment and attendance is expected for all international relations graduate students in the department and is open to those outside the department who have significant interests in international relations.
Credit 1 unit.

L32 Pol Sci 5082 Research Seminar in Formal Political Theory
Seminar will discuss and develop individual students' formal theory projects plus necessary background material. Precise content based on student projects.
Credit 3 units.

L32 Pol Sci 5085 International Interventions in Fragile Settings
Civil wars are the prevailing political crises of our time. The international community devotes considerable financial and human resources to preventing civil wars from breaking out and stopping them once they do. Do such attempts succeed? In this course, we examine international efforts to create sustainable peace after civil wars from a variety of perspectives. Drawing upon theoretical and empirical analyses in political science, we investigate the effectiveness of peacekeeping troops deployed to keep warring parties from fighting as well as statebuilding initiatives that attempt to construct or reconstruct domestic institutions in a postconflict state. We also consider the spatial challenges facing peacekeeping operations, which may prevent certain operations from succeeding locally where they have succeeded nationally. Finally, we examine different types of peacekeepers, including the United Nations's extensive network of peacekeeping operations around the globe.
Credit 3 units.

L32 Pol Sci 5090 History of Political Thought I: Justice, Virtue, and the Soul
This course offers a critical introduction to the main issues and debates in western political theory, including but not limited to the topics of justice, legitimacy, equality, democracy, liberty, sovereignty, and the role of history in the political and social world. This course is designed to be the first in a three-semester sequence on the history of political thought, and students are encouraged, but not required, to take the courses in chronological sequence. The first semester begins with ancient Greek political thought, and follows its development up to the early 16th century.
Same as L32 Pol Sci 391
Credit 3 units. A&S IQ: LCD, SSC Arch: SSC Art: SSC BU: BA EN: S UColl: ML

L32 Pol Sci 5092 History of Political Thought II: Legitimacy, Equality and the Social Contract
Government is often justified as legitimate on the grounds that it is based on the consent of the governed. In History of Political Thought II, "Legitimacy, Equality, and the Social Contract," we examine the origins of this view, focusing our attention on canonical works in the social contract tradition, by Thomas Hobbes (1588-1679), John Locke (1632-1704), Jean-Jacques Rousseau (1712-1778), David Hume (1711-1776), and Immanuel Kant (1724-1804). This course is the second in a three-semester sequence on the history of political thought. Students are encouraged but not required to take all three courses. Prerequisite: One previous course in political theory or political philosophy.
Same as L32 Pol Sci 392
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L32 Pol Sci 5093 History of Political Thought III: Liberty, Democracy, and Revolution
How, if at all, should the political institutions of the modern state express and secure the liberty and equality of citizens? What is the political significance of private property? Is world history to be understood as progress towards one best form of government - capitalist democracy, perhaps, or communism? What forces drive history? We shall address these and other timeless political questions through close reading and rigorous analysis of classic texts in the history of Western political thought. Authors to be studied will include Kant, Hegel, Marx, Tocqueville, John Stuart Mill, and Nietzsche. Prerequisite: one previous course in political theory or political philosophy. The course is designed to be the third in a three-semester sequence on the history of political thought, and students are encouraged but not required to take the courses in chronological sequence.
Same as L32 Pol Sci 393
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L32 Pol Sci 510 Approaches to Comparative Politics
Problems of theory construction and testing in a comparative framework. Both underdeveloped and industrial societies are discussed. Primary ephasis placed on increasing student's abilities to criticize and develop theoretical ideas.
Credit 3 units.

L32 Pol Sci 5100 The Distributive Politics of Electoral Rules
Around the world, governments make decisions about how to allocate goods and services to their citizens. These decisions can be influenced by theelectoral prospects of the politician/party in power. In this class, we aim to study politicians' incentives to target voters and how different electoral rules shape these incentives.
Credit 3 units.

L32 Pol Sci 511 Seminar in Comparative Politics
Credit 3 units.

L32 Pol Sci 5111 Comparative Democratic Institutions
This is a seminar intended for Ph.D. students. Advanced undergraduates may enroll with the instructor's permission. The course examines how the formal rules of competition shape political representation and policy outcomes. We begin by considering the theoretical problems of social choice (preference aggregation), deliberation, and agenda-setting. Most of the course focuses on literature in comparative politics that addresses these theoretical issues with empirical analysis. Substantive topics considered are electoral systems, parliamentary parties and coalitions, legislative procedure, executive powers, federalism, and judicial review.
Credit 3 units.

L32 Pol Sci 5112 Political Participation: State and Local Politics
This course investigates variation in political behavior in the context of state and local politics. We often conceptualize local political participation as engagement within a managerial democracy, wherein partisanship plays a smaller role than local needs and efficient management of resources. Who participates in a managerial democracy and why? This course evaluates participation in local politics, political reform, and engagement with local elected officials. This is a course that focuses on writing, with the aim of producing research at the frontier of the field.
Credit 3 units.

L32 Pol Sci 5121 Topics in Politics: Conflict
This course is intended primarily for graduate students. The topic of this course varies by semester, dependent on faculty and student interests.
Credit 3 units.

L32 Pol Sci 514 Seminar in Comparative Politics: Electoral and Party Systems in Europe
This course surveys a variety of mechanisms employed in democratic elections with a particular focus on their implications for European party systems. Issues of special importance are reform of electoral institutions (e.g., in Italy), the evolution of electoral institutions within the European Union and the domestic party systems' response. New European democracies also contribute significantly to both the variation in electoral procedures and to the number of cases of electoral reform, thus forming a topic for an interesting discussion. (This course is the first in the sequence on comparative political institutions).
Credit 3 units.

L32 Pol Sci 516 Seminar in Comparative Politics: European Politics
Credit 3 units.

L32 Pol Sci 5160 Senior Seminar: Religion, Politics, and Community
Religion is a powerful social, economic, and political force across the globe. Its formal authorities and informal influences have changed over time and across space and traditions. Yet even where regular religious practice has become less common, religion remains a means of constructing communities, be it a diaspora, a unique nation within a state, or state-wide national identity or nationalism. Religion intersects with race, gender, and other important social identities, and it overlaps with organized political power from the grassroots to the government. Human relationships with the divine have influenced everyday norms and values, have marked key moments in our life cycle, and have provided material and social psychological resources for communities. In this course, we will examine the political relationships between religion and community from a variety of social scientific perspectives. As a core part of this inquiry, you will conduct an original research paper on a topic of your choice relating to religion, politics, and community. We will work through each step of the scientific method over the course of the semester-using religion and community as a lens and set of thematic examples-and hold guided workshops to facilitate your research process. Prereq: L32 263 OR L32 363 OR department approved equivalent
Same as L32 Pol Sci 4060
Credit 3 units. A&S IQ: SSC EN: S

L32 Pol Sci 518 Seminar in Comparative Politics: Comparative Perspectives on the State
This course surveys traditional and more recent comparative research on the state, covering such issues as state formation, state-society relations, development and erosion of welfare states, globalization and state capacity, and states in emerging patterns of multi-level governance. It will draw on material from developed and developing countries, as well as from democratic and non-democratic states.
Credit 3 units.

L32 Pol Sci 519 Seminar in Comparative Politics: Comparative Judicial Politics
The performance of liberal democracies depends on large part on the judiciary, particulary Constitutional Courts. Courts can protect individual rights, define the powers of the legislative executive branches, and ensure the rule of law governs social and economic life. But courts typically enjoy neither the "purse nor the sword" and this

often depend on other government agencies to enforce their decisions. In other words, the judicial independence necessary for courts to exert the salutary effects on democratic governance is often in question. This course examines these issues from a comparative perspective. In addition to the broad scholarly attention to these issues in the context of U.S. politics, a growing literature explores the interplay between courts, government, and society as a more general problem affecting democracies around the world. Based on this broad literature, we will discuss topics ranging from judicial legitimacy and compliance, judicial policy-making, the interaction between constitutional law and politics, separation of powers, and judicial norms and rules.
Credit 3 units.

L32 Pol Sci 520 American Political Institutions
This course provides an overview of the scholarly work on American political institutions. Readings include the classic literature on political behavior, interest groups, Congress, the Executive, and the Court.
Credit 3 units.

L32 Pol Sci 522 Seminar in American Politics
Credit 3 units.

L32 Pol Sci 5225 Topics in American Politics
Credit 3 units.

L32 Pol Sci 523 Seminar in American Politics
This course will address American politics, using race as the focal point. How does race impact our conception of the American political project, as both researchers of it, and participants in it? For example, how does the presence of large numbers of African Americans in the South, affect the structure of southern political parties? Among the topics to be discussed are citizenship, public policy, political behavior, political development, and public opinion. Prerequisites: graduate students only.
Credit 3 units.

L32 Pol Sci 5231 Seminar in American Politics
Credit 3 units.

L32 Pol Sci 526 Seminar in American Politics: Politics of Bureaucracy
This course will examine both the theory and the practice of bureaucratic politics, with cases and data analysis primarily from American politics. The theory will start with the influential work of organizational economists of the past two decades, but will attempt to incorporate the insights of traditional organizational experts from Woodrow Wilson on to contemporary social psychologists. The course will also cover the structure of regulatory agencies, congressional oversight, and presidential leadership. Prerequisite: API.
Credit 3 units.

L32 Pol Sci 5260 Executive Branch Politics: Bureaucracy and the President
Article II of the Constitution says that the executive power will be vested in the office of the president. The Constitution says little about subordinate officers, but the bureaucracy has grown and become the repository of technical expertise. In recent years, the literature on bureaucracy and the president has been granted in models of information asymmetry, agency, delegation, and separation of powers. The course will also examine the historical development of the executive, its relations with other branches, and the internal politics of staffing, budgets, and organizational structure. Prerequisites: Math Modeling
Credit 3 units.

L32 Pol Sci 5261 Comparative Public Bureaucracy
Economic development seems to require a governmental commitment to property rights and enforcement of contracts. The example of the Great Britian, the United States, and other countries seems to suggest that professionalized bureaucracies play a critical role in the constitutional systems that succeed in assuring investors and entrepreneurs that their property rights and contracts will be enforced. This seminar asks what lessons for today's emerging nations can be learned by examining both bureaucratic theory and the historical records of successful and unsuccessful bureaucratic reform movements.
Credit 3 units.

L32 Pol Sci 5262 Comparative Party Politics
In this seminar we will review some of the concepts and theories employed in the comparative study of political parties and party systems. Most of the canonical literature has been developed with an eye to the political experience of advanced industrial democracies, but has been extended more recently into the study of inchoate democracies, where the programmatic character of political parties cannot necessarily be taken for granted. We will focus on the constitutional and societal determinants, and on the political and economic consequences, of different party system arrangements, centering mostly on European and Latin American politics.
Credit 3 units.

L32 Pol Sci 5263 Development of the U.S. Federal Government--Theory and History
This course will cover topics related to the historical development of the United States Federal Government. The course will be theoretically motivated using cooperative and/or noncooperative models of strategic behavior. Of specific interest will be questions related to institutional design and performance in settings where politics and administration collide. Examples of topics that might be covered include: federalism, patronage vs. merit, expertise development and deployment, organizational design in problems involving team production, regulatory politics, executive management of the bureaucracy, and Congressional oversight of the executive branch.
Credit 3 units.

L32 Pol Sci 527 Seminar in American Politics
Credit 3 units.

L32 Pol Sci 5291 American Constitutional Development
The development of American understandings of the Constitution, from the Framing era to the present. The course focuses on important changes in constitutional meaning and application; the processes by which such change occurs; and the role of constitutional issues in American political argument and political strategy. In doing so, it develops ideas about constitutional intrepretation, constitutional theory, and political argument. This course is intended primarily to supplement the training of graduate students specializing in associated fields such as judicial politics and American political institutions.
Credit 3 units.

L32 Pol Sci 531 Seminar in American Public Policy: American Public Policy
This course considers the policy-making process in the United States. We will discuss the major stages of the policy placers, review some of the classic worker, and focus concentration on policy issues of the student's choice. Prerequisites: graduate students only.
Credit 3 units.

L32 Pol Sci 534 Law and Society
This seminar is designed as a survey of important topics within the broad area of "Law and Society". Areas to be examined in the seminar include courts and public policy making; civil liberties and political tolerance; criminal justice; the legal pofession; juries; legitimacy adn compliance with law; law and social change; procedural justice; and comparative law. The seminar will focus on understanding, synthesizing and evaluation the broad range of empirical research conducted under the rubric "law and society".
Credit 3 units.

L32 Pol Sci 537 Democracy, Responsiveness, and Accountability
This course focuses on the question: To whom - what interests, whose demands - do elected politicians respond when making policy? In the last 30 years, the number of countries that select their rulers through competitive elections has increased sharply. The performance of many of these regimes, however, raises serious doubts about the extent to which elections guarantee a close correspondence between citizen preferences and policy outputs. The class explores the practical implications of ideals like responsiveness and accountability for elected officials, and how these operate in conjunction with the separation of powers, independent judiciaries, political party discipline, pressure from international actors, as well as more base incentives, like personal ambition and corruption.
Credit 3 units.

L32 Pol Sci 5381 On the Social Contract
Any attempt to understand the structure of economic markets requires that we understand the social contract within which they are embedded. This course will cover some traditional, neo classical and contemporary political scientific theories of the social contract as a core agreement that emerges spontaneously or by design out the state of nature. It will also explore the transition from the initial social contract to more hierarchical structures that are sophisticated enough to sustain elaborate economic institutions such as competitive markets and democratic civil societies.
Credit 3 units.

L32 Pol Sci 539 Measurement and Latent Trait Models
This class is an advanced quantitative methods course in which we will derive, fit, and analyze latent variable models commonly used in social science research. The ultimate goal is to give students the requisite skills and knowledge to apply these models in their own research. The course will focus on building foundational skills needed to engage contemporary measurement models and estimation techniques. In addition, the course will survey prominent and promising models in the political science, statistics, and psychology literatures.
Credit 3 units.

L32 Pol Sci 540 Research Design
This course is designed to provide students with analytical skills for making and evaluating arguments and evidence about social phenomena, particularly in political science. Put differently, the course will help students discriminate between good and bad arguments.
Credit 3 units.

L32 Pol Sci 544 Comparative Political Elections
CPE offers an introduction to the extensive literature on comparative electoral systems. The course includes a combination of classic works on elections as well as more contemporary work. Uniquely, it also addresses both domestic and international influences on and effect of electoral systems.
Credit 3 units.

L32 Pol Sci 5442 Political Psychology
Political pyschology is a rapidly growing field of research located at the intersection of psychology and political science. Broadly, political psychology helps us understand how individuals think and feel about politics, and how these psychological factors shape political behavior. This course is designed to examine the major areas of research on how psychological factors explain important political phenomena, such as political, vote choice, polarization, partisanship, media consumption, political knowledge, political communication, and policy preferences. This course will draw heavily on research in American politics, but will extend to research across the subfields. Students will design and conduct independent research and engage in assignments geared toward professional development.
Credit 3 units.

L32 Pol Sci 5445 Democratization
This course offers an introduction to the extensive literature on democratization. It includes a combination of classic works on democratization as well as more contemporary work. It also addresses both domestic and international influences on the cause of democratization, as well as its effects.
Credit 3 units.

L32 Pol Sci 546 Growth and Development
Why do some nations develop politically and economically while others languish? What accounts for disparities in wealth and opportunity in the world? What are the implications of such differences? How are political and economic development related? Growth and development create surplus that can be allocated to other tasks. Governments and societies that attain growth and development become more capable actors in world affairs and are better able to address problems confronting their societies. Development expands the choices that individuals and social actors can make when facing obstacles. This seminar explores the interaction of politics, history, culture, society, and economics as we try to understand what governments and societies do to promote or hinder growth and development, and how those actions influence social arenas.
Credit 3 units.

L32 Pol Sci 548 Globalization and Democracy
Globalization poses challenges to democratic institutions. Democracy aims to align citizens' preferences and public policy through the use of elections. But many facets of globalization, for example, immigration, environmental pollution, and international finance, cannot be governed solely by domestic policy decisions within a single democracy. This raises the questions of how successful democratic systems are in realizing effective governance and meaningful electoral accountability. In this research-orientated course we address this question in the context of economic and environmental policy, two important and related areas of policymaking in which globalization plays a crucial role. The course consists of weekly lectures and tutorials. It is designed for students who share an interest in international relations, political economy, and electoral behavior.
Credit 3 units.

L32 Pol Sci 5505 American Political Parties
This seminar will introduce students to core literature on political parties with a strong bias towards recent research.
Same as L32 Pol Sci 4505
Credit 3 units. A&S IQ: SSC EN: S

L32 Pol Sci 551 Research in Political Science
Credit variable, maximum 6 units.

L32 Pol Sci 552 Research in Political Science
This course is open only to Ph.D. candidates who have passed their qualifying examinations and is to be under the supervision of an instructor of the department.
Credit variable, maximum 6 units.

L32 Pol Sci 5521 Political Violence
This course studies the ways non-state groups use violence in pursuit of political goals. During the semester, we will engage with contemporary research on political violence, including civil war, ethnic conflict, terrorism and communal riots. The goal of the course is to introduce students to major questions related to the study of political violence. What explains the onset of violence? Why do individuals choose to join violent movements? Is non-violent protest more effective than the use of violent tactics? During the semester, we will read a large volume of within-country and cross-national quantitative research on political violence. We will examine several cases in detail, including ethnic riots in India, Rwandan genocide, and Kurdish conflict in Turkey.
Credit 3 units.

L32 Pol Sci 553 Readings in Political Science
Credit variable, maximum 6 units.

L32 Pol Sci 5538 The Politics of Electoral Systems
We will look at the features of electoral systems that impose incentives for interparty and intraparty politics. Those features include ballot access, ballot type, the number and level at which votes are cast, the level to which votes pool, distritc magnitude, seat allocation formulas, and legal thresholds. A subset of these creative incentives for the relationships between parties include their number, relative size, and location in the policy space (interparty politics). An overlapping subsetof these create incentives for the relationships whithin parties, including between leaders and backbenchers and between representatives and constituents (intraparty politics). We will examine the existing literature and do some original researc of our own.
Credit 3 units.

L32 Pol Sci 554 Readings in Political Science
This course is readings in political science taken under the direction of an instructor in the department.
Credit variable, maximum 6 units.

L32 Pol Sci 555 Longitudinal and Event History Models for the Social and Political Sciences
This course will cover the statistical concepts and techniques that are used to model social and political events over time, including basic time-series and event history (survival) data. Such data routinely occurs in both the social sciences and public health sciences. Lectures will introduce: second order stationary time series, autoregressive structures, spectrum and linear filtering theory, autocorrelation consistent (HAC) variance estimation, survival functions, hazard rates, types of censoring and truncation. Modes of inference for regression models will be provided. All applied work will be in the R software environment for statistical computing and graphics. Students will be able to identify and classify data problems in longitudinal analysis, define the appropriate function accounting for time as well as summarize and interpret analyses of such data using various estimators. In addition, participants will able to formulate research questions related to longitudinal data and the appropriate associated regression models or other approach.
Credit 3 units.

L32 Pol Sci 5551 Seminar in Political Economy
This research seminar will introduce the student to recent work on the political economy of democracy. We shall start with a historical account of the development of democratic institutions in Britain and the United States, and then continue with recent work on modeling elections. We shall compare elections in countries that make use of proportional electoral systems, such as Israel, with those like the United States and Britain that are highly majoritarian. Finally we shall discuss the forces of democratization and globalization. The required work for the seminar is a research paper approximately 20pp (double spaced) in length.
Same as L32 Pol Sci 4551
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L32 Pol Sci 5552 Comparative Political Economy
This seminar will introduce the student to aspects of social choice theory, applied to themes to do with the economic origins of democracy, democratization and the stability of social orders. We shall read and discuss a number of recent books: Acemoglu and Robinson on Economic Origins; North, Weingast and Wallis on Violence and Social Order; Przeworski on Democracy and Development; Ferguson on Money; Collier on Wars Guns and Votes. If time permits I also hope to discuss recent work by Stern on the Economics of Climate Change. Students will be expected to work on two short research paper, either empirically or theoretically based, and make a presentation of their work near the end of the semester.
Same as L32 Pol Sci 4552
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L32 Pol Sci 5555 The Practice of Professional Political Science I
This course introduces students to several important components of the political science profession. The goal is to provide students with practical knowledge necessary to translate coursework and independent research into a successful career in political science. Topics include the publication process, peer reviews, and grant writing. Students will be graded on attendance and participation in our course meetings.
Credit 3 units.

L32 Pol Sci 5556 The Practice of Professional Political Science II
This course introduces students to several important components of the political science profession. The goal is to provide students with practical knowledge necessary to translate coursework and independent research into a successful career in political science. Topics include the publication process, peer reviews, and grant writing. Students will be graded on attendance and participation in our course meetings.
Credit 3 units.

L32 Pol Sci 5557 The Practice of Professional Political Science III
This course introduces students to several important components of the political science profession. The goal is to provide students with practical knowledge necessary to translate coursework and independent research into a successful career in political science. Topics include the publication process, peer reviews, and grant writing. Students will be graded on attendance and participation in our course meetings.
Credit 3 units.

L32 Pol Sci 5558 The Practice of Professional Political Science IV
This course introduces students to several important components of the political science profession. The goal is to provide students with practical knowledge necessary to translate coursework and independent research into a successful career in political science. Topics include the publication process, peer reviews, and grant writing. Students will be graded on attendance and participation in our course meetings.
Credit 3 units.

L32 Pol Sci 5559 The Practice of Professional Political Science V
This course introduces students to several important components of the political science profession. The goal is to provide students with practical knowledge necessary to translate coursework and independent research into a successful career in political science. Topics include the publication process, peer reviews, and grant writing. Students will be graded on attendance and participation in our course meetings.
Credit 3 units.

L32 Pol Sci 5560 The Practice of Professional Political Science VI
This course introduces students to several important components of the political science profession. The goal is to provide students with practical knowledge necessary to translate coursework and independent research into a successful career in political science. Topics include the publication process, peer reviews, and grant writing. Students will be graded on attendance and participation in our course meetings.
Credit 3 units.

L32 Pol Sci 5570 Seminar in Security and Conflict
This course serves as a field seminar for the conflict and security sub-field of International Relations. We cover the theories and approaches central to understanding cutting-edge research in conflict and security, with a focus on the sort of work that is being published in top journals. We will cover topics such as the sources and (sometimes long-term) consequences of interstate conflict and war, key theories and empirical approaches in the fast growing field of civil conflict, as well as topics at the intersection of security and international political economy. This course is intended to serve as a field seminar for students interested in core topics in conflict and security.
Credit 3 units.

L32 Pol Sci 5571 Gender and Politics
A survey of central topics in gender and politics, including issues such as women's and men's representation in government, women as voters and candidates in political elections, gender and political participation in political parties and social movements, and gender and policy representation.
Credit 3 units.

L32 Pol Sci 560 Seminar in International Political Economy
In this course we will draw from the literature in international relations, comparative politics, and economics to develop an understanding of international politics. The focus will be on the recent literature on the topics of international trade, financial crises, monetary arrangements, foreign direct investment, and economic development.
Credit 3 units.

L32 Pol Sci 5625 Applied Statistical Programming
Statistical computing is a quickly changing field. Standard techniques of today would have been difficult to execute fifteen years ago and impossible in the early 1990s. Rapid improvements i computing power have been accompanied by swift changes in standard statistical methods. In just the last decade, techniques ranging from Markov chain Monte Carlo (MCMC) simulation, randomization inference, network analysis, and non-parametric matching have moved from being novel, advanced applications to commonplace across the social sciences. This class is designed to achieve two broad objectives. More narrowly, it aims to guide students as they learn the specifics of the R programming language, a powerful statistical computing environment widely used in the fields of political science, network analysis, machine learning, and statistics. Achieving this goal will require students to learn commands, best practices, and work-arounds specific to the sometimes idiosyncratic R language.
Credit 3 units.

L32 Pol Sci 5660 Research Workshop in Political Economy
In this course graduate students will regularly attend the presentation of current research by leading scholars in the field by attending the political economy speaker series. In addition to attending the talks and reading the papers, the students will meet with the speakers to discuss their work. Finally, several times during the year, the students will be expected to write papers evaluating the scholarship presented in the workshop, critiquing the modeling approach, the substantive import of the problem, and the conclusions.
Credit 3 units.

L32 Pol Sci 5678 American Political Behavior
This will be a graduate field seminar in American political behavior.
Credit 3 units.

L32 Pol Sci 568 Graduate Field Survey in Political Theory
This course is a graduate level survey designed to introduce students to the scope, concepts, and methods of political theory.
Credit 3 units.

L32 Pol Sci 5703 Workshop on Research Design
This course offers an overview of the relationships among theory, data collection, data analysis, and findings, with special attention to the link between theory and data collection. Moving from theory to the collection of empirical data involves stating clear hypotheses, operationalizing the concepts that make up those hypotheses, choosing the appropriate units to study, and selecting the means by which to actually observe those units. This course is intended to improve your capacity to judge the extant literature critically and more importantly to improve your ability to formulate and investigate questions of your own. When we are through your should be able to: 1.) Evaluate the prospects of various designs for making inferences about casual relationships. 2.) Identify, evaluate, and choose among major types of data-gathering techniques. 3.) Choose among sampling procedurres.
Credit 3 units.

L32 Pol Sci 5732 Topics in QPM: Bayesian Inference
Advanced methods of statistical analysis for political and other social scientists. Covers applied Bayesian inference and Markov chain Monte Carlo methods for various cross-sectional, time series, and measurement models. Particular attention is paid to statistical computation.
Credit 3 units.

L32 Pol Sci 5741 Survey Research Methods
Survey research is ubiquitous in all areas of social science (including the sociology of law). The purpose of this seminar is to provide an introduction to designing, conducting, and analyzing surveys, as well as consuming the survey research of others. The major components of the seminar are: (1) Conceptualizing survey research problems; (2)

Research design (including ethics); (3) Sampling; (4) Measurement and questionnaire design; (5) Experiments and vignettes in survey research; (6) Logistics and data collection; (7) Analyzing and reporting survey data. Though much of the substantive reading for the seminar will be based on research conducted in the United States, considerable emphasis will be devoted to problems of cross-cultural and cross-national survey research. The seminar is open to graduate students from all departments, including Psychology, Anthropology, Economics, Law, and Business.
Credit 3 units.

L32 Pol Sci 5742 Survey Research Practicum
A research practicum in designing surveys and survey experiments. Topics include sampling, survey modes, questionnaire design, ethics and the Institutional Review Board, and analyzing survey data.
Credit 3 units.

L32 Pol Sci 575 Topics in International Political Economy: Politics of International Finance
Global finance underwent stunning transformations over the past thirty years. The changes contribute to interdependence, challenge national sovereignty, alter state-society relation, affect economic development, and influence the distribution of wealth and power in the global economy. The seminar examines the political economy of monetary relations and the globalization of capital markets. FOR GRADUATE STUDENTS ONLY.
Credit 3 units.

L32 Pol Sci 578 Seminar in International Political Economy I
This course will borrow on the insights of international relations scholarship and economic theory to develop a broad understanding of international economic relations. Specifically, this course attempts to address the following two sets of questions: 1) How do global economic relations fit into the broader category of international relations? How do the existing theories in international relations (liberalism, realism, and Marxism) help us understand international economic relations between nation-states? 2) What are the effects of these international economic forces (trade, finance, and multinational production) on domestic governments and societies?
Credit 3 units.

L32 Pol Sci 5781 Seminar in International Political Economy II
This seminar expands on the topics introduced in Pol. Sci. 578. We continue examining major approaches to research and explanation in International Political Economy.
Credit 3 units.

L32 Pol Sci 5791 Research Design in International Relations
This course is one of four classes in the international political economy sequence. The focus of this course is on research design in empirical and theoretical scholarship. This focus will largely consist of examining very recent scholarship in political science and economics. The substantive topics will vary from year to year, but the different modules consist of: 1) International Trade and Foreign Direct Investment, 2) International Institutions, Interstate Agreements, and International Law and 3) Corruption and Economic Development.
Credit 3 units.

L32 Pol Sci 581 Quantitative Political Methodology I
This is a first course in political methodology. The primary topic will be the linear regression model, in both scalar and matrix form. The course will cover estimation, inference, specification, diagnostic tools, data management, and statistical computation.
Credit 3 units.

L32 Pol Sci 582 Quantitative Political Methodology II
This is a second course in political methodology covering advanced methods of statistical analysis for political and other social scientists. Covers maximum likelihood estimation for various cross-sectional, time series, and measurement models.
Credit 3 units.

L32 Pol Sci 5823 CNISS Certificate Research Seminar III
This graduate seminar is part of the required coursework for the CNISS Certificate in New Institutional Social Sciences. Each CNISS fellow will present his or her research in progress and evaluate the work of his or her peers. The seminar will also consist of interdisciplinary discussions on a wide range of issues ad methodological approaches. Finally, Fellows will also participate in lectures by visiting scholars whose research areas overlap with tpoics in New Institutional Social Sciences. Open only to CNISS Fellows or other students who have the permission of the program advisor.
Credit 3 units.

L32 Pol Sci 5824 CNISS Certificate Research Seminar IV
This graduate seminar is part of the required coursework for the CNISS Certificate in New Institutional Social Sciences. Each CNISS fellow will present his or her research in progress and evaluate the work of his or her peers. The seminar will also consist of interdisciplinary discussions on a wide range of issues ad methodological approaches. Finally, Fellows will also participate in lectures by visiting scholars whose research areas overlap with tpoics in New Institutional Social Sciences. Open only to CNISS Fellows or other students who have the permission of the program advisor.
Credit 3 units.

L32 Pol Sci 583 Topics in Quantitative Political Methodology: Computational Social Science
Over the last decade, the scale and scope of data available to social scientists has exploded. In this course, students learn computational methods for the analysis of new types of data, including networks, text, audio, images, and videos. We begin with mechanistic approaches to supervised and unsupervised learning, then move to statistical inference with probabilistic interpretations, paying particular attention to the use and misuse of these models in the social sciences. In addition to problem sets, students will collect and analyze novel data to be presented in a department poster session at the end of the semester.
Credit 3 units.

L32 Pol Sci 5831 Computational Social Science
Over the last decade, the scale and scope of data available to social scientists has exploded. In this course, students learn computational methods for the analysis of new types of data, including networks, text, audio, images, and videos. We begin with mechanistic approaches to supervised and unsupervised learning, then move to statistical inference with probabilistic interpretations, paying particular attention to the use and misuse of these models in the social sciences. In addition to problem sets, students will collect and analyze novel data to be presented in a department poster session at the end of the semester.
Credit 3 units.

L32 Pol Sci 584 Multilevel Models in Quantitative Research
This course covers statistical model development with explicitly defined hierarchies. Such multilevel specifications allow researchers to account for different structures in the data and provide for the modeling of variation between defined groups. The course begins with simple nested linear models and proceeds on to non-nested models, multilevel models with dichotomous outcomes, and multilevel

generalized linear models. In each case, a Bayesian perspective on inference and computation is featured. The focus on the course will be practical steps for specifying, fitting, and checking multilevel models with much time spent on the details of computation in the R and Bugs environments. PREREQ: Math 2200, Math 3200, Poli Sci 581, or equivalent.
Credit 3 units.

L32 Pol Sci 590 Research Workshop I
The objective of this course is to provide a forum in which students propose, develop, and complete reserach projects that are marketable to a broad political science audience, and to help students refine their analytical and writing skills. The course is targeted toward students in their 3rd year. The specific goals for each student include (a) finalizing their 3rd year paper and preparing it for submission to a journal, and (b) developing a first draft of their dissertation prospectus. Participation is an essential component of the seminar. Students are expected to (1) submit and/or present their work based on a schedule that is finalized at the start of the semester, and (2) give written feedback and engage in discussion of the work submitted by their peers every week.
Credit 3 units.

L32 Pol Sci 5901 Research Workshop II
The objective of this course is to provide a forum in which students propose, develop, and complete research projects that are marketable to a broad political science audience, and to help students refine their analytical and writing skills. The specific goal of the course is for each student to develop a first draft of his/her dissertation prospectus and prepare it for submission to his/her dissertation committee. Participation is an essential component of the seminar. Students are expected to (1) submit and/or present their work based on a schedule that is finalized at the start of the semester, and (2) give written feedback and engage in discussion of the work submitted by their peers every week. Prerequisite: L32 590
Credit 3 units.

L32 Pol Sci 5910 Democratization in the United States
To what extent has the United States fulfilled the promise of democracy throughout its history? This course will explore the ways that voting rights, political institutions, and public opinion have combined to limit or extend popular government in the United States. Particular focus will be given to changes in voting rights throughout U.S. history. Why have certain groups been denied or extended the franchise? What are the consequences of altering the franchise for lawmaking and public policy? Reading will be both theoretical and empirical, with specific attention paid to limits on the franchise in the early American republic, fluctuations in African-American suffrage, the extension of the right to vote to women, the disenfranchisement of those convicted of felonies, and concerns about access to voting and registration for disadvantaged groups in recent years. Additional areas of focus will include the role of political parties in American democracy, access to office-holding, the role of the media in facilitating democratic governances, the impact of protest and other non-voting methods of democratic political participation, the importance of legislative and electoral institutions for representation, and democratic backsliding. Most readings will focus on the United States, with occasional readings about other countries used to highlight the ways that democratization in the United States is and is not unique in comparative perspective.

L32 Pol Sci 5911 Democratization in the United States
To what extent has the United States fulfilled the promise of democracy throughout its history? This course will explore the ways that voting rights, political institutions, and public opinion have combined to limit or extend popular government in the United States. Particular focus will be given to changes in voting rights throughout U.S. history. Why have certain groups been denied or extended the franchise? What are the consequences of altering the franchise for lawmaking and public policy? Reading will be both theoretical and empirical, with specific attention paid to limits on the franchise in the early American republic, fluctuations in African-American suffrage, the extension of the right to vote to women, the disenfranchisement of those convicted of felonies, and concerns about access to voting and registration for disadvantaged groups in recent years. Additional areas of focus will include the role of political parties in American democracy, access to office-holding, the role of the media in facilitating democratic governances, the impact of protest and other non-voting methods of democratic political participation, the importance of legislative and electoral institutions for representation, and democratic backsliding. Most readings will focus on the United States, with occasional readings about other countries used to highlight the ways that democratization in the United States is and is not unique in comparative perspective.
Credit 3 units.

L32 Pol Sci 5912 Public Opinion
This course explores the processes by which citizens form and change their opinions. It will cover the methodological tools scholars use to measure opinions, especially surveys and experiments. Topics include political knowledge, mass communication, partisanship, ideology, policy issues, institutional outcomes, social networks and context.
Credit 3 units.

L32 Pol Sci 5913 Civil War
Civil wars have become the prevailing political crises of our times. This course will introduce students to the study of intrastate conflict in political science, overviewing both classics as well as more recent research in the field. We will study the sources of violence within states; debates about the role of identity in civil wars; the dynamics of conflict during wars; international intervention and peacekeeping; and the impact of climate change. The readings in the course use a mix of qualitative, advanced quantitative, experimental, and formal methods. Regions covered include (but are not limited to) Europe, Africa, and the Middle East.
Credit 3 units.

L32 Pol Sci 593 Territory and Group Conflict
Territorial conflicts are among the most contentious and difficult to resolve in international politics. Territorial conflict is also found to be one of the most frequent causes of intrastate violence and civil war onset. At a theoretical level, territory is central to almost any aspect of international relations, as it is what physically defines states, where any kind of violent conflict takes place, and influences the character of violent conflict in important ways. A large empirical literature convincingly shows that territory is a key determinant of international conflict. However, much remains unexplored both theoretically and empirically. In this course, we explore the role that territory plays in a wide variety of contexts. We motivate the course by noting that although territory has been shown to be empirically central to the majority of violent disputes, explanations for why this is the case lag behind the evidence. Subsequently, we study the role territory plays in state-making, international conflict, the settlement of disputes, international trade, international investment, the effectiveness of treaties, ethnic identity, and civil wars, among others. Week by week we pay particular attention to the central theoretical role territory plays in international relations. We will put particular emphasis on thinking about how territory relates to bargaining models of conflict.
Credit 3 units.

L32 Pol Sci 594 Governance, Accountability, and Corruption
In this class, we will explore the literature on political accountability, governance and corruption. Topics will include: public sector professionalization, measuring corruption in OECD and low-income settings, electoral accountability and government responsiveness, foreign aid and good governance. The course will provide an opportunity to explore relevant data (including replication data) with the aim to develop new research papers.
Credit 3 units.

L32 Pol Sci 645 Introduction to American Culture Studies
An introduction to interdisciplinary approaches to the study of American culture. The class will examine the relationship between cultural criticism and scholarship on American culture, the history of the American Studies and cultural studies movements, the simultaneous turn to "historicist" approaches in literary studies and to "textualist" approaches to historical studies, the moral and interpretive implications of the shift from a modernist to a postmodernist stance in cultural inquiry, and the challenges that multiculturalist and trans-national perspectives pose to the study of a national American culture. Many of the readings will emphasize trends in cultural history, but will also include works in anthropology, art and architectural history, literary history, media studies, political and social theory, and religious studies.
Same as L98 AMCS 645
Credit 3 units.

L32 Pol Sci 883 Master's Continuing Student Status

L32 Pol Sci 884 Doctoral Continuing Student Status

L32 Pol Sci 885 Masters Nonresident

L32 Pol Sci 886 Doctoral Nonresident

Political Science, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required:** 48 units (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length:** 5-6 years
  - First-year students take four courses per semester. Second and third-year students typically take three courses. After the third year, most students sign up for independent research with their dissertation advisor(s) or with a professor who specializes in an area of particular interest to them. Most students go out on the job market in the fall of their fifth year and complete the dissertation by the summer of that year. The exceptions are students in Comparative Politics. It typically takes them about a year longer to complete their degrees (6 years instead of 5) because they may need to spend time learning a language and/or conducting field work. In almost all instances, we are able to support these students through the sixth year.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Funding decisions for all graduate students will be based on the first qualifying evaluations for all graduate students. Funding payments are disbursed from August through July, on the last working day of each month. Students are funded for 6 years. Funding is typically not available beyond the sixth year. Students who do not plan to seek academic employment should finish the program in 5 years and not seek funding for the sixth year.

PhD in Political Science

Students in the PhD program are expected to acquire the following:

- A broad understanding of several fields of political science as a discipline
- Methodological competence sufficient to be productive professionals
- Specialized expertise in a particular field of concentration

The procedures and requirements described below are designed to facilitate the achievement of these objectives. In addition to the formal requirements stated here, we provide a list of recommendations that students should follow to succeed in the program. For a detailed year-to-year outline of requirements and recommendations, please refer to the section "Specific Requirements for Each Year in the Program" at the end of the *Guide to Graduate Studies*, located on the Graduate Program website.

Exceptions to any of these requirements must be approved by the director of graduate studies (DGS) in consultation with the Graduate Committee and, as needed, the respective Field Committee.

General Course Requirements

In general, all students must successfully complete the following core courses with a grade of B or better:

- Math Camp (offered during the August before the first semester)
- Pol Sci 505 Theories of Individual and Collective Choice I (first semester)
- Pol Sci 5052 Mathematical Modeling in Political Science (first semester)
- Pol Sci 581 Quantitative Political Methodology I (second semester)

- Pol Sci 582 Quantitative Political Methodology II (third semester)
- Pol Sci 5024 Causal Inference (fourth semester)
- Pol Sci 590 Research Workshop I (fifth semester)

According to the Probation and Dismissal Policy, if a student fails to obtain a B (3.0) in one of the required courses, they will be placed on academic probation and have the opportunity to retake the course the following year. Failure to obtain a B (3.0) after taking the course for the second time will result in dismissal from the program. Furthermore, failure to obtain a B (3.0) in another required course while on probation is considered extreme underperformance and will result in dismissal from the program.

In addition to required courses, students will be taking courses in different fields. Courses are mainly concentrated during the first two years. Students should plan to take four courses (12 units) per semester during their first year and three courses (9 units) per semester during their second year.

Fields

The department divides the discipline of political science into six fields:

- American politics
- Comparative politics
- Formal theory
- International politics
- Political and social theory
- Quantitative methods

Before writing the dissertation, students must pass a qualifying evaluation (refer to next section) and fulfill requirements for certification in one major and one minor field. The major and minor field certifications are intended to ensure that students possess broad familiarity with the literature and material in the fields presented.

Field requirements are met by completing the required courses with a grade of B+ or better. A major field requires completing four courses in that field with a grade of B+ or better; a minor field requires completing three courses in that field with a grade of B+ or better.

Students are expected to complete course requirements for the major and minor by the end of their fourth semester. Exceptions can be granted by the DGS on a case-by-case basis but are not possible beyond the student's sixth semester.

Field Requirements

American Politics

- Major: Students must satisfactorily complete (with a grade of B+ or better) at least four graduate-level seminars in American politics, including Pol Sci 520 American Political Institutions and Pol Sci 5678 American Political Behavior.
- Minor: Students must satisfactorily complete (with a grade of B + or better) at least three graduate-level seminars in American politics, including Pol Sci 520 American Political Institutions and Pol Sci 5678 American Political Behavior.

Comparative Politics

- Major: Students must satisfactorily complete (with a grade of B+ or better) at least four graduate-level seminars in comparative politics, including Pol Sci 510 Approaches to Comparative Politics.
- Minor: Students must satisfactorily complete (with a grade of B+ or better) at least three graduate-level seminars in comparative politics, including Pol Sci 510 Approaches to Comparative Politics.

Formal Theory

- Major: Students must satisfactorily complete (with a grade of B+ or better) at least four graduate-level seminars in formal theory, including Pol Sci 505 Theories of Individual and Collective Choice I and three other 500-level courses that require Pol Sci 505 Theories of Individual and Collective Choice I as a prerequisite. With permission of the Formal Theory Field Committee, an appropriate 500-level economics course may be substituted.
- Minor: Students must satisfactorily complete (with a grade of B+ or better) at least three graduate-level seminars in formal theory, including Pol Sci 505 Theories of Individual and Collective Choice I and two other 500-level courses that require Pol Sci 505 Theories of Individual and Collective Choice I as a prerequisite. With permission of the Formal Theory Field Committee, an appropriate 500-level economics course may be substituted.

International Politics

- Major: Students must satisfactorily complete (with a grade of B + or better) at least four graduate-level seminars in international politics. This requirement includes the 500-level graduate sequence and 500-level political science and economics courses authorized by the International Politics Committee.
- Minor: Students must satisfactorily complete (with a grade of B+ or better) at least three graduate-level seminars in international politics. The requirement includes the 500-level graduate sequence and 500-level political science and economics courses authorized by the International Politics Committee.

Political and Social Theory

- Major: Students must satisfactorily complete (with a grade of B+ or better) at least four graduate-level courses in political theory; the theory faculty recommends at least two of the History of Political Thought courses (Pol Sci 5090 History of Political Thought I: Justice, Virtue, and the Soul, Pol Sci 5092 History of Political Thought II: Legitimacy, Equality and the Social Contract, and Pol Sci 5093 History of Political Thought III: Liberty, Democracy, and Revolution) and at least two seminars in political theory.
- Minor: Students must satisfactorily complete (with a grade of B+ or better) at least three graduate-level courses in political theory authorized by the Political Theory Committee.

Quantitative Methods

- Major: Students must satisfactorily complete (with a grade of B+ or better) at least four methods courses, including the required sequence (Pol Sci 581 Quantitative Political Methodology I and Pol Sci 582 Quantitative Political Methodology II) and additional elective methodology courses authorized by the Quantitative Methods Committee.
- Minor: Students must satisfactorily complete (with a grade of B+ or better) at least three methods courses, including the required sequence (Pol Sci 581 Quantitative Political Methodology I and Pol Sci 582 Quantitative Political Methodology II) and an additional elective methodology course authorized by the Quantitative Methods Committee.

According to the Probation and Dismissal Policy, if a student fails to meet field requirements as a result of grades or for other reasons by the end of their fourth semester, they will be placed on probation for one semester. Failure to meet the field requirements by the end of that probationary semester results in dismissal from the program.

Qualifying Evaluations

Each student will be evaluated at the end of each semester through their second year. These evaluations will take place at the end of their first and second semesters, the end of their first-year summer, and the end of their third and fourth semesters.

Evaluation criteria for the academic year include the following: regular classroom attendance (at least 90%), participation in departmental intellectual life (e.g., seminars, conferences, professionalization workshops), and grades (a grade of B or higher for all required courses). Grades will be particularly emphasized, and faculty of required courses will use grades as clear communication that students have mastered the course material. Each required course will include a cumulative final exam or another final assignment of a cumulative nature that will assess the student's broad mastery of relevant materials.

At the end of their first-year summer, students must submit (a) evidence of research progress (which can consist of skill development, collaborative research, or individual research output) and (b) feedback from a faculty mentor.

The DGS will distribute a survey to all faculty to collect the necessary feedback regarding student performance and engagement. To remain in good standing, students must (a) be making good progress with respect to their course work and mentored teaching experience assignments; (b) be advancing in terms of their research trajectory, as appropriate for their stage in the program; and (c) be maintaining professional comportment with faculty, peers, and staff.

If a student fails to successfully pass any of these evaluations, they will be placed on academic probation. If the student makes significant progress during the next evaluation period and satisfactorily addresses the terms of the probation, they will be removed from probation and return to good standing. Failing to make significant progress during the next evaluation period may result in dismissal from the program.

Third-Year Paper Requirement

During their second and third years, each student is required to produce a solo-authored research paper. The expectation is that this paper will be in the same field as the student's dissertation and at the level of quality for submission to a peer-reviewed journal.

Students need to identify two advisors (i.e., the research paper chair and a second reader) and obtain their signatures on the Research Paper Proposal Form after taking the qualifying exam (i.e., by the end of January of their second year). In consultation with these advisors (i.e., the committee), they need to develop a research design (motivation, theory, design, data sources) by the last day of classes of the spring semester of their second year. By the end of the spring semester, the student needs to schedule a formal defense of the proposal with their committee and, after the defense, submit a form with the advisors' signatures to the departmental administrative assistant responsible for graduate affairs.

The third-year paper is due to the committee by the first day of classes of the third year. The committee will grade these submissions within the first two weeks of the semester. At this point, students will either receive a "revise and resubmit" or a "reject and resubmit" from their committee. A "reject and resubmit" is a judgment by the faculty that the paper does not reflect satisfactory progress toward the research paper. Students receiving this evaluation will be placed on academic probation, and a failure to significantly improve the project will result in dismissal from the program. In extraordinary circumstances, a "conditional accept/high pass" may be granted.

Students will enroll in Research Workshop during their third year. This fall workshop is devoted to helping students revise their papers for final submission.

The final papers are due to the DGS and both readers by the start of the sixth semester. Students are required to defend this paper publicly. The DGS will organize a public presentation for all research papers within the first three weeks of the spring semester.

The Third-Year Committee will evaluate the quality of the research paper and its potential for submission to and acceptance in a peer-reviewed journal. Students who received a "reject and resubmit" during the first round should anticipate stricter scrutiny from faculty at this stage. The paper can be graded as pass or fail. A failing grade in this defense by students who previously received a "reject and resubmit" will result in dismissal from the program. A failing grade without a prior "reject and resubmit" will result in the student being placed on probation until they resubmit and successfully pass the research paper requirement, which must occur before the end of the spring term. Failing to submit the revised paper and earn a passing grade by the end of the spring term will result in dismissal from the program.

In the event of disagreement between the chair and the reader, the DGS will select a third reader in consultation with the faculty in the student's area of study to evaluate the paper and make a decision about the final grade. The research paper chair and the reader(s) will inform the student and the DGS of the final grade, together with an explanation, within two weeks after the defenses have been completed.

Dissertation Committee and Prospectus Requirement

Students are required to form a Dissertation Defense Committee that consists of at least three full-time Washington University faculty members by the start of the fifth semester (January of their third year). The formation of the Dissertation Defense Committee requires selecting a dissertation chair and at least two other faculty members and then submitting the Dissertation Defense Committee Proposal Form. The DGS will assist the student in making sure the composition of the committee meets the requirements of the Office of Graduate Studies, Arts & Sciences.

Students will enroll in the year-long Research Workshop during their third year. The spring semester of this workshop is devoted to helping students develop their dissertation prospectuses.

Students are required to have defended the dissertation prospectus by the end of the sixth semester (May of their third year). Dissertation prospectus defenses will be announced in advance and will be open to the public. Students who fail to schedule a defense or who fail the defense will be put on probation and may re-defend their prospectus by August 1. Failing to schedule or failing the re-defense results in dismissal from the program.

Students are encouraged to apply for the National Science Foundation Dissertation Improvement Grant and to other outside funding agencies to pursue additional financial support for their dissertation research.

Summary Timeline

(Please refer to "Specific Expectations for Each Year in Program" in the *Guide to Graduate Studies* on the Graduate Program website for more details.)

- End of second semester: Evaluation of class performance and meeting with the DGS
- End of third semester: Required courses (with the exception of the Research Workshop) completed
- Beginning of fourth semester (January): Submit Third-Year Paper Form (seeking chair and reader)
- End of fourth semester: Major and minor field requirements completed; defend research paper prospectus to chair and second reader
- Before the start of fifth semester (August): Submit third-year paper
- Beginning of sixth semester (January): Resubmit and defend third-year paper; submit Dissertation Committee Proposal Form
- End of eighth semester: Defend Dissertation Prospectus (resubmitted prospectus must be defended before the start of the seventh semester)

Dissertation and Defense

The requirements for the completion of the dissertation are described in the general degree requirements by the Office of Graduate Studies, Arts & Sciences, which are applicable to all Washington University doctoral candidates.

Graduation

Students need to graduate by May of their sixth year. Failure to do so results in the student being placed on probation. The student then has a chance to finish their dissertation by August of that same year. Otherwise, they will be dismissed from the program.

Foreign Language Requirement

There is no uniform foreign language requirement set by the Office of Graduate Studies, Arts & Sciences, or by the department. The extent and substance of foreign language competence required will be determined by the Graduate Committee in consultation with the student and their advisor.

Mentored Teaching Experience Responsibilities

Mentored Teaching Experiences (MTEs) are curricular in nature and require that students collaborate with a faculty member.

Mentored teaching responsibilities vary from course to course but, in all cases, consist of attending class and grading papers and assignments. Examples of other responsibilities include running discussion sections or reviews, disseminating course materials, and holding office hours.

Graduate students are expected to participate in the MTE for an average of 13.5 hours per week. During some weeks, the MTE will involve considerably fewer hours; during other weeks (usually around midterms and finals), it will involve considerably more hours.

Faculty are expected to set expectations for grading at the beginning of each semester, and graduate students should plan accordingly for weeks of heavier grading or other responsibilities.

According to the Probation and Dismissal Policy, poor performance in the fulfillment of mentored teaching responsibilities will result in the student being placed on probation. Lack of improvement while on probation will result in dismissal from the program.

Mentored Experience Requirement

All students need to meet the mentored experience requirement of the Office of Graduate Studies, Arts & Sciences, by the time they graduate. This requirement includes the following:

- Participating in departmental intellectual life, which includes but is not limited to meeting with outside speakers, attending talks and in-house conferences, presenting their own research, assisting with graduate student recruitment, and helping to organize in-house conferences (e.g., CPAC)

- Participating in an MTE for a "core" course in the student's field of study; "core" courses include introductory courses, Quantitative Political Methods, and other courses considered "core" by the DGS
- Giving at least one supervised guest lecture or presentation
- Participating in the MTE or teaching a class that involves regular interaction with students

The Department of Political Science has its own unique Mentored Experience Requirement Implementation Plan (PDF) that all students in this program should review.

AM in Statistics

Students pursuing a PhD in political science may apply for a tailored AM in statistics. The completion of this program should not add any more time to a student's time to degree. Students should consult with Professor Betsy Sinclair if they are interested in pursuing this AM degree.

Required Courses

Code	Title	Units
Pol Sci 505	Theories of Individual and Collective Choice I	3
Pol Sci 5052	Mathematical Modeling in Political Science	3
Pol Sci 581	Quantitative Political Methodology I	3
Pol Sci 582	Quantitative Political Methodology II	3
Pol Sci 5024	Causal Inference	3
Pol Sci 590	Research Workshop I	3

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Phone:	314-935-5810
Email:	polisci@wustl.edu
Website:	https://polisci.wustl.edu/

Psychological & Brain Sciences

The Department of Psychological & Brain Sciences teaches graduate students who are interested in becoming the next generation of academic researchers and educators in psychological and brain sciences. Graduate study may be undertaken in the following general areas: Behavior, Brain & Cognition; Clinical Science; Aging & Development; and Social & Personality Psychology. The traditions of Washington University and the department encourage interdisciplinary graduate study, both between the subfields of psychological and brain sciences and across other disciplines. Therefore, although students must affiliate with at least one of the areas within psychological and brain sciences, they are frequently affiliated with multiple areas within the field. In addition, many graduate students in the department also engage in interdisciplinary learning, scholarship, and research. For example, cross-disciplinary opportunities and research are available in the Division of Biology and Biomedical Sciences (e.g., neuroscience, genetics); in the programs of Linguistics and of Cognitive, Computational, and Systems Neuroscience; in African-American Studies; and in Philosophy-Neuroscience-Psychology as well as in several departments in the School of Medicine and McKelvey School of Engineering.

The Department of Psychological & Brain Sciences admits students for full-time study toward the **PhD** and does not offer a standalone master's degree. However, students are required to complete a master's degree with a thesis as part of the requirements for a PhD. In addition, the PhD includes required courses (including statistics, research methods, ethics, and several core content areas), a subject matter exam, at least three semesters of a teaching experience to fulfill the doctoral teaching requirement, and consistently high-quality research productivity that results in publishable findings.

The Department of Psychological & Brain Sciences also offers the **Graduate Certificate in Quantitative Data Analysis,** which is open to graduate students of various disciplines. Advanced skills and knowledge in quantitative analysis, methods, and interpretation are critical assets for scholars in a wide range of disciplines within the social sciences. In addition, many of the important practical, analytical, and conceptual skills are shared across disciplines. Many of the graduate programs in the social sciences include basic quantitative analysis skills within the core required curriculum of their department, but many students would benefit from advanced preparation in this domain. The certificate program provides an organized means for students to achieve an advanced level of knowledge and skill in quantitative social science data analysis, interpretation, and visualization that can be applied and shared in a variety of occupational domains.

The Graduate Certificate in Quantitative Data Analysis requires students to master both an introductory level and a more advanced level of quantitative skills and knowledge. Some of the introductory-level courses may overlap with courses that are already required within a student's individual PhD program curriculum, but the advanced level will require students to go beyond the basic expectations of their graduate program to achieve a greater depth and breadth of their knowledge and abilities.

Students interested in the Graduate Certificate in Quantitative Data Analysis should first apply for admission to the Washington University department in which they wish to obtain a graduate degree. After being admitted, students should notify their department advisor and the Graduate Certificate in Quantitative Data Analysis program director (currently dbarch@wustl.edu) (dbarch@wustl.edu) of their plans to obtain the certificate. In addition, students should submit an Application for Admission to Certificate Program form to the Office of Graduate Studies, Arts & Sciences, and send a copy to the Graduate Certificate in Quantitative Data Analysis office.

Phone:	314-935-6520
Website:	https://psych.wustl.edu/graduate-program

Faculty

Chair

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Edgar James Swift Professor in Arts & Sciences
Professor of Psychological & Brain Sciences; Radiology
PhD, Stanford University

Associate Chair

Denise P. Head
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Associate Professor of Radiology
PhD, University of Memphis

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Director of the Behavior, Brain and Cognition

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Director of Undergraduate Studies

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Degree Requirements

- Psychological & Brain Sciences, PhD (p. 378)
- Quantitative Data Analysis, Graduate Certificate (p. 381)

Courses

Visit online course listings to view semester offerings for L33 Psych.

L33 Psych 500 Independent Study
Prerequisites: Psych 100B and written permission of a supervising faculty member and the chair of the department.
Credit variable, maximum 3 units.

L33 Psych 5001 Decision Making
Credit 3 units.

L33 Psych 5003 First-Year Seminar for Graduate Students
This optional seminar for first-year students is intended to help orient the incoming graduate student to skills important for graduate school success. Topics covered include giving research talks, giving feedback to and receiving feedback from fellow students, and scientific writing. To help focus to these discussions, we will consider how to create a successful application for the National Science Foundation (NSF) Graduate Research Fellowship Program, and each student will write multiple drafts of the essays relevant to this program. PREREQ: First-year student in the Psychology graduate program or permission of instructor.
Credit 2 units.

L33 Psych 5005 Flash Programming for Psychology
Students will be given a general introduction on the principles of programming (e.g., the use of functions, variables, arrays, and conditional statements), followed by a step-by-step guide through the techniques necessary to write an entire experiment program from scratch (including but not limited to stimulus presentation, randomization, response logging, and reaction time measurement). In addition, students will be taught the necessary basics of PHP (a general purpose scripting language) in order to load their programs on a server and enable online data collection. The course will consist of 14 weekly 2-hour sessions in which a new concept or technique will be introduced and practiced. Students will also be given an assignment every week to put the studied techniques into practice on their own (an optional study session with a TA could also be made available). Performance will be assessed at the end of the course by a project which will involve each student designing and writing a program for their own experiment.
Credit 3 units.

L33 Psych 5007 Statistics and Data Analysis in MATLAB
This course will identify and explain statistical principles that are fundamental in data analysis and will show how to translate these principles into practice in the MATLAB programming environment. The course will emphasize nonparametric and computational approaches to statistical problems, and will include topics such as error bars and confidence intervals, probability distributions, statistical significance, hypothesis testing, regression and classification, cross-validation, and bootstrapping. PREREQ: Graduate standing, Psych 5066 and 5067 or equivalent.
Credit 2 units.

L33 Psych 500A Independent Study for a Supplemental Concentration
PREREQ: Acceptance into a Supplemental Concentration in Psychology. Written permission (Petition for Supervision of Psych 500A) of a member of the faculty of the department (or other approved supervisor) who agrees to supervise the student's work is also required. In addition to the approved research for the Supplemental Concentration, an APA-style research paper must be satisfactorily completed to obtain credit. Petition for Supervision of Psych 500A forms are available in the Psychology Building, room 207B. Students will be enrolled only after they have completed both the Petition for a Supplemental Concentration in Psychology and the Petition for Supervision of Psych 500A, and returned them to Sharon Corcoran in Psychology 207B. Open only to Psychology majors. Credit 3 units.
Credit variable, maximum 3 units.

L33 Psych 5011 Research Designs and Methods
This course provides graduate students with a broad-based exposure to conceptual and practical issues in planning, designing, executing and evaluating research in the behavioral sciences. Topics include Reliability and Validity, Experimental design, quasi-experimental design, single-case research, and passive observation designs. Prereq: Psych 406 and 407 or equivalent.
Credit 3 units.

L33 Psych 5012 Selected Topics in Design and Statistics
This course will examine selected problems in the design and analysis of psychological research. Topics include the analysis of change, taxometric methods for investigating individual differences, bootstrapping, analysis methods, and common pitfalls in statistical inference. PREREQUISITE: graduate standing and psych 406, 407 and 5011.
Credit 3 units.

L33 Psych 5015 The Psychology of Academia
This course will discuss the informal rules and practices of academia. The topics include how to succeed in graduate school, whether or not to take a postdoctoral fellowship before seeking a job, how to get hired, how to get tenure, how to mentor students, how to teach, how to plan your research career, and how to get grants. Other topics include issues of diversity in higher education and different prospects facing newly minted Ph.D.s who go into academia versus those who go into more applied settings. PREREQ: Graduate standing.
Credit 1 unit.

L33 Psych 503 Seminar: Experimental Social Psychology
This course provides broad exposure to the theory and methods of modern social psychology. The focus of the course will be on current theoretical issues in major areas of the field, including social perception, social cognition, attitude change, self and identity, aggression, prosocial behavior, interpersonal relations, and group processes. PREREQ: Graduate standing.
Credit 3 units.

L33 Psych 504 Traditional and Nontraditional Research Strategies
Credit 3 units.

L33 Psych 505 Seminar in Mathematical Models of Behavior
Credit 3 units.

L33 Psych 506 Meta-analysis: Systematic Use of Past Research
Credit 3 units.

L33 Psych 5066 Quantitative Methods I
Introduction to the theoretical concepts underlying quantitative methods in psychology. Topics include set theory, probability theory including the basic probability density functions and their cumulative distributions, joint events and stochastic independence, sampling theory and sampling distributions (including the binomial, normal, t, chi-square and F distributions), parameter estimation, interval estimation, the t-test, hypothesis testing, power, and some nonparametric statistics. Prerequisite, Graduate standing.
Credit 3 units.

L33 Psych 5067 Quantitative Methods II
This course is a continuation of Psych 5066. It provides an introduction to multiple regression/correlation analysis. Topics include bivariate and multiple correlation and regression, representation of nominal or qualitative variables, power and orthogonal polynomials, interactions, analysis of covariance, and repeated measures design. Prerequisite: Psych 5066.
Credit 3 units.

L33 Psych 5068 Hierarchical Linear Models
Data in the social sciences are frequently organized hierarchically: students are enrolled in courses, which exist within separate schools, which are parts of different school systems; employees work within teams within different divisions of a company; the outcomes for participants or patients in different treatment groups are measured different numbers of times and include covariates that vary over time; partners, parents, and children are parts of family units that are parts of different communities. Hierarchical data contain dependencies that preclude traditional analyses (e.g., simple analysis of variance or multiple regression), requiring instead an approach that correctly estimates error sources and identifies systematic effects at their appropriate level of influence. This course provides an introduction to the analysis of hierarchical data with an emphasis on the correct identification of models, analysis of hierarchical data with current software, proper interpretation of results, and use of appropriate diagnostic tests for model adequacy. Prerequisites: Psych 5066 and Psych 5067.
Credit 3 units.

L33 Psych 5069 Cognitive Data Methods
The goal of the course is to introduce students to issues and techniques for dealing with cognitive and perceptual discrimination data. More specifically, we will look at the formal methods derived for estimating accuracy, bias, and to a smaller extent reaction time, during behavioral discrimination tasks. The primary theoretical focus will be standard Signal Detection Theory, however, we will also examine decision/detection models that assume categorical knowledge on the part of the observer (a.k.a., Threshold, Discrete State, Multinomial Models). Additionally, the course will focus on ways of isolating putative core processes contributing to performance. A key goal for the term will be to develop an understanding of the close theoretical relationship between these models of individual behavior, and classical inferential statistical tests such as Student's t-test. The main tool we will use to develop this understanding is data simulation (viz. Monte Carlo Methods) and actual data analysis of a classroom project. PREREQ: Graduate standing.
Credit 3 units.

L33 Psych 508 Memory and Cognition: Prospective Memory
The purpose of this course is to provide coverage of the research and theories pertaining to prospective memory-remembering to perform an intended action at an appropriate instance in the future. We will examine the experimental literature concerned with the memory and cognitive processes involved in this type of memory functioning. The topics in the course will include prospective memory and aging and the neuropsychology of prospective memory. 3 units.
Credit 3 units.

L33 Psych 5081 Consciousness, Cognitive Control and Subjective Experience
This course will provide advanced study in selected areas within attention, psycholinguistics, reading, computational modelling of speech recognition and production, memory, and cognitive neuropsychology. Distinguished scientists within each of these fields will lead weekly discussions of their work. Emphasis will be placed on experimental research within each of these domains. PREREQUISITE: PSYCH 360 OR EQUIVALENT, OR PERMISSION OF INSTRUCTOR. Enrollment limited to 20.
Credit 3 units.

L33 Psych 5082 Working Memory and Executive Control
This course will provide a graduate-level survey of current research and theory on working memory and executive control. Topics will be examined from cognitive, neurobiological, and computational perspectives. Primary focus will be on major theoretical models and their empirical support. Class goal will be to critically examine and synthesize these models in the hopes of revealing both sources of convergence and sources of conflict. A second focus will be on the nature of relationship between working memory and executive control, to determine where the two constructs overlap and where they are distinct. Prerequisite: GRADUATE STANDING.
Credit 3 units.

L33 Psych 5084 Cognitive Illusions
Cognitive illusions may be defined as systematic deviations between events in the world and their perception and retention, or between objective and subjective views of reality. This course will cover illlusions of perceiving, remembering, and thinking, with attention both to basic cognitive processes underlying illusions and their application to social phenomena, such as processes involved in perceiviing other people. Prerequisite: Graduate standing.
Credit 3 units.

L33 Psych 5085 Human Memory
A survey of issues related to the encoding, storage and retrieval of information in humans.
Credit 3 units.

L33 Psych 5086 Retrieval Processes in Human Memory
This course will examine issues in the utilization of stored information from memory. Topics will include recovered memories from repeated testing, effectiveness of retrieval cues, effortful and automatic processes in retrieval, conscious correlates of memory retrieval, and the neural underpinnings of retrieval, among others. Prerequisite: PSYCH 406.
Credit 3 units.

L33 Psych 5087 Advanced Cognitive Psychology
This course provides an advanced introduction to core topics in cognitive psychology. Topics may include attention, memory, categorization, metacognition, and decision modeling. Prerequisite: Graduate standing.

Credit 3 units. EN: S

L33 Psych 5088 Key Readings in Cognitive Psychology
This course will explore the core readings that have shaped the way scientist tackle fundamental aspects of human cognition. These includes cognitive methods, pattern recognition, attention, working memory, episodic memory, semantic memory, language acquisition, language comprehension, decision making, problem solving, and expertise. Each week we will explore at least three "classic" readings on a given topic along with some more recent papers. The goal is to expose students to this foundational literature, and develop a better understanding of the zeitgeist the set the stage for these papers to change how researchers tackled specific problems. This course will be taught seminar style. The Instructor will be response for introducing the topics and setting the context for the key readings, with a student leading the discussion of the readings for that week. Students will also be responsible for generating discussion questions each week.
Credit 3 units.

L33 Psych 5089 Cognitive Neuroscience of Memory
An advanced exploration into what functional neuroimaging and neuropsychological studies have revealed about human memory. Topics include working memory, semantic memory, encoding and retrieval of episodic memory, and false memory, among others. PREREQ: Graduate standing.
Credit 3 units.

L33 Psych 5090 Cognitive Neuroscience of Human Memory
A survey of issues related to the cognitive neuroscience of human memory will be discussed including working and long-term memory. Reading will consist of classic works by James, Fuster, Goldman-Rakic, Milner, Squire as well as many contemporary articles that highlight hot issues and new techniques. Requirements will include readings, attendance, brief presentations, and active participation in classroom discussion. Prerequisite: Graduate standing. Same as L41 Biol 5606.
Credit 3 units.

L33 Psych 5093 Imagery and Memory
This graduate seminar will focus on the many ways in which imagery and memory interact. From the time of the ancient Greeks, it was appreciated that imagery can assist later remembering. But imagery also involves many of the same neural mechanisms as remembering. We will consider how imagery relates to memory encoding and retrieval and what differentiates remembering from memtal imagery. PREREQ: seminar in Cognitive Psychology or permission of instructor.
Credit 3 units.

L33 Psych 5095 Concepts in the Science of Memory
The topic of memory is approached scientifically from a number of disparate perspectives, but four will form the focus of this course. Cognitive psychologists measure behavior of people in experiments (e.g., how much can people remember under various experimental conditions with different types of materials?) and provide cognitive theories and models of memory. Behavioral psychologists measure learning and performance from the behavior of other animals. Systems and cognitive neuroscientists consider brain mechanisms underlying memory, whereas neurobiologists examine more basic processes underlying learning at synaptic and molecular levels. This course is aimed at asking if a unified science of memory is possible, melding the various viewpoints and levels considered above, as well as others. In this course we will consider 16 critical concepts or ideas in the science of memory from the viewpoints listed above (and others, where appropriate). The course is a graduate course intended largely for students in psychology, neuroscience, and the PNP program.
Credit 3 units.

L33 Psych 5099 Advanced Seminar in Human Memory
An advanced exploration into a selection of current research topics on human memory using psychological, functional neuroimaging, and neuropsychological methods. Topics include encoding and retrieval of episodic memory, autobiographical memory, episodic future thought, and related topics. PREREQ: Cognitive Proseminar or permission of instructor.
Credit 3 units.

L33 Psych 510 Clinical Psychology I: Objective Assessment Processes
Credit 3 units.

L33 Psych 5102 Geriatric Interdisciplinary Teams
Interdisciplinary collaboration is a foundation of geriatric care, yet students are often trained with little exposure to the theories, methods, and practice techniques of disciplines complementary to their own. The purpose of this course is to bring together students across schools and disciplines who are training to work with older adults. Students will learn about 1) the theories and methods typical of each discipline, and 2) features of effective interdisciplinary teamwork that is essential in high-quality geriatric care.
Same as I50 INTER D 5001
Credit 3 units.

L33 Psych 511 Clinical Psychology II: Projective Techniques
Credit 3 units.

L33 Psych 5111 Personality Assessment
An introduction to the theory, development, and evaluation of personality assessment techniques and tests. Materials will include introduction to psychometrics of test construction, and review of the literature on reliability and validity of commonly used instruments. Prerequisite: Graduate standing in Psychology.
Credit 3 units.

L33 Psych 5112 Psychological Assessment I
An introduction to the theory, development, and evaluation of cognitive assessment techniques and tests is provided. Students also gain experience in the administration, scoring, and reporting of results from standard assessment tools. Less commonly used approaches such as observational methods will be discussed. Relevant research relating to the assessment of diverse populations will be examined. PREREQUISITE; OPEN TO CLINICAL PSYCHOLOGY GRADUATE STUDENTS AND OTHER ADVANCED GRADUATE STUDENTS WITH PERMISSION OF INSTRUCTOR.
Credit 3 units.

L33 Psych 5113 Psychological Assessment II
This course is an introduction to the theory, development, and evaluation of personality and diagnostic assessment techniques and tests. Topics will include psychometric issues (e.g., reliability, validity) as well as appropriate usage and interpretation of instruments commonly used to assess personality, mood, and psychopathology. The course involves the practical application and interpretation of psychological assessments. Prerequisite: Graduate standing in Psychological & Brain Sciences.
Credit 3 units.

L33 Psych 5114 Clinical Science: Professional Issues
As the third in a series of three core clinical science courses, this course focuses on (a) ethical foundations of clinical practice; (b) knowledge of issues of diversity and their application in clinical practice; (c) skill building in essential empirically supported techniques; and (d) building knowledge in current issues and standards of clinical science. The latter course content is purposefully kept open so that this course can be adapted as needed to address the most crucial concerns in the field. Prerequisites: Graduate study in the clinical science program or permission of instructors
Credit variable, maximum 3 units.

L33 Psych 5121 Assessment Practicum
Credit 3 units.

L33 Psych 516 Applied Multivariate Analysis
The purpose of this course is to provide students with a working knowledge of multivariate statistics including multivariate multiple regression, multivariate analysis of variance, discriminant analysis, factor analysis, and canonical correlation analysis. PREREQUISITE, PSYCH 5066 and 5067 or their equivalent.
Credit 3 units.

L33 Psych 5165 Applied Longitudinal Data Analysis
This course covers modern methods of handling longitudinal, repeated measures. It will introduce the rationale of measuring change and stability over time to study phenomena as well as how within-person designs can increase statistical power and precision as compared with more traditional designs. Most the course will use multi-level models and latent (growth) curve models to specify patterns of change across time. Additional topics include visualization, measurement invariance, time-to-event models and power. Prerequisite: Familiarity with R and with MLM and/or structural equation models.
Credit 3 units.

L33 Psych 5167 Applied Bayesian Statistics for Psychologists
Bayesian parameter estimation and hypothesis testing offer a useful alternative to the classic frequentist paradigm within psychological science. This class will cover the foundations of Bayesian inference and hypothesis testing with the primary emphasis on fitting multiple regression and multi-level models common within psychology. A variety of response distributions will be discussed: Gaussian, binary and count, ordinal, survival, probability, and zero-inflated models, among others. Topics include: model calibration, regularization, prior and posterior predictions, Bayes factors, missing data, Bayesian power, cross-validation, Bayesian meta-analysis, distributional models, and multivariate response models. Models will be fit using the R package brms, which relies on the more general Stan language. PREREQ: PSYCH 5068 or a proficiency in multilevel modeling
Credit 3 units.

L33 Psych 5182 Perception, Thought, and Action
This course focuses on current topics in visual perception, visual attention, and the control of action. Readings consist of recent journal articles. Class meetings emphasize presentation and discussion of the material in the readings. Limited to 15 students. PREREQ: Psych 100B/1000 and one of the following: Psych 301/3010, Psych 330/3300, Psych 3401, Psych 344/3440, Psych 360/3600, Psych 361/3610, Psych 3604, Psych 380/3800, Psych 433/4330, or Psych 4604.
Same as L33 Psych 4182
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: BA

L33 Psych 519 Advanced Cognitive, Computational and Systems Neuroscience
This course will develop critical thinking and analysis skills with regard to topics in Cognitive, Computational and Systems Neuroscience. Course format will be a series of modules composed of intensive, faculty-led case studies on interdisciplinary topics at the intersection of psychology, computation and neuroscience. The goal will be to highlight the benefits of integrative, interdisciplinary approaches, by delving into a small set of topics from a variety of perspectives, rather than providing a survey-level introduction to a broader set of topic areas. Modules will involve a combination of lectures and student-led discussion groups, with students further expected to complete a multi-disciplinary integrative final review paper. Case-study topics will vary somewhat from year to year, but are likely to include some of the following: temporal coding as a mechanism for information processing, coordinate transformations in sensory-motor integration, mechanisms of cognitive control, motor control strategies including application to neural prosthetics, and memory systems in health and disease.
Credit 3 units.

L33 Psych 5191 Cognitive, Computational, and Systems Neuroscience Project Building
The goal of this course is to help students in the CCSN Pathway develop the critical thinking skills necessary to develop and implement high quality, interdisciplinary research projects. Throughout the course of the semester, each student will develop a research plan in their chosen area of interest. The plan will be developed in consultation with at least two faculty members (from at least two different subdisciplines within the pathway) as well as the other students and faculty participating in the course. The culmination of this course will be for each student to produce an NIH-style grant proposal on the research project of their choosing. For most students, this will serve either as their thesis proposal or a solid precursor to the thesis proposal. The course will be designed to help facilitate the development of such a research plan through didactic work, class presentations, class discussion, and constructive feedback on written work. The course will begin with a review of written examples of outstanding research proposals, primarily in the form of grant submissions similar to those that the students are expected to develop (i.e., NRSA style proposals, R03 proposals). Review of these proposals will serve as a stimulus to promote discussion about the critical elements of good research proposals and designs in different areas. Each student will be expected to give three presentations throughout the semester that will provide opportunities to receive constructive feedback on the development and implementation of research aims. The first presentation (towards the beginning of the semester) will involve presentation of the student's general topic of interest and preliminary formulation of research questions. Feedback will emphasize ways to focus and develop the research hypotheses into well-formulated questions and experiments. The second presentation will involve a more detailed presentation of specific research questions (along the lines of NIH-style Specific Aims) and an initial outline of research methods. The final presentation will involve a fuller presentation of research questions and proposed methods. Feedback, didactic work, and group discussion throughout the semester will include guidance on critical components of the development of a research plan, including how to perform literature searches, formulate testable hypotheses, write critical literature summaries, and design experiments and analyses. The course will meet once a week, with faculty members from different tracks within the Pathway present at each meeting. This will allow students to receive feedback from several perspectives. Prerequisite: Member of CCSN Pathway, permission of instructor.
Same as L41 Biol 5622
Credit 3 units.

L33 Psych 521 Seminar in Child and Family Psychopathology
Credit 3 units.

L33 Psych 5211 Psychopathology of the Family
Credit 3 units.

L33 Psych 5225 The Psychology of Social Stigma
This seminar aims to introduce students to theoretical and empirical social psychological research on prejudice and social stigma. The topics covered will include examinations of why individuals stigmatize by exploring cognitive, evolutionary, self and system justification explanations. The course will examine the effects of stigmatization for low-status groups (i.e., stereotype threat, dis-identification, compensation and health outcomes). We will explore the role of stigma in intergroup interactions and variations in the experience of stigma. Finally, we will examine high-status groups' perceptions of bias (e.g., perceptions of anti-white discrimination). Prerequisite: Graduate standing in Psychological & Brain Sciences or related field with permission of instructor.
Credit 3 units.

L33 Psych 5227 The Science of Close Relationships
This graduate seminar focuses on theory and research in close relationships. The goals of the course are to (1) familiarize students with classic and contemporary theorizing in the field of close relationships, (2) read and critique influential research in the field, and (3) introduce students to some of the field's unique methodological and statistical challenges. The course will cover topics related to the initiation, development, maintenance, and dissolution of close relationships, and discuss implications of close relationships for individuals' psychological and physical health. Although the course draws mainly on theory and research from social and personality psychology, topics are relevant to other areas such as clinical, developmental, or cognitive psychology. PREREQ: Graduate standing.
Credit 3 units.

L33 Psych 523 Research in Clinical Psychology I
Credit 3 units.

L33 Psych 523A Clinical Method I
Credit 3 units.

L33 Psych 524 Research in Clinical Psychology II
Credit 3 units.

L33 Psych 5245 Graduate Research Seminar
This course consists of weekly seminars on different topics of research in psychological science. Students are expected to participate through attendance, questions, and occasional presentation of their own research. Credit for this course is restricted to graduate students in the department of Psychological & Brain Sciences. Prerequisite: Graduate standing in Psychological & Brain Sciences.
Credit 1 unit.

L33 Psych 524A Clinical Method II
Credit 3 units.

L33 Psych 5251 Proseminar in Health Psychology
This course introduces students to Health Psychology and helps them develop the conceptual and methodological skills necessary for interpreting research in this area. It explores (a) the conceptualization of major constructs in the field, including stress, coping, social support, personal control, personality, and social class, (b) the empirical evidence linking these constructs to health outcomes in the domains of infectious disease, asthma, cancer, and cardiovascular disease, and (c) the issues involved in successfully measuring relevant constructs, mediating pathways, and health outcomes. Prerequisites: Graduate standing or permission of instructor.
Credit 3 units.

L33 Psych 5252 Health Promotion
This course will compliment that in "Behavioral Medicine" by emphasizing research concerning community, workplace and similar approaches to prevention, risk reduction, and support of ongoing disease management. Special research issues of such settings will be reviewed. Note: This course is part of a sequence of courses comprising a special interest track in Health Psychology for graduate students in clinical and other areas of Psychology. Prerequisite: Graduate standing.
Credit 3 units.

L33 Psych 5253 Behavioral Medicine
Reviews the research literature on the biopsychosocial aspects of prevalent chronic illnesses and psychophysiological disorders such as diabetes, cardiovascular disorders, cancer, AIDS, and chronic pain syndromes. Examines the research basis of clinical interventions in behavioral medicine, with an emphasis on risk factor modification, treatment of psychophysiological disorders and of psychiatric comorbidity in medical patients, enhancement of patient care, and improvement of quality of life.
Credit 3 units.

L33 Psych 5254 Research Practicum in Health Psychology
Credit 3 units.

L33 Psych 5255 Lifespan Health Psychology
While some activities and psychosocial variables promote physical health across the life course, several components are best understood within the context of the given developmental period. Indeed, risk and resilience factors for health differ from adolescence to older adulthood. This class addresses how best to promote health and well-being through the lens of lifespan developmental theories. It will provide an overview of this theoretical work, as well as consider health psychology research specific to each developmental period. The class will focus on outside readings from journal articles and chapters each week, with the expectation that students will come ready to discuss and critique these works in class. In addition to class discussion, students will be assessed based on brief response papers to the weekly readings, as well as a final paper that applies lifespan theories of development toward better understanding health psychology across the life course.
Credit 3 units.

L33 Psych 531 Child and Adolescent Development
Credit 3 units.

L33 Psych 532 Seminar in Developmental Psychology: Language and Cognitive Development
This course will survey contemporary and seminal journal articles in cognitive and linguistic development, with a focus on both empirical and theoretical approaches to each field. Some attention may also be given to biological, perceptual, and social development. The course will provide students with broad exposure to the theory and methods of cognitive areas of developmental psychology. Prerequisite: Graduate standing.
Credit 3 units.

L33 Psych 5321 Advanced Developmental Psychology
This graduate course will provide an in-depth survey of the foundations, theories, and current research in developmental psychology. We will study the cognitive and social processes that underlie how humans develop, with an emphasis on the period from infancy to late childhood. Topics will include the development of perception, action, language, concepts, emotions, morality, and social cognition.
Credit 3 units.

L33 Psych 5345 Current Directions in Research on Genetic and Environmental Contributions to Psychological Phenomena
Credit 3 units.

L33 Psych 5352 Theories of Personality Psychology
This course is intended to provide a comprehensive review of major theories in personality psychology. Across the semester, students will be introduced to historical and contemporary theories in personality science, capturing four major research areas: definitions of personality, personality trait taxonomies, personality development across the lifespan, and goals and motives. Each week, students will be assigned chapters from the Handbook of Personality that provide broad overviews of the topic, in addition to empirical papers related to the week's topic. Students will be expected to engage in and lead class discussions, as well as complete a semester-long paper project that will entail applying the theoretical frameworks mentioned in class to the student's personal research area. PREREQ: Graduate Standing
Credit 3 units.

L33 Psych 5358 Personality Psychology and Behavioral Dynamics
This course is designed to give graduate students an overview of current research and debate in the field of personality and individual-differences psychology. Topics may include: personality assessment, trait structure, socio-cognitive theories, development, goals/motives, person perception, narrative methods, personality pathology, person-situation integration, personality in applied fields (I/O, health, education), vocational interests, intelligence, temperament, and behavior genetics. PREREQ: Graduate standing.
Credit 3 units.

L33 Psych 537 Advanced Psychopathology
This is an advanced course in psychopathology, or the scientific study of mental disorders. It will focus on conceptual foundations for the study and treatment of major mental disorders as well as the methodological and clinical issues that follow from their consideration. The overall goal of the course is to promote critical thinking and to foster the development of clinical scientists who will discover new knowledge regarding psychopathology. The course is composed of five sections that are concerned with: (1) the history or psychopathology and training in psychological clinical science, (2) causal models regarding the development of mental disorders, (3) the definition and classification of mental disorders, (4) epidemiology (including considerations regarding culture and gender), (5) descriptive psychopathology (i.e., the phenomenology of perception and cognition, emotion, volition, and personality). Prerequisite: Open only to doctoral students in clinical psychology or by permission of instructor.
Credit 3 units.

L33 Psych 5373 Neural Systems of Behavior and Psychopathology
This course provides students with a working knowledge of our rapidly evolving understanding of the brain circuits that create order in our social, emotional and cognitive worlds and how disorder within these circuits is associated with a broad range of psychopathology, including depression, anxiety, phobias, PTSD, OCD, addiction, autism, schizophrenia, psychopathy and violence. Prerequisite: Graduate standing in Psychological & Brain Sciences. This course is the graduate level equivalent of 4765: Inside the Disordered Brain.
Credit 3 units.

L33 Psych 5375 Seminar on Cognitive Control and Psychopathology
This is a weekly seminar in which students will present their own work relevant to Cognitive Control and Psychopathology or a review of published articles relevant to Cognitive Control and Psychopathology. Students will be expected to engage in discussion around the work presented. PREREQ: Graduate standing or permission of the instructor
Credit 1 unit.

L33 Psych 538 Theories and Techniques of Psychotherapy
An introduction to basic concepts and important theoretical views of psychotherapy. Attention is paid to such aspects of the psychotherapeutic process as initiating psychotherapy, client variables, the requisites of the psychotherapist, problems encountered during the process of psychotherapy, issues of termination, and the efficacy of psychotherapeutic intervention. Open to advanced doctoral students in clinical psychology, and to doctoral students in counseling psychology and social work by permission of instructor.
Credit 3 units.

L33 Psych 539 Seminar in Psychotherapy
Credit 3 units.

L33 Psych 540 Advanced Seminar in Clinical Psychology: Ethical & Professional Issues
This course will highlight the ethical and legal issues facing contemporary practice and research in Clinical Psychology. Representative topics include a major focus on sensitivity to cultural diversity, ethical issues in the practice of clinical psychology such as managed care, suicide intervention and management, legal considerations in the practice of clinical psychology and reviews of new technologies used in the delivery of psychological services. Prerequisite: Advanced doctoral clinical psychology students; graduate students in related disciplines with permission of instructor.
Credit 3 units.

L33 Psych 5405 Seminar in Research Ethics
This is an in-depth review and discussion of common ethical concerns encountered in research, including the use of human and animal participants; informed consent; the Belmont report; the role of the Institutional Review Board; protection of special populations; deception in research; duty to refer; various forms of conflict of interest; issues of data ownership and sharing; bias and fraud in data collection, analysis, and reporting; conflicts surrounding authorship; concerns about duplicate or fragmented publication; understanding and preventing plagiarism; and the reporting of the misconduct of others. Prerequisite: Graduate standing in Psychological & Brain Sciences.
Credit 1 unit.

L33 Psych 540A Advanced Seminar in Clinical Psychology: Personality and Psychopathology
This graduate level seminar is intended to provide advanced coverage of personality pathology, broadly defined. It will focus on the theoretical issues related to normal personality and its development as well as description of various approaches to the classificaiton of

personality disorders. Emphasis will be placed on current research and scientific methods that can be used to advance knowledge of this type of mental disorder. Prereq: Abnormal Psychology, Personality Psychology, and graduate standing.
Credit 3 units.

L33 Psych 542 Seminar in Psychological Measurements
Credit 3 units.

L33 Psych 5427 Social Gerontology
This course provides an introduction to aging and growing old, from an interdisciplinary perspective. Specific attention is paid to demographics, physical health and illness, mental health, interpersonal relations, work issues, living arrangements, ethics, and death and dying. PREREQ: Junior or Senior standing and completion of 6 advanced units in Psychology.
Same as L33 Psych 427
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 544 Empirically Supported Treatment in the Clinic
Intro to emotional disorders and their effective treatment in adults. This course combines didactic materials, practice sessions in class, and examples from supervision of some members of the class. The student will learn to assess and treat common problems in the outpatient clinic with empirically supported procedures, understand the theories behind these procedures, and be exposed to the process of applying the procedures in the clinic. PREREQ: Graduate standing in Psychological & Brain Sciences; completion of an introductory course in psychotherapy or permission of instructor.
Credit 3 units.

L33 Psych 545 Clinical Science: Introduction to Intervention
Introduction to basic concepts and theoretical views of psychotherapy, with attention to aspects of the psychotherapeutic process such as initiating psychotherapy, interviewing techniques, assessment of client variables, and typical problems encountered. Will be focused on evidenced-based treatment interventions and a range of empirically-supported techniques. Prereq: Open to advanced clinical doctoral students or permission of instructor.
Credit 3 units.

L33 Psych 5451 Treatment of Anxiety Disorders with Empirically Supported Interventions
Introduction to anxiety disorders and their effective treatment in adults. This course combines didactic materials and practice sessions in class. The student will learn to assess and treat anxiety disorders with empirically supported procedures, understand the theories behind these procedures, and have a working knowledge of newer approaches and their accompanying theories.
Credit 3 units.

L33 Psych 5453 Introduction to Affective Science
The complexity and significance of emotions make their study particularly exciting and challenging. Emotions both shape and are shaped by our subjective experiences, physiology, behaviors, cognitions, social interactions, and health. This course offers an overview of theory and research on emotion with content stretching across psychological disciplines, including personality, social, clinical, developmental, and neuropsychology. Course content will include definitions of emotion, physiological changes associated with emotion, and individual differences in emotional experience. The course will also examine how culture, cognitions, and relationships affect and are affected by emotion and how emotion is related to physical and mental health. PREREQ: Graduate standing.
Credit 3 units.

L33 Psych 546 Seminar in Psychotherapy: Behavior Therapy
Credit 3 units.

L33 Psych 5461 Interventions I
Introduction to basic concepts and theoretical views of psychotherapy with attention to aspects of the psychotherapeutic process such as initiating psychotherapy, interviewing techniques, assessment of client variables and typical problems encountered. Will be focused on evidenced-based treatment interventions and a range of empirically supported techniques. PREREQUISITES: OPEN TO ADVANCED CLINICAL DOCTORAL STUDENTS OR PERMISSION OF INSTRUCTOR.
Credit 3 units.

L33 Psych 5463 Interventions II: Aging
Individual, group, marital, family, and systems interventions as applicable to older adults. Emphasis is on the implementation and evaluation of these interventions in both clinical and research contexts. PREREQ: Graduate student status.
Credit 3 units.

L33 Psych 5465 Interventions II: Neuropsychology
An introduction to the assessment of a broad range of neuropsychological abilities such as memory, attention, and language will be provided. Students gain experience in the administration, scoring, and reporting of results from standard assessment tools. Intervention techniques will be examined with a focus on the maximization of identified strengths and the rehabilitation of identified weaknesses. Selected neuropsychological syndromes will provide models for the implementation of assessment and intervention strategies. PREREQ: OPEN TO CLINICAL PSYCHOLOGY GRADUATE STUDENTS AND OTHER ADVANCED GRADUATE STUDENTS WITH PERMISSION OF THE INSTRUCTOR. 3 units
Credit 3 units.

L33 Psych 5467 Interventions II: Health Psychology
Reviews the research basis and key skills of clinical and selected preventive interventions in health psychology. Emphasis interaction of biological and behavioral factors in prevention and illness. Topics covered include risk factor modification, management of chronic disease, psychological factors that complicate diseases such as depression, and psychological and related interventions to enhance quality of life. PREREQ: Interventions I or permission of the Instructor.
Credit 3 units.

L33 Psych 547 Seminar in Psychotherapy: Child and Family Psychotherapy
Credit 3 units.

L33 Psych 5471 Seminar in Psychotherapy
Credit 3 units.

L33 Psych 549 Seminar in Spatial Orientation
Credit 3 units.

L33 Psych 550 Sensory Processes
Credit 3 units.

L33 Psych 5505 Seeing
Focuses on psychological mechanisms underlying visual perception. Topics include object recognition, visual attention, and the perception of shape, color, form and motion. These processes will be exained through a combination of readings from textbooks and journal articles, and through class discussions. Prerequisite: Graduate standing or permission of instructor.
Credit 3 units.

L33 Psych 5508 Speech Perception and Spoken Word Recognition
This course is concerned with how human listeners perceive speech and recognize spoken words. In the first part of this course, we will review and critically evaluate what is currently known about the process of translating acoustic-phonetic signals into speech sounds. In the second part of the course, we will consider several different models of spoken word recognition. Here we will be concerned with critically analyzing most of the current models of how acoustic-phonetic information is used to access the mental lexicon. In addition, the course will examine spoken language processing in several different populations, including children and older adults, as another methodology for gaining leverage on understanding spoken word recognition. Prerequisite: Graduate standing of Permission of Instructor.
Credit 3 units.

L33 Psych 552 Seminar in Current Topics in Neuropsychology
Credit 3 units.

L33 Psych 5520 Introduction to Neuropsychology
This course covers localization theory, consequences of specific brain injuries, factors that can affect the response to brain damage, neuroplasticity, and theories of recovery of function. Prerequisite: A course in physiological psychology.
Credit 3 units.

L33 Psych 5522 Neuropsychological Assessment
This course will provide an overview of clinical measures used in assessing neurocognitive function. Assessment of a broad range of abilities will be discussed, primarily within the domains of memory, attention, language, motor, and visuospatial function. The foci of the course will be test administration, test interpretation, communication of results, and discussion of the clinical features of selected neuropsychological syndromes. Prerequisite: Open to clinical graduate students in Psychological & Brain Sciences and other advanced graduate students with permisison of the instructor.
Credit 3 units.

L33 Psych 5523 Neuropsychological Syndromes
Pathological syndromes associated with brain dysfunction, including the aphasias, right hemisphere and frontal lobe syndromes, and the dementias. Clinical features and neuropathology of each syndrome presented. Prerequisite: Graduate standing in psychology or related field with permission of instructor. Background in basic neuroanatomy and neuropsychology assessment recommended.
Credit 3 units.

L33 Psych 5524 Life Span Neuropsychology
Course will cover cognitive, motor, and affective changes that are associated wit normal and pathological conditions across the lifespan, with a particular emphasis on neuropsychological disorders. Neuroanatomical and nneurochemical correlates will also be discussed. Open to advanced graduate students in psychology and related fields. PREREQUISITE, Psych 552 or permission of instructor.
Credit 3 units.

L33 Psych 5525 Intelligence Across the Life Span
Theories and frameworks used to understand the construct of intelligence will be covered. Topics will include age-related changes in cognition from childhood through late adulthood, crystallized versus fluid intelligence, general versus specific abilities, and discussion of the many controversies surrounding the measurement and interpretation of the construct of intelligence. PREREQS: Graduate student standing.
Credit 3 units.

L33 Psych 553 Seminar in Advanced Topics in Vision and Perception
Credit 3 units.

L33 Psych 5535 Events, Time, Plans, and Goals
This seminar will survey current research on event perception and cognition. We will consider data from development, perception, narrative comprehension, neuropsychology, and functional imaging. Theoretical approaches include event schemas, intentionality theory and dynamical systems. The primary goal is to critically evaluate contemporary approaches to mental representations of temporally structured phenomena. Prerequisite: Graduate Standing or Consent of Instructor.
Credit 3 units.

L33 Psych 554 Seminar: Sensory Psychology and Psychophysics
Credit 3 units.

L33 Psych 556 Seminar in Cognitive Development
Credit 3 units.

L33 Psych 5565 Topics in Spatial Cognition
People use spatial knowledge to plan action, navigate, and reason about abstract domains. This seminar will examine representations of space in the brain, the mind, and the world, and the processes that operate on these representations. Topics will include: formation and transformation of mental images, spatial updating with and without vision, navigation, and use of external spatial representations in reasoning. We will discuss data from cognitive psychology, neuropsychology, and neurophysiology. The primary goal is to critically evaluate contemporary approaches to spatial cognition. Prerequisite: Graduate standing or instructor's permission.
Credit 3 units.

L33 Psych 558 Activation vs. Inhibitory Processes in Cognition and Social Behavior
Over the past 5 years, cognitive as well as social psychologists have shown a growing interest in the dual processes of activation and inhibition. For example, activation and inhibition have been key constructs in understanding aspects of attention, language and memory. In addition, these processes have been recognized as playing important roles in stereotyping, in that people sometimes rely on category-based knowledge as a basis for judgment, but in other settings they actively attempt to avoid using such information. We shall discuss readings from the cognitive as well as the social literature that have considered how expression vs. suppression processes play a role in these and other related aspects of human information processing.
Credit 3 units.

L33 Psych 559 Applied Neuropsychology
Credit 3 units.

L33 Psych 5593 Psychology of the Good Life
What is the good life, and how can people achieve it? This discussion-based seminar class explores two aspects of the "good life": (1) "good" for oneself (living a personally fulfilled life), and (2) "good" for others (living an ethical life, being a good person). We will consider how psychological science can be used to conceptualize, uncover the causes of, and promote well-being for oneself and for others. There will be a particular focus on the ways in which these two aspects of the good life are in alignment or in conflict with each other. Classes will focus on critically evaluating research and integrating and connecting the weekly readings to students' personal research interests and lives, primarily through student-led discussions. PRE-REQ: Graduate Standing
Credit 3 units.

L33 Psych 5599 Human Evolutionary Psychology
How did evolution by natural selection shape the way human beings think and behave? Does evolution explain human cooperation and friendship, human morality, reproductive decisions and social interactions? What sex differences in cognition or behavior are caused by evolution? This course introduces the concepts and findings of evolutionary psychology, mostly through reading of primary sources--articles from psychology and biology journals--and discussion and presentation of empirical cases. PREREQ: At least 6 units of upper-level, home-based Psychology coursework, OR Anthro 3383.
Same as L33 Psych 4099
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 561 Readings in Psychology
Prerequisite: Permission of the department.
Credit variable, maximum 3 units.

L33 Psych 562 Readings in Psychology
Credit variable, maximum 3 units.

L33 Psych 563 Practicum in Psychotherapy
Ten hours per week supervised training in psychotherapy and behavior change in an applied clinical setting. Prerequisites: Open to doctoral Clinical Psychology students only.
Credit 3 units.

L33 Psych 5631 Introduction to Computational Cognitive Science
How does the mind work? Over the last few decades, cognitive psychologists have become increasingly interested in using computational models. These models are designed to describe cognitive processes and the behavior that is produced by them. This computational approach has several advantages. Computational theories of cognition are more specific than verbal theories. Therefore, they do not only afford precisely quantifying certain aspects of cognition, but they also make it possible to simulate cognitive processes. This course provides an introduction to several leading computational methods for understanding cognition, including model fitting and comparison, reinforcement learning, neural networks and Bayesian modeling. These methods will be applied to a wide range of cognitive phenomena, such as short-term memory, reinforcement learning, decision making, cognitive control, concept learning and visual perception. Prerequisites: Psych 100B and Psych 301/3011.
Same as L33 Psych 4631
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: BA

L33 Psych 564 Practicum in Psychotherapy
Ten hours per week supervised training in psychotherapy and behavior change in an applied clinical setting. PREREQ: Open to clinical graduate students in Psychological & Brain Sciences only.
Credit 1 unit.

L33 Psych 565 Practicum in Teaching of Psychology
Credit 2 units.

L33 Psych 566 Advanced Analysis of Behavior
Credit 3 units.

L33 Psych 5665 The Science of Behavior
The primary function of nervous systems is to control behavior. Understanding the links between brain and behavior requires an understanding of cognition-the computations performed by the brain, as well as the algorithms underlying those computations and the physical substrates that implement those algorithms. The goal of this course is to introduce students to the tools, concepts, and techniques for the experimental study of cognition and behavior in humans and nonhuman animals. We will focus on cognitive capacities that are well-developed in humans and can be compared with those of other species, to develop an understanding of how evolution shapes cognition and behavior. Students who complete this course will be able to ask questions and form hypotheses about the computations and algorithms underlying cognition and behavior, and to design experiments that test these hypotheses. PREREQ: Graduate standing or permission of the instructor
Credit 3 units.

L33 Psych 568 Learning Theory
Credit 3 units.

L33 Psych 569 Current Issues in Psychotherapy
A number of significant issues in the field of psychotherapy will be reviewed and evaluated. Attention willl be paid to issues concerning theoretical and procedural differences among important schools of psychotherapy, to commonalities in psychotherapeutic aproaches, and to issues concerning efficacy and research efforts in this area. Open to advanced doctoral students in clinical psychology, social work, and counseling psychology who have taken Psych 538 or its equivalent, or by special permission of the instructor.
Credit 3 units.

L33 Psych 578 Seminar in Human Psychophysiology
Credit 3 units.

L33 Psych 581 Seminar: The Psychological Problems of Aging
Consideration of contemporary topics in the psychology of aging.
Credit 3 units.

L33 Psych 582 Seminar: The Psychological Problems of Aging II
This advanced seminar focuses on theoretical issues related to age-related psychological changes.
Credit 3 units.

L33 Psych 5831 Biological Foundations of Behavior
This course would provide a general survey (at the graduate level) of basic scientific information regarding the connection between biological systems and human behavior. In each section, it would review information about the system in question (parts of the brain, neurotransmitters and how they work, hormones, and so on) and then describe what is known about the relation between those systems and various aspects of behavior (cognition, emotion, motivation, and/or psychopathology). The class format will include both lecture and discussion.
Credit 3 units.

L33 Psych 584 Seminar in Neuropsychology
Credit 3 units.

L33 Psych 585 Sem Fund of Gerontology
Credit 3 units.

L33 Psych 586 Current Lit in the Biopsych of Aging
Credit 3 units.

L33 Psych 587 Clinical Psychology of Aging
Methods of assessing cognitive functioning and personality in older adults. Understanding of the application of the techniques of assessment to older adults not the development of testing skills, is the goal of this course. PREREQ: PSYCH 426 or permission of Instructor.
Credit 3 units.

L33 Psych 588 Clinical Psychology of Aging II
Individual group, milieu, family, and behavior modification techniques of intervention as applicablle to the aged. Familiarization with techniques and research issues is the goal of this course, not development of therapeutic skills. Prerequisite: PSYCH 5461 or permission of instructor.
Credit 3 units.

L33 Psych 5881 Psychology of Aging
Study of both theory and empirical findings about the processes of aging in terms of brain structure and function, sensation, perception, cognition including learning and memory, intelligence, language, and related topics. PREREQ: Graduate students only.
Credit 3 units.

L33 Psych 5882 Project Building in Aging
The goal of this course is to help students with an interest in aging research develop the critical thinking skills necessary to develop and implement high quality, interdisciplinary research projects.
Credit 3 units.

L33 Psych 5887 Intervention with Older Adults
Individual, group, marital, family, and systems interventions as applicable to older adults. Emphasis is on the implementation and evaluation of these interventions in both clinical and research contexts. PREREQ: Graduate standing.
Credit 3 units.

L33 Psych 591 Research in Psychology
Prerequisite: Permission of the department.
Credit variable, maximum 9 units.

L33 Psych 592 Research in Psychology
Credit variable, maximum 3 units.

L33 Psych 592A Seminar: Theories of Social Psychology
This course provides broad exposure to the theory and methods of modern social psychology. The focus of the course will be on current theoretical issues in major areas of the field, including social perception, social cognition, attitude change, self and identity, aggression, prosocial behavior, interpersonal relations, and group processes. Prerequisite: Graduate standing in Psychological & Brain Sciences.
Credit 3 units.

L33 Psych 593 Seminar in Social Psychology
Credit 3 units.

L33 Psych 5931 Social Motives and Interpersonal Relations
This seminar examines individual and interpersonal processes involved in people's reactions to their own life crises as well as the victimization of others. The topics fall under the familiar headings of pro-social behavior, altruism, interpersonal dilemmas, social loafing, social exchange, moral behavior and reactions to victims, adapting to life crises of illness, job loss, and the demands of old age. PREREQUISITE: GRADUATE STANDING IN PSYCHOLOGY OR RELATED FIELD WITH PERMISSION OF THE INSTRUCTOR.
Credit 3 units.

L33 Psych 5951 Psychology of Attitudes
Covers research and theory on a range of topics in the field of attitudes, including attitude formation and change, the structure of attitudes, and how attitudes function to affect judgments and decisions. Will be conducted at a seminar with emphasis on student discussion of current research. Prerequisite: Graduate standing in psychology; other graduate students with permission of instructor.
Credit 3 units.

L33 Psych 5953 Memory and Attitudes in the Wild: Political Spin, Collective Attitudes and Advertising
Psychologists have long been interested in the processes that change people's mental represenetations of their world. For cognitive psychologists, this interest has been mainly dominated by a focus on memory, as seen by decades of work on memory formation and memory change. For social psychologists, their dominant focus has been on attitude formation and change. In both disciplines, however, this research has mostly been conducted in laboratory settings. Although laboratories offer valuable leverage with respect to experimental control, they are often ill-suited to study the very issues that have stimulated our interest in memory and attitudes in the first place! For example, political "spin"--the process by which our leaders attempt to deliberately shape people's opinions about ongoing events--represents a fascinating, but poorly understood, phenomenon which undoubtedly involves an interplay between memory and attitude. In this course, we shall draw from "traditional" as well as nontraditional readings in order to facilitate a greater understanding of these and other provocative aspects of memory and attitudes as they exist in the wild, that is, outside of the familiar confines of our laboratory cubicles. PREREQ: Graduate standing in Psychology
Credit 3 units.

L33 Psych 5955 Memory, Emotion, and Attitudes
In this graduate seminar, we begin with a core set of principles about human cognition and affect. The events we retrieve from long term memory can evoke emotion, and those emtional reactions can, in turn, influence the formation and/or change of attitudes along with other sorts of belief systems. The considerations surrounding this three part (MEMORY>EMOTION>ATTITUDE) framework are complex and many interesting questions have received little if any empirical attention. For example, retrieving a memory of a threatening event can automatically trigger different types of correlated but distinct negative emotions. These distinct affective states can, in turn, exert different types of effects on different types of social attitudes. Also, the types of memories that are retrieved--and the ways that those memories are processed--can moderate the ways that emotion and attitudes are ultimately influenced. Readings will draw primarily from classic and contemporary work in social and cognitive psychology, although we will also be considering implications for other related areas, such as research and theory on collective memory and political psychology.

Credit 3 units.

L33 Psych 5958 Emotion Regulation
The purpose of this course is to provide an introduction to the field of emotion regulation. We will discuss theoretical and empirical work on emotion regulation from various areas of psychology, including social, personality, developmental, clinical, and neuroscience. Example topics include definitional issues, goals and strategies, personal and interpersonal consequences, sociocultural influences, life-span development, health and psychopathology. PREREQ: Psych 301.
Same as L33 Psych 4555
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 5991 Social Cognition
This seminar will focus on current theory and methods in social cognition, broadly defined. The goal of this course, much like the goal of research in social cognition is twofold: 1) to explore the cognitive underpinnings of social psychological phenomena, including person perception, stereotyping, attribution, emotion, automaticity, and self-construction, assessment, and regulation; and 2) to explore the social and contextualized nature of cognitive processes and content, including memory, judgment, and perception. Although the course draws primarily on readings from the social psychological literature, topics discussed are relevant to a variety of domains, including cognitive and clinical psychology. PREREQ, GRADUATE STANDING.
Credit 3 units.

L33 Psych 5993 Selected Topics in Moral Judgement, Ideology, and Social Cognition
This seminar is generally concerned with a number of phenomena involving moral judgment, ideology, and the intersection of the two. A central premise of the course is that basic processes identified in the social cognition literature (e.g. automatic vs. controlled processes) can be used as a basis for understanding how people make moral judgments and how these judgments may be contingent on the ideological beliefs of the perceiver. Among other topics, we will study the extent to which liberals and conservatives have different criteria as to what is "good" and "right". We will draw heavily from research from a number of different scholars, including but not limited to John Jost, Joshua Greene, Jonathan Haidt, Linda Skitka, David Pizarro, Philip Tetlock, and Jesse Graham. PREREQ: Graduate standing.
Credit 3 units.

L33 Psych 5995 Automatic & Controlled Processes
We will focus on the distinction between automatic and controlled processes and its implication for a variety of cognitive and social psychological phenomena. Instructors will discuss the assigned material during class and students are expected to do the same. Prerequisites: Graduate standing in Psychology or by permission of instructor.
Credit 3 units.

L33 Psych 5999 Recent Advances in Psychological Science Seminar Series
This is a regular seminar series offered in the department of Psychological & Brain Sciences that consists of outside speakers from around the world and country who present in the department colloquium series, as well as additional topics and speakers presented by faculty within the P&BS department. Attendance at this series is required for all graduate students in the department of Psychological & Brain Science. PREREQ: Graduate standing in P&BS.
Credit 1 unit.

L33 Psych 885 Masters Nonresident

Psychological & Brain Sciences, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 36** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 5 years**
  - The PhD in Psychological & Brain Sciences is a 5 year program. Students in the Clinical Science area will complete an additional year of clinical internship for a total of 6 years to complete the degree.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Graduate Students receive financial support, including tuition remission, for up to five years if they are in good standing.

PhD in Psychological & Brain Sciences

The following is a brief listing of the requirements for the PhD in Psychological & Brain Sciences. A more detailed description of these requirements may be found in our Graduate Student Handbook (PDF). Students in the clinical science training program have somewhat different requirements; please refer to the Clinical Program Handbook (PDF) as well.

All students must do the following:

- Complete required graduate-level courses (courses must be completed for a student to be considered "all but dissertation"). A typical semester course load for the first two years is 8-11 units. Full-time status is at least 9 units of coursework OR 1-8 units + the LGS 9000 enrollment.

- Obtain teaching experience commensurate with preparation for an academic career. There is a teaching requirement that all students must meet, the details of which are outlined in our Graduate Student Handbook.
- Attend a 1-credit (one hour per week) seminar on research ethics. This seminar typically happens during the fall semester of a student's first or second year in the program.
- Attend at least five professional development workshops over the course of the program.
- Complete a qualifying research project during the first two years of graduate study. This project is often referred to as the master's thesis.
- Pass a subject matter examination. This examination must be passed before work on the dissertation can begin.
- Complete a dissertation project and defend it in an oral examination. The research requirements for the PhD are described in more detail in our Graduate Student Handbook.

Required Courses

Students are required to take a minimum of 36 units to earn the degree. Required courses make up 12 units, Distribution Requirements make up 9 units, and the remaining 15 units will consist of units earned by enrolling in the department seminar series (Psych 5245) and colloquium series (Psych 5999), taking additional distribution courses, or taking other elective courses that support the student's research and career goals. Students must achieve a grade of B- or higher in all courses offered for a letter grade and must maintain a cumulative GPA of 3.0 or higher.

Code	Title	Units
Psych 5066	Quantitative Methods I	3
Psych 5067	Quantitative Methods II	3
Psych 5011	Research Designs and Methods	3
Psych 5405	Seminar in Research Ethics	1
Psych 565	Practicum in Teaching of Psychology	2

Distribution Requirements

Students must take one course from three of the following seven distribution areas.*

* **Note to Clinical Science Students:** Please see the Clinical Science Program Handbook for more specific guidelines regarding which courses should be used to fulfill distribution areas for the clinical science program.

Social and Personality Psychology

Code	Title	Units
Psych 503	Seminar: Experimental Social Psychology	3
Psych 5225	The Psychology of Social Stigma	3
Psych 5227	The Science of Close Relationships	3
Psych 5352	Theories of Personality Psychology	3
Psych 5358	Personality Psychology and Behavioral Dynamics	3
Psych 5593	Psychology of the Good Life	3
Psych 592A	Seminar: Theories of Social Psychology	3
Psych 5953	Memory and Attitudes in the Wild: Political Spin, Collective Attitudes and Advertising	3
Psych 5427	Social Gerontology	3

Abnormal Psychology and Affective Neuroscience

Code	Title	Units
Psych 5345	Current Directions in Research on Genetic and Environmental Contributions to Psychological Phenomena	3
Psych 537	Advanced Psychopathology	3
Psych 5373	Neural Systems of Behavior and Psychopathology	3
Psych 540A	Advanced Seminar in Clinical Psychology: Personality and Psychopathology	3
Psych 545	Clinical Science: Introduction to Intervention	3
Psych 5453	Introduction to Affective Science	3
Psych 546	Seminar in Psychotherapy: Behavior Therapy	3
Psych 5523	Neuropsychological Syndromes	3
Psych 588	Clinical Psychology of Aging II	3
Psych 5958	Emotion Regulation	3

Biological-Neurological Bases of Behavior

Code	Title	Units
Psych 5373	Neural Systems of Behavior and Psychopathology	3
Psych 5523	Neuropsychological Syndromes	3
Psych 5831	Biological Foundations of Behavior	3
Biol 5651	Neural Systems	4

Cognitive, Learning, and Perception

Code	Title	Units
Psych 5081	Consciousness, Cognitive Control and Subjective Experience	3
Psych 5085	Human Memory	3
Psych 5086	Retrieval Processes in Human Memory	3
Psych 5087	Advanced Cognitive Psychology	3
Psych 5088	Key Readings in Cognitive Psychology	3
Psych 5089	Cognitive Neuroscience of Memory	3
Psych 5095	Concepts in the Science of Memory	3

Psych 532	Seminar in Developmental Psychology: Language and Cognitive Development	3
Psych 5182	Perception, Thought, and Action	3
Psych 5505	Seeing	3
Psych 5665	The Science of Behavior	3

Aging and Development

Code	Title	Units
Psych 5255	Lifespan Health Psychology	3
Psych 532	Seminar in Developmental Psychology: Language and Cognitive Development	3
Psych 5321	Advanced Developmental Psychology	3
Psych 588	Clinical Psychology of Aging II	3
Psych 5881	Psychology of Aging	3
Psych 5887	Intervention with Older Adults	3

History of Psychology

Code	Title	Units
Psych 4651	History and Modern Systems of Psychology	3

Quantitative Knowledge

Code	Title	Units
Psych 5012	Selected Topics in Design and Statistics	3
Psych 5068	Hierarchical Linear Models	3
Psych 516	Applied Multivariate Analysis	3
Psych 5165	Applied Longitudinal Data Analysis	3
Psych 5167	Applied Bayesian Statistics for Psychologists	3

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's

program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way/ In Lieu of a PhD

From the beginning of the graduate program in Psychological & Brain Sciences at Washington University students participate in research reflecting their area of specialization. That education will be guided by their research mentor and will take place within one or more of the research laboratories in the department or university. In the early stages of their study, students will work on a qualifying research project (master's thesis). Once the qualifying research project is completed (by the end of your second year) and the student has completed at least 36 units, including the required course work (e.g., Statistics, Research Methods, Research Ethics, and the distribution classes), the student can receive a master's degree along the way to the PhD.

Phone:	314-935-6520
Website:	https://psych.wustl.edu/graduate-program

Quantitative Data Analysis, Graduate Certificate

Certificate Candidacy

To earn a graduate certificate at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. Graduate certificates are not standalone programs and are only available to current students in applicable graduate programs. Thus, graduate certificates are conferred at the same time as the student's primary graduate program.

Program Requirements

- **Total Units Required: 15**
- **Certificate Length: Varies**
  - Students will be awarded the certificate at the time of completion of their PhD. Therefore, time to completion varies based on the length of their program.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Required Courses

The goal of the certificate is to ensure that students have a solid basis in probability and statistics, inference, and quantitative research design as well as some depth of experience in a more advanced topic area. As such, students completing the certificate are required to take at least five courses, the categories of which are shown below. Some courses appear in more than one area, but a course can only be used to fill one of the requirements. In consultation with the certificate advisor, students may substitute equivalent courses or more demanding mathematical treatments of the same course material. Students must earn at B- or higher in each course for it to count toward the certificate. For programming prerequisites, visit our Quantitative Data Analysis website.

Core Area Courses

Students must choose at least one course from each area:

Probability and Statistics

Code	Title	Units
Anthro 5365	Problems in Applied Data Analysis	3
Econ 508	Mathematics for Economics	3
Pol Sci 572	Quantitative Methods in Pol Analysis II: Linear Models (Generalized Linear Models)	3

Pol Sci 581	Quantitative Political Methodology I	3
Pol Sci 582	Quantitative Political Methodology II	3
Psych 5066	Quantitative Methods I	3
Psych 5067	Quantitative Methods II	3
SWSA 5230	Applied Linear Modeling	

Inference and Quantitative Research Design

Code	Title	Units
Educ 503	Foundations of Educational Research	3
Math 5110	Experimental Design	3
Pol Sci 5024	Causal Inference	3
Psych 5011	Research Designs and Methods	3

Focus Area Courses

Students must choose at least two courses from one of these three areas:

Longitudinal and Time-Series Data Analysis

Code	Title	Units
MEC 661	Analysis of Time Series Data	3
MSB 618	Survival Analysis	3
Pol Sci 584	Multilevel Models in Quantitative Research	3
Psych 5068	Hierarchical Linear Models	3
Psych 5165	Applied Longitudinal Data Analysis	3
Psych 5167	Applied Bayesian Statistics for Psychologists	3
SWDT 6600	Multilevel and Longitudinal Modeling	3
SWDT 6905	Propensity Score Analysis	3

Multivariate and Machine Learning Analysis

Code	Title	Units
CSE 514A	Data Mining	3
CSE 517A	Machine Learning	3
Math 5430	Multivariate Statistical Analysis	3
Math 535	Topics in Combinatorics	3
Psych 5012	Selected Topics in Design and Statistics	3
Psych 516	Applied Multivariate Analysis	3
SWDT 6901	Structural Equation Modeling	3

Data Mining and Specialized Research Tools

Code	Title	Units
CSE 514A	Data Mining	3
CSE 517A	Machine Learning	3
Econ 5161	Applied Econometrics	3
Math 5310	Bayesian Statistics	3
MSB 550	Introduction to Bioinformatics	3
Psych 5167	Applied Bayesian Statistics for Psychologists	3
SWCD 5082	Foundations of Geographic Information Systems (GIS) For The Applied Social Sciences	3

The fifth course can be from any of the three focus areas, or it can be a second course from the Probability and Statistics group.

Phone:	314-935-6520
Website:	https://psych.wustl.edu/graduate-program

Romance Languages and Literatures

The Department of Romance Languages and Literatures offers **PhD programs in French Language and Literature** and in **Hispanic Studies**, preparing students for careers in university teaching and research as well as for diverse career options in areas that include higher education administration, libraries and special collections, and humanities and arts organizations. With our faculty's wide-ranging expertise, graduate students have opportunities to specialize in many areas of French, Francophone, Latin American, and Iberian cultures. We offer a broad range of study from medieval through contemporary, with opportunities to concentrate in a variety of different areas that reflect the areas of expertise of our faculty, including migrations and communities; popular literacy and cultural memory; early modern and modern cultural production; the intersections of literature, art, and the sciences; modernities and postmodernities; visual cultures and performance; and linguistics and language learning. The department also offers the **Graduate Certificate in Language Instruction**, which is open to PhD students in other disciplines as well as to those in the department's own graduate programs.

Students in both PhD programs will be funded for up to six years, the expected program length.

Contact Information

- PhD program in French Language and Literature
- PhD program in Hispanic Studies

For information about the combined degrees — the PhD in French & Comparative Literature and the PhD in Hispanic Studies & Comparative Literature — consult the Comparative Literature and Thought program (p. 163) page of this *Bulletin.*

Phone:	314-935-5175
Email:	rll@wustl.edu

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Directors of Graduate Studies

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Miguel Valerio
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Directors of Undergraduate Studies

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Lecturer in Latin American Studies
PhD, Rice University

Colette H. Winn
Professor Emeritas
PhD, University of Missouri-Columbia

Irene Zurita Moreno
Lecturer in Spanish
PhD, University of Florida

Degree Requirements

- French and Comparative Literature, PhD (p. 397)
- French Language and Literature, PhD (p. 399)
- Hispanic Studies, PhD (p. 400)
- Hispanic Studies and Comparative Literature, PhD (p. 402)
- Language Instruction, Graduate Certificate (p. 404)

Courses

Courses include the following:

- French (p. 384)
- Italian (p. 387)
- Spanish (p. 387)

French

Visit online course listings to view semester offerings for L34 French.

L34 French 500 Independent Study
Prereq: senior or graduate standing, and permission of the Chair of the Department.
Credit variable, maximum 6 units.

L34 French 501 Seminar in the Teaching of Romance Languages
A practical and theoretical introduction to teaching second languages. The theoretical component incorporates historical and contemporary theories of language pedagogy. The practical component focuses on developing a teaching persona, a relationship with students, and classroom organization and presentation skills. It offers approaches to communicative language teaching and to teaching culture and literature. It suggests varied instructional materials and use of multimedia. Students have an opportunity to teach with supervision, observation, and follow-up conferences. Open to teaching assistants in the Romance Languages, for whom this is a required course; open to other teaching assistants by permission of instructor.
Same as L38 Span 501
Credit 3 units.

L34 French 5013 Second Language Acquisition and Pedagogy: Integrating Technology into Language Instruction
This seminar will transform knowledge about second language acquisition and pedagogy into practice while focusing on technology. The course fosters professional development as participants formulate critical skills for assessing, creating and integrating technology into the classroom. Course formats include readings, discussion, demonstrations and hands-on sessions with technologies. Students accepted into the certificate program in Advanced Language Instruction can enroll whenever it suits their course planning, but non-certificate students need to take it after completing all Ph.D. courses. Students with questions regarding eligibility should consult with the professor.
Credit 3 units.

L34 French 502 Bibliography and Critical Approaches to Literature
Credit 3 units.

L34 French 503 Introduction to Graduate Study in French
Credit 3 units.

L34 French 503R Core Program Clg Teaching Romance Languages
Credit 3 units.

L34 French 504R Core Program Clg Teaching Romance Languages
Credit 3 units.

L34 French 505R Core Program Clg Teaching Romance Languages
Credit 3 units.

L34 French 506R Core Program Clg Teaching Romance Languages
Credit 3 units.

L34 French 507 Literary Theory
Taught in English. After a brief review of some of the most important moments and figures in the history of aesthetic theory from Antiquity to the present, this course will focus on the development and expansion of literary theory and critical methodologies in the 20th century. We begin with an examination of the linguistic innovations of Saussure and their utilization in Russian formalism, phenomenology and structuralism. We will then examine many different forms of poststructuralist and postcolonial thought, treating in detail important areas of theoretical activity in gender/queer studies, New Historicism, and other contemporary approaches to texts and culture. The primary goal of the course is to make students critically aware of and professsionally comfortable with the rich diversity and usefulness of a wide range of contemporary literary theories. Required for all graduate students in French.
Credit 3 units.

L34 French 509 Explication de Texts
Credit 3 units.

L34 French 510 Problems in the Literature of the Middle Ages
Credit 3 units.

L34 French 511 Historical French Linguistics
Credit 3 units.

L34 French 5111 Problems in Literature of the Middle Ages
Credit 3 units.

L34 French 513 Medieval French Literature I
Credit 3 units.

L34 French 515 Ronsard
Credit 3 units.

L34 French 5150 Feminist Literary and Cultural Theory
This course provides a historical overview of feminist literary and cultural theories since the 1960s and 70s, acquainting students with a diversity of voices within contemporary feminism and gender studies. Readings will include works of French feminism, Foucault's History of Sexuality, feminist responses to Foucault, queer (LGBTQ+) theory, postcolonial and decolonial feminism, feminist disability theory, and writings by US feminists of color (African-American, Asian-American, Latina, Native-American). The reading list will be updated each year to reflect new developments in the discipline. We will approach these readings from an intersectional and interdisciplinary perspective, considering their dialogue with broader sociopolitical, cultural, and philosophical currents. By the end of the course, students are expected to have gained a basic knowledge of the major debates in feminist literary and cultural studies in the last 50 years, as well as the ability to draw on the repertoire of readings to identify and frame research questions in their areas of specialization. The class will be largely interactive, requiring active participation and collaborative effort on the part of the students. Students will be encouraged to make relevant connections between the class readings, everyday social and political issues, and their own research interests. NOTE: This course is in the core curriculum for the Women, Gender, and Sexuality Studies graduate certificate. Prerequisite: advanced course work in WGSS or in literary theory (300 level and above) or permission of the instructor.
Same as L77 WGSS 419
Credit 3 units. A&S IQ: HUM, SC, SD Arch: HUM Art: HUM EN: H

L34 French 516 Montaigne
Credit 3 units.

L34 French 517 Rabelais
Credit 3 units.

L34 French 518 Racine
We will examine in detail the works of one of the classical period's most celebrated writers. Studying Racine's mythic, Roman, and biblical plays, we will analyze the role of sacrifice, the formation of the absolutist state, the idealization of history, the role of women, orientalism, heroic identity. We will follow the evolution of Racinian criticism through a parallel study of the applications of modern critical theory evident in works by Barthes (structuralism), Mauron (psychoanalysis), Goldmann (Marxism), Girard (on sacrifice), etc.
Credit 3 units.

L34 French 519 Classical Identities: The Power of Word and Image
We will study a variety of texts and images that show how seventeenth-century France not only documented its own glory but also its power to invent and control identities. IDENTITIES here refers both to the reputation of individuals at court, including most prominently the king himself, and to the characteristics of things in the world as they are depicted by literary authors, artists, and scientists. What writers and artists have in common is that the apparent realism of their descriptions cannot entirely conceal the very spectacular performance of courtly ambition, the play of appearances and fabricated identities that shapes the classical world. We will examine how the reality presented in texts and images is as much a product of a cultivated fiction as the unearthing of facts. Texts to include fairy tales by d'Aulnoy and Perrault; Corneille, MEDEE and L'ILLUSION COMIQUE; Molière, LE MALADE IMAGINAIRE; Racine, BRITANNICUS; Lafayette, LA PRINCESSE DE CLEVES; entries in Furetière's DICTIONNAIRE UNIVERSEL, and the autobiographical testimony of scientists like Descartes who write to defend their discoveries and inventions. Images to include portraits, as well as almanacs (calendars decorated with commemorative images), and maps.
Credit 3 units.

L34 French 520 Administrative Internship for PhD Students
Students in the PhD program in French, nominated by faculty, may work in a rotating internship in academic administration. The internship will comprise three consecutive assignments over two semesters, with each assignment lasting three months: one in Romance Languages and two in different branches of the university's administration. This internship will carry three graded credits, which may not substitute for any seminar, but will count toward the total required for the degree. This program will be open only to students nominated by faculty, as consistent with departmental and student needs. Students will gather a portfolio of work produced in this time, as well as an administrative resume, in order to receive academic credit at the end of the last assignment. Alternatively, they will write a paper on some topic related to the assignment completed within our department. The internships will not be paid, and students will ordinarily work approximately ten hours per week in their assignments. Faculty approval required; consult the DGS.
Credit 3 units.

L34 French 527 Literature of the 17th Century I
UNDERGRADUATES ONLY REGISTER FOR THIS SECTION Prereq: Fr 325, 326, Thinking-It-Through, or In-Depth or one of these courses and the equivalent WU transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates.
Same as L34 French 427
Credit 3 units. A&S IQ: HUM, LCD Art: HUM

L34 French 531 Problems in 16th-Century Literature
Credit 3 units.

L34 French 533 Principles and Practice in the Editing of Early Modern Texts
An overview of the problems and methods of scholarly editions with special reference to early modern French literature. These include: the principles of bibliographical description and textual analysis; "the hunt for editions"; spelling, punctuation, and variants; suitable documentation such as explanatory notes, glossaries, and indexes; and other problems related to the publication of a scholarly edition.
Credit 3 units.

L34 French 541 Problems in 17th-Century Literature
Credit 3 units.

L34 French 5443 Contemporary Francophone Literature: Disordering Race and Gender in the Caribbean
A general survey of Francophone literature. This seminar examines representative texts of Quebec, "Acadia," Africa, and West Indies. Authors to include Antonine Maillet, Louis Hémon, Michel Tremblay, Gérard Leblanc, Anne Hébert, Maryse Condé, along with the influential poets of "négritude," Senghor and Césaire. This course counts towrds the seminar requirment for the major. Prereq: Thinking-It-Through or In-Depth.
Same as L34 French 443
Credit 3 units. A&S IQ: HUM, LCD Art: HUM

L34 French 5447 The Medieval Literary Arts: Reconstructing Notre Dame
How do medieval French writers understand the structures and functions of the human body? What kinds of bodies are considered disabled? Are womanhood, childhood, and old age construed as disabilities? in this course we will read texts of varied genre--farces, saints' lives, fabliaux, poems, romances, journals and chronicles--as we consider how, if at all, disability exists as a social or literary construct in the Middle Ages. Texts include Philippe de Beaumanoir's MANEKINE, Courtebarbe's TROIS AVEUGLES DE COMPIÈGNE, Guillaume de Machaut's VOIR DIT, and the farce LE GARÇON ET L'AVEUGLE; excerpts from Jean de Meun's ROMAN DE LA ROSE, from the OVIDE MORALISÉ and from Christine de Pizan's MUTACION DE FORTUNE; and poems by Rutebeuf, Deschamps, and Molinet, as well as critical and theoretical texts from the emerging discipline of disability studies. Texts will be available in modern French; no prior study of Old French language is necessary. This course counts towards the seminar requirment for the major. Prereq: Fr 325 or Fr 326 or one of these courses and the equivalent WU transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates.
Same as L34 French 447
Credit 3 units. A&S IQ: HUM, LCD Art: HUM EN: H

L34 French 5459 Writing North Africa: Francophone Literature of the Maghreb
With statues of colonizers coming down around the world, France reckons with its colonial legacy in North Africa. Ever since their conquest of Algiers in 1830, the French have been fascinated by writing from across the Mediterranean. Beginning with nineteenth-century French travel narratives about Algeria, the colonial era defined ideas of the "exotic." As Algeria, Morocco, and Tunisia gained independence from France in the mid-twentieth century, North African authors often wrote their own literature in the language of their former colonizer. These authors and their contemporary descendants continue to create and challenge the ideas of postcolonial francophone literature today. The main seminar sessions are taught in English, with additional required weekly undergraduate discussions (section A) in French. Prerequisites: for undergraduates, French 325 or 326, Thinking-It-Through, or In-Depth; for graduates not in French, reading knowledge of the language.
Same as L34 French 459
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L34 French 550 Methods of Literary Study
Credit 3 units.

L34 French 5501 Topics in French Culture: Zombies, Vampires, and Spirits in the Francophone Caribbean

Same as L34 French 3501
Credit 3 units. BU: IS

L34 French 551 Problems in 18th-Century Literature
Credit 3 units.

L34 French 561 Problems in 19th-Century Literature
Credit 3 units.

L34 French 562 Visuality in Modern Poetry
Beginning with late Romantic poets like Gautier and Nerval, French poets became more and more interested in making poetry visible in one way or another. Through the use of the rhetorical trope of ekphrasis, elaborate theories of "voyance," and concrete poetry techniques, they began to exploit the materiality of the textual surface in ways that allowed them to make their poems "show" what they meant as much their poems meant what they said. In addition to the earlier authors mentioned, the course will examine closely works by Hugo, Rimbaud, Baudelaire, Lautréamont, and Mallarmé from the 19th century, and Apollinaire, Ponge, Supervielle, Michaux and Roubaud from the 20th. Related issues, like the rise of photography and cinema, as well as computer innovations like hyper-text, will also be discussed.
Credit 3 units.

L34 French 563 Seminar in Literary Criticism I
Credit 3 units.

L34 French 571 Seminar in 20th-Century Literature
Credit 3 units.

L34 French 572 Problems in the 20th-Century Novel
Credit 3 units.

L34 French 573 Surrealism
Credit 3 units.

L34 French 575 Robbe-Grillet by Robbe-Grillet
Credit 3 units.

L34 French 581 Problems in Medieval Literature
Credit 3 units.

L34 French 590 Dissertation
Credit variable, maximum 12 units.

L34 French 883 Masters Continuing Student Status

L34 French 884 Doctoral Continuing Student Status

L34 French 885 Masters Nonresident

L34 French 886 Doctoral Nonresident

Italian

Visit online course listings to view semester offerings for L36 Ital.

L36 Ital 500 Independent Study
Special studies chosen and arranged with the instructor. Prereq: senior or graduate standing, and permission of the chair of the department.
Credit variable, maximum 6 units.

L36 Ital 520 Independent Study
Credit variable, maximum 3 units.

L36 Ital 883 Masters Continuing Student Status

L36 Ital 884 Doctoral Continuing Student Status

L36 Ital 885 Masters Nonresident

L36 Ital 886 Doctoral Nonresident

L36 Ital 887 Masters Resident

L36 Ital 888 Doctoral Resident

Spanish

Visit online course listings to view semester offerings for L38 Span.

L38 Span 500 Independent Study
Prerequisites: Senior or graduate standing and permission of the chair of the department.
Credit variable, maximum 3 units.

L38 Span 501 Seminar in Teaching of Romance Languages
A practical and theoretical introduction to teaching second languages. The theoretical component incorporates historical and contemporary theories of language pedagogy. The practical component focuses on developing a teaching persona, a relationship with students, and classroom organization and presentation skills. It offers approaches to communicative language teaching and to teaching culture and literature. It suggests varied instructional materials and use of multimedia. Students have an opportunity to teach with supervision, observation, and follow-up conferences. Open to teaching assistants in the Romance Languages, for whom this is a required course; open to other teaching assistants by permission of instructor.
Credit 3 units.

L38 Span 5011 Cultural Theory
The course focuses on the main topics, authors, works and debates that constitute the corpus of cultural theory in the Hispanic world, particularly in Latin America. After a brief introduction to the connections between Latin American cultural criticism and European critical theory, class discussions will concentrate on the most important interdisciplinary problems and categories that have organized the field since the second half of the XXth-century. The purpose of the course is, then, twofold: first, it attempts to familiarize students with the main critical and theoretical debates in the study of symbolic production. Secondly, it offers a critical approach to the contributions of the main intellectuals and academics working on the analysis of cultural topics. Some of the authors to be analyzed are, among others, Antonio Cornejo Polar, Angel Rama, Silviano Santiago, Roberto Schwarz, Martín Oppenheim, Beatriz Sarlo, Nelly Richard, Jesús Martín-Barbero, Néstor García Canclini, Renato Ortiz, George Yúdice, Hugo Achugar, Bollvar Echeverria, Silvia Rivera Cusicanqui, Enrique Dussel, and Carlos Monsiváis.The interdisciplinary nature of this course will incorporate perspectives from history, communications, literary studies, social sciences, and philosophy. Graduate Standing. In Spanish.
Credit 3 units.

L38 Span 5013 Second Language Acquisition and Pedagogy: Integrating Technology Into Language Instruction
This seminar will transform knowledge about second language acquisition and pedagogy into practice while focusing on technology. The course fosters professional development as participants formulate critical skills for assessing, creating and integrating technology into the classroom. Course formats include readings, discussion, demonstrations and hands-on sessions with technologies. Students accepted into the certificate program in Advanced Language Instruction can enroll whenever it suits their course planning, but non-certificate students need to take it after completing all Ph.D. courses. Students with questions regarding eligibility should consult with the professor.
Credit 3 units.

L38 Span 5021 Contemporary Spanish Language Teaching
This course is a practical and theoretical introduction to teaching Spanish as a second language. The theoretical component of the course incorporates historical and contemporary theories of second language acquisition (SLA) and instruction, including major contemporary notions about SLA, communicative language teaching, and individual difference in language learning. The practical component of the course focuses on professional development as an instructor, roles of instructor and student, teaching Spanish as a heritage language, and day-to-day classroom activities with emphasis on communicative and task-based instruction. Students create a variety of teaching activities, teach with supervision and observation, and take part in follow-up conferences. The course also involves preparing written lesson plans, audiotaping, and self-evaluation. Each student in the course prepares a teaching portfolio, which includes a teaching philosophy statement, different types of classroom activities, and an exam section on grammar.
Credit 3 units.

L38 Span 503 Introduction to Graduate Study in Spanish
An introduction to the skills required for advanced study in Spanish literature. Major concentration is on critical methods, approaches, and schools, with an important secondary emphasis on bibliography and research methods. Required of all M.A. and Ph.D. candidates entering the program. Prereq. Graduate standing.
Credit 3 units.

L38 Span 5031 Global Hispanic Studies
This graduate seminar provides a critical overview of the field of Global Hispanic Studies as an essential area of research that explores cultural and literary production throughout the Hispanic world across traditional historical periods, and border-bound geopolitical and geographical areas. The course thus explores the various ways in which the field of Global Hispanic Studies today connects with closely related areas of scholarly inquiry, such as Transatlantic Studies, Transpacific Studies, Hemispheric Studies, Mediterranean Studies, Third World/ Global South Studies, African Diaspora Studies, Migration Studies (including Exile), and World Literature. The seminar is structured into a series of different sub-sections that aims as a whole to frame the field of Global Hispanic Studies as an interdisciplinary and transnational area of scholarship and research. This format combines the analysis of important critical and theoretical readings (by authors such as Adam Lifshey for Transpacific Studies, Boaventura de Sousa Santos for the Global South, or Pascale Casanova for World Literature), with the close reading of a series of primary texts central to the overall field of Global Hispanic Studies across different historical periods. Examples of these central works include literature of the Sephardic diaspora or written in Ladino, Transatlantic avant-garde poetics and networks (César Vallejo, Vicente Huidobro, Silvina Ocampo); Hemispheric Literature during the modernist period (José Martí, Gabriela Mistral), and the Cold War (Neruda, Ernesto Cardenal, Elena Garro); contemporary literature produced by various exiled, and immigrant or first-generation writers (Max Aub, Najat El Hachmi); cultural production related to the African Diaspora across time (cultural forms by Afro-descendant communities across Latin America, the poetry of Nicolás Guillén, and Raquel Ilonbé); or the work of Sor Juana Inés de la Cruz, Miguel de Cervantes, or Roberto Bolaño as World Literature. Graduate students only. In Spanish.
Credit 3 units.

L38 Span 504 Intensive Guided Reading
Selected literary readings to be established individually. Course normally taken in the third semester of the M.A. program. Prerequisite, for students in the M.A. program.
Credit 3 units.

L38 Span 5041 Media, Material, and Popular Cultures
This seminar introduces students to key conversations in the fields of media, material, and popular culture across the Hispanic World. We will take an interdisciplinary approach to explore how media shape culture and alter the material dimensions of cultural production, dissemination, and consumption, paying special attention to the historical formations of popular culture in rural and urban settings. We will study various print, aural and visual mediascapes and analyze the roles mediation (culture circuits), objects (books, speeches, sound or visual recordings), and practices (production and consumption) play in the formation of identity, community, and everyday experiences of nation, globalization, race, gender, and ethnicity. We will address key concepts, research questions, theories, and methodologies in the fields of media and cultural studies, critical theory, material culture, and popular culture, both in the Hispanic World and globally. This course aims to collectively think about new ways of defining objects of study, connecting media and popular culture, and linking interdisciplinary methodologies to broader research questions across the humanities.
Credit 3 units.

L38 Span 505 Research Writing and Methodology Practicum
We all know that writing is a fundamental part of a professional academic career, but what exactly is research writing? How and where do you start? How do you "do" research? Where do you do research? How do you "write up" your research for different audiences? This course is designed to help you answer these questions and others related to the craft and practice of research writing from topic pitch to final draft. At the beginning of the semester you will define a research project which you will develop in different stages each week through various modes of scholarly writing (examples include book reviews, conference panel proposals, grant proposals, a final polished piece of scholarship). Sessions will function as writing workshops where you will engage component parts of your project. By the end of the course you will have a solid research writing portfolio and know better how to present it to different audiences.
Credit 3 units.

L38 Span 5051 Gender and Sexuality
This course will provide the conceptual and analytical frame for critically examining literary and cultural production in the Hispanic world from the perspective of gender and intersections with race, ethnicity, class, religion, nationality, and (dis)ability. The course will engage readings in theory, criticism, and historiography crucial to the scholarly investigation of gender and sexuality in the field of Hispanic studies. We will address how the consideration of gender has transformed literary and cultural analysis; in particular, the ways in which scholars of feminist and gender studies have challenged traditional assumptions about how knowledge and subjectivities are produced. The students will come out of the course having acquired: 1) a knowledge of fundamental concepts in feminist and gender studies; 2) an understanding of how feminist/gender studies scholars identify and frame research questions; 3) an introduction to the critical debates related to gender and sexuality; 4) a knowledge of feminist cultural history; 5) the ability to apply relevant concepts in feminist and gender studies to your own research in a historically-grounded fashion.
Credit 3 units.

L38 Span 506 Street Cultures of the Americas
Credit 3 units.

L38 Span 5061 Race and Ethnicity: Race, Labor and Affect in Latinx culture
Race, Labor, and Affect in Latinx Culture: In this seminar, we will familiarize ourselves with the trajectories, conceptualizations and challenges to Latinidades in the United States by considering the relationship between race, labor, and affect. We will explore the

theoretical and political uses-and limits-of the category of Latinidad by considering aesthetic and affective expressions of Latinx lived experiences, focusing on the roles of labor in Latinx communities-migrant labor, domestic and care labor, etc. We will focus on how labor shapes the affective contours of Latinx experience in relation to race, gender, and sexualities and pay attention to affective articulations that transcend labor and derive from forms of racial joy and pleasure that resist labor as an imperative.
Credit 3 units.

L38 Span 507 Body, Gender, and Power in Colonial Latin America
This class will study representations of the body in Colonial Latin American texts through the lens of sex and gender and the discourses of power that are scripted upon it. Throughout the semester we will look at how gender is a primary field within which our power is articulated, studying the complexity of gendered cultural, literary, social, and religious constructions. We will study institutional ideologies and rules (both religious and secular) in their relation to constructions of the body, examining the impact of the discourses of Conquest, Counter-Reformation teachings, confessional practice, medical discourse, Inquisition processes, as well as religious genre conventions. We will read the works of more canonical authors (Colón, Pané, Cabeza de Vaca, Las Casas, Rodríguez Freyle, Catalina de Erauso, Sor Juana Inés de la Cruz, Sigüenza y Góngora, Juan Valle Caviedes) as well as writers of religious, didactic and legal texts of the period (e.g. Madre María de San José, Antonio Núñez de Miranda). We will also read critical and theoretical works that take up the concerns of the construction of sexual and gendered identities in society including Butler, Foucault, de Certeau, Jonathan Sawday, Margo Glantz and others. In Spanish.
Credit 3 units.

L38 Span 508 A Planetary Avant-Garde: Experimental Literature Networks and the Legacies of Iberian Colonialism
This Hispanic Studies graduate seminar focuses on the literary and artistic period known as the historical avant-garde (1909-1930) with a global, planetary perspective in relation to the legacies of Iberian colonialism across the world. As a historical event closely intertwined with the global expansion of Western colonialism, capitalism, and industrialization during the early twentieth century, the historical avant-garde constitutes a rich period during which various transnational connections are articulated, experienced, and imagined across the world beyond a merely European or Anglo-American framework as it relates to the impact of Iberian colonialism in different regions of the globe. While providing a theoretical introduction to avant-garde and global modernist studies, with archive of primary sources related to the field of Hispanic Studies, as well as Lusophone Studies, our course will study instances of experimental literature networks emerging during the historical avant-garde across Western Europe, East Asia, West Africa, and the Americas.The course format thus aims to combine the analysis of important critical and theoretical readings across these sub-fields, with the close reading of a series of primary readings central to global avant-garde. Through the examination of the work of authors like Almada Negreiros and Fernando Pessoa (Portugal), Tarsila do Amaral and Oswald de Andrade (Brazil), Vicente Huidobro (Chile), Jose García Villa and Angela Manalang Gloria (Philippines)-as well as theoretical readings by Laura Doyle, Gayatri Spivak, Marjorie Perloff, Peter Bürger, Dipesh Chakravarty, Bruno Latour, Caroline Levine, Benedict Anderson, and Tamar Herzog among others-this course will explore the interrelated aesthetic, linguistic, sociohistorical, and geopolitical dimensions of the emergence of a planetary avant-garde during the first three decades of the 20th century, as well as its various rearticulations in the 1960s and the contemporary period. Taught in English; Spanish reading proficiency required; for Graduate students only.
Credit 3 units.

L38 Span 510 18th Century Spanish Literature in the European Context: The Invention of Modernity
The eighteenth century radically changed Spain as it did the whole of Europe. The founding of academies, the proliferation of newspapers, advances in the sciences and technology, the emergence of a new social class, the seduction of new ideas about society, morality, and gender, are only a few of the strands that make this time and literature notable. We will study Spanish writers such as Feijoo, Isla, Torres Villarroel, Moratin, Iriarte, Melendez Valdes, Cadalso, and Jovellanos, within the framework of the European Enlightenment.
Credit 3 units.

L38 Span 511 Two Spanish Masterpieces
An in-depth reading including a careful study of their particular formation viewed as an example of the so-called medieval "textuality" which, according to the most recent theories, needs to be put into question and reformulated (Stock, Zumthor, Dagenais). This close reading will be complemented with a presentation of the criticism that surrounds both works and with a comparative discussion on related texts such as sources and continuations.
Credit 3 units.

L38 Span 511A History of the Spanish Language
Credit 3 units.

L38 Span 511B Old Spanish
Credit 3 units.

L38 Span 512 Studies in Literature of 16th and 17th Centuries
Credit 3 units.

L38 Span 512A Medieval Spanish Literature
Credit 3 units.

L38 Span 513 19th-Century Literature: Clarn
Credit 3 units.

L38 Span 514 20th-Century Spanish Literature
Credit 3 units.

L38 Span 515 Studies in the Literature of Latin America
The field of modern Iberian studies has finally taken the "imperial turn"-defined by Antoinette Burton as the "accelerated attention to the impact of histories of imperialism on metropolitan societies"-forcing a reckoning with the legacies of Spain's colonial past and its continued impact on the present. The "long" nineteenth century was a critical moment in the history of colonialism in the Iberian world: in the face of colonial loss in the Americas, the problem of slavery (and the slave trade) became a major subject of debate among not only politicians and social reformers, but also literary writers of the period. We will examine the nature of this debate through the study of diverse forms of Iberian cultural production, including abolitionist literature (narrative, theater, and poetry), the political essay, and periodical publications, as well as analyzing the controversies surrounding monuments to slave traders and colonizers, constructed in the nineteenth century. Authors to be considered include the theologian José Blanco White, playwright María Rosa Gálvez, poet Carolina Coronado, Gertrudis Gómez de Avellaneda, popular novelist Ayguals de Izco (also the translator of Uncle Tom's Cabin into Spanish), the social reformer Concepción Arenal, women's magazine editor Faustina Sáez de Melgar, and the realist novelist Benito Pérez Galdós, among others. The analysis of primary sources will be supplemented by historical, critical, and

theoretical readings in gender, postcolonial and critical race studies. Students will be expected to maintain a weekly log of their reflections on the readings and to engage actively in class discussions. A final paper and a mock conference talk will also be required.
Credit 3 units.

L38 Span 5150 Feminist Literary and Cultural Theory
This course provides a historical overview of feminist literary and cultural theories since the 1960s and 70s, acquainting students with a diversity of voices within contemporary feminism and gender studies. Readings will include works of French feminism, Foucault's History of Sexuality, feminist responses to Foucault, queer (LGBTQ+) theory, postcolonial and decolonial feminism, feminist disability theory, and writings by US feminists of color (African-American, Asian-American, Latina, Native-American). The reading list will be updated each year to reflect new developments in the discipline. We will approach these readings from an intersectional and interdisciplinary perspective, considering their dialogue with broader sociopolitical, cultural, and philosophical currents. By the end of the course, students are expected to have gained a basic knowledge of the major debates in feminist literary and cultural studies in the last 50 years, as well as the ability to draw on the repertoire of readings to identify and frame research questions in their areas of specialization. The class will be largely interactive, requiring active participation and collaborative effort on the part of the students. Students will be encouraged to make relevant connections between the class readings, everyday social and political issues, and their own research interests. NOTE: This course is in the core curriculum for the Women, Gender, and Sexuality Studies graduate certificate. Prerequisite: advanced course work in WGSS or in literary theory (300 level and above) or permission of the instructor.
Same as L77 WGSS 419
Credit 3 units. A&S IQ: HUM, SC, SD Arch: HUM Art: HUM EN: H

L38 Span 516 19th-Century Spanish Literature
Credit 3 units.

L38 Span 5161 Poetics & Politics of Rep. in 19th-Century Spanish Realism
This course will examine the ways in which "reality" is constructed in the Spanish realist narrative, drawing both on 19th-century novelists' own conceptualizations of "realism" and on modern theoretical approaches to this problem. We will explore the evolving notions of realism in the 19th century in view of the esthetic and ideological projects of individual authors, focusing in particular on the ways in which issues of gender, sexuality, class, ethnicity and national identity find articulation in realist discourse. Literary readings will include narrative fiction by such canonical figures as Galdós, Clarín, Pardo Bazán, and Valera, as well as a representative sampling of works by lesser-known women and by "popular" novelists of the period. In Spanish.
Credit 3 units.

L38 Span 517 Poetics and Politics of Representation in 19th-Century Spanish Realism
This course will examine the ways in which "reality" is constructed in the Spanish realist narrative, drawing both on nineteenth-century novelists' own conceptualizations of "realism" and on modern theoretical approaches to this problem. We will explore the evolving notions of realism in the nineteenth-century in view of the esthetic and ideological projects of individual authors, focusing in particular on the ways in which issues of gender, sexuality, class, ethnicity and national identity find articulation in realist discourse. Literary readings will include narrative fiction by such canonical figures as Galdós, Clarín, Pardo Bazán, and Valera, as well as a representative sampling of works by lesser-known women and "popular" novelists of the period.
Credit 3 units.

L38 Span 518 Special Topics in Peninsular Hispanic Literature
Credit 3 units.

L38 Span 519 Urban Myths: Latin American Cities in Literature
Latin American cities have historically played a crucial role in the construction of culture. In this course, we will explore how the idea of the City is imagined within different cultural contexts. Such an exploration will involve careful attention to, among other concerns, how the City has been mapped with regard to boundaries of race, class, gender, and ethnicity. We will study important critical and literary works by Vargas Llosa, Onetti, Puig, Fernando Vallejo and Bryce Echenique. In Spanish.
Credit 3 units.

L38 Span 5191 Urban Spaces, Gendered Places: Women, City & Modernity in Late 19th- & Turn-of-the-Century Spain
This course will examine the representations of the city in the literature of late nineteenth- and turn-of-the-century Spain, focusing on the ways in which the cultural history of the city is linked to the production of gendered spaces in moment of uneven and uneasy transition to modernity. Through a close analysis of texts by authors from Galdós and Pardo Bazán, to Baroja and Carmen de Burgos, we will explore women's shifting and unstable place in the emergent consumer society of urban Spain, and their impact on the construction of a modern urban identity and national consciousness. The significance of these gendered spaces will be considered from the viewpoints of diverse groups of women who inhabited the city: the bourgeois "angel of the house," working-class women, prostitutes, the bohemian flaneuse, among others. From these viewpoints, we will attempt to construct a "feminist counter-discourse" that vies to undermine the dominant tropes of a masculinized urban modernity.
Credit 3 units.

L38 Span 520 Special Topics in Colonial and Post-Colonial Literature
Credit 3 units.

L38 Span 521 Losers, Divas and Dolls in Latin American Literature
Among the issues to be explored through readings, film and music are gendered representation of the body and the city, the family as a disciplinary instance and the reactions against it in urban fictions. Readings include works by Silvina Ocampo, Elena Garro, Clarice Lispector, Felisberto Hernández, Fernando Vallejo, Roberto Arlt and others.
Credit 3 units.

L38 Span 5211 Seminar: Comparative Colonialisms in Early Americas

Same as L14 E Lit 521
Credit 3 units.

L38 Span 522 Protest and Pleasure: The Politics of Latin American Cinema
Latin American Cinema has been an important vehicle for the discussion and fostering of social change in this continent. Revisiting the main creative currents and theoretical formulations about the social role of cinema will help us understand the ways in which the cinematic image can address the revollution, confront authoritarianism and criticize neoliberal "democracies." This graduate

seminar emphasizes the acquisition of the concepts and tools for cinematographic analysis as well as the reflection on the historical evolution, production, distribution, and consumption of cinema during key periods in Cuba, Argentina, Mexico, and Brazil.
Credit 3 units.

L38 Span 5221 Globalism and Technology in Recent Latin American Narrative
As Latin American countries have dealt with the impact of the neoliberal regimes of the 1990s, we have seen a marked increase in novels that explore the implications of global business, culture, and technology in Latin America. In this course we will examine a series of novels by authors like Ricardo Piglia, Rafael Courtoisie, Alberto Fuguet, Carmen Boullosa, Eugenia Prado, Alicia Borinsky, and Edmundo Paz-Soldán among others as we analyze the representation of technology, global media, neoliberalism, and the arrival of a Latin American posthuman body in contemporary narrative. We will include a variety of theoretical approaches in our examination, including works by García Canclini, Haraway, Hayles, Hopenhayn, Richards, and Deleuze and Guattari.
Credit 3 units.

L38 Span 523 All About Spanish Cinema
This course surveys major themes in recent Peninsular Cinema. While the main focus will be on films from the past decade, we will spend a few weeks studying the most important trends since the Spanish Civil War. Throughout the course, such issues as representation of the war, resistance to Francoism, nationalism, globalization, immigration, and youth culture will be addressed; the construction of memory and the representations of violence will be underlying themes. In addition to situating the films in a historical, cultural, and political context, we will study different theoretical approaches to film and visual culture stemming from psychoanalysis, feminism, and postcolonial studies, as the course also aims to provide students with the necessary tools to analyze and write about film. We will view works by Pedro Almodóvar, Alejandro Amenábar, Montxo Armendáriz, Iciar Bollaín, Victor Erice, Fernando León de Aranoa, Alex de la Iglesia, Julio Medem, Basilio Martín Patiño, and Carlos Saura, among others. The course will be divided into 10 different sections. These sections delineate a progression of literary, historical and theoretical issues that will allow us to develop critical positions in relation to films discussed in class as well to cultural developments in twentieth-century Spain. Requirements include active seminar participation, a presentation, and a final paper.
Credit 3 units.

L38 Span 524 Cuban Literature: Within, Against and Beyond the Revolution
In this seminar we will focus on contemporary Cuba within the broader cultural and historical context of the Caribbean. Drawing upon a variety of theories (postcolonial, cultural studies, discourse analysis), we will emphasize textual interpretations of discourses in several different genres (poetry, theatre, narrative, testimony, political discourse, essay) by a variety of authors: from the revolutionary canon (Guillén, Carpentier, Morejón, Barnet), through the diaspora (Pérez Firmat, Behar, Benítez Rojo) to the youngest generation of the so-called POST-NOVISIMOS. Themes under discussion include, but are not limited to: syncretism, transculturation, CUBANIDAD, intellectual freedom and censorship, TESTIMONIO, "bridges" to/from Cuba, cultural memory, arts of resistance. Students may be required to view selected films outside of class. REQUIREMENTS: shorter written assignments (article summaries; book responses) and research leading to a major paper, in class discussion.
Credit 3 units.

L38 Span 5241 Myth, Memory, and Space in Cuban Literature
This course explores the multilayered Cuban identities - both on the island and in the diaspora - within the spatial context of the Caribbean and in connection with the legacy of the Atlantic slave trade, plantationi economy, African-based spirituality, and colonial/postcolonial domination. The central themes of memory, forgetting and spaces of resistance are studied through the works of Morejón, Guillén, Loynar, Carpentier, Ponte, and Triana, among others. Offered in Spanish, for graduate students only. REQUIREMENTS: In-class participation, mid-term exam, final research paper, brief responsive papers. 3 units.
Credit 3 units.

L38 Span 525 The Ethics of the Exeumplum
This course will be devoted to the reading and discussion of the most important collections of medieval Spanish exempla, such as the "Sendebar," the book of "Calila et Dimna," the "Barlaam et Josafat," the "Conde Lucanor," the "Libro de los Gatos," and the "Libro de los Exemplos por A.B.C." We will study various theoretical issues that can contribute to the understanding and aesthetic appreciation of these texts, such as their narrative structures, the cultural and ethical issues that led to their creation, and the ways in which these issues were treated by different authors and translators. We will also try to understand how these written texts existed in a society that was predominantly oral and how this same orality contributed to their shaping, transmission, and preservation.
Credit 3 units.

L38 Span 526 Crime and Criminals in 19th-Century Spanish America
The definition of deviant conduct was a mainstay of the discourse of nation building in Latin America. The idea of progress was never conceived without first taking for granted a specific idea of order that referred not only to the public space but also to the newly independent citizens' private lives. In this course, we will study -- through the readings of legal, medical, and literary texts of the time -- how criminal conduct was represented in literature and newspapers. We will focus on the impact the definition of the criminal subject had on the social, political, economic, and cultural arenas. In particular, we will concentrate on the roles of lawbreakers and their actions in 19th-century novels. Some of the authors studied will be Juan Montalvo, Eduardo Blanco, Manuel Payno, José Martí, and Federico Gamboa.
Credit 3 units.

L38 Span 527 Whose Latin America(nism)?
The course will focus on the evolution of the Latin American field, from area studies to cultural studies, with special attention to some of the debates that have run across the field in the last two decades: baroque/neobaroque, modernity/postmodernity, colonialism/post-colonialism, national/post national. Theoretical and textual analysis will also give basis for an introductory reflection on the role of gender and ethnicity in the construction of collective subjectivities from colonial times to the present.
Credit 3 units.

L38 Span 528 Seminar: Contemporary Spanish-American Narrative
Credit 3 units.

L38 Span 529 Baroque/Neobaroque/Ultrabaroque
The course will explore, from a trans-historical, trans-disciplinary perspective, the continuity of Baroque aesthetics throughout Latin America's cultural history from colonial times to the present. The course will be divided in 3 parts: 1) the analysis of Baroque writing, public art and performances of the XVIIth century (Sor Juana, Sigüenza y Góngora, Espinosa Medrano, villancicos, arcos triunfales, etc.), 2) the

study of literary texts and manifestos of the neobarroco and neobarroco in the XXth century (Sarduy, Perlonguer, Lamborguini) and other examples more marginal but still associated with contemporary Latin American Baroque (Marossa di Giorgio, Pedro Lemebel et al.), 3) new reappearances of the Baroque in the visual arts both in Latin America and in Latino art. The course will analyze the connections between Baroque and Modernity, with particular emphasis on ideological issues, representation of gender/genre, and identity politics.
Credit 3 units.

L38 Span 530 The Inventions of America: Latinoamericanismo in the XXth Century

This course surveys what Santiago Castro Gómez has termed "The birth of Latin America as a philosophical problem," in the wake of the Mexican Revolution, and the different incarnations of this philosophical and cultrual problem in the writings of Latin American essayists throughout the XXth Century. The course will be divided in three sections. First, we will closely read foundational figures of the first decades of the XXth Century--like Alfonso Reyes, José Vasconcelos, José Carlos Mariátegui, Gilberto Freyre and Pedro Henríquez Ureña--in order to discuss different cultural ideologies, such as MESTIZAJE, cosmopolitanism and idigenism, as well as their literary and intellectual genealogies. Through these readings, students will analyze the re-formulation of the notion of Latin America in the wake of the Mexican Revolution. Then we will move to mid-century intellectuals--Leopoldo Zea, Edmundo O'Gorman, Roberto Fernández Retamar--to discuss the continuities and ruptures of those ideas before and after the Cuban Revolution. The second part will focus on the philosophical question of "America" as a historical being, as well as the consequences of this idea in intellectual projects of cultural emancipation. Finally, we will turn to authors from the last quarter of the century--Enrique Dussel, Angel Rama, Antonio Cornejo Polar, Román de la Campa--in order to assess the reinvention of LATINOAMERICANISMO and its founding principles in the contexts of postcoloniality and cultural studies. The aim of this course is not only to familiarize students with the backbone of Latin Americanist thinking, but also to engage in an advanced-level critical and theoretical reading of these foundational figures in terms of their literary and philosophical genealogies--thinkers such as Hegel, Spinoza, Heidegger and Foucault, among others--and the consequences of their thinking in contemporary Latin American literary and cultural studies.
Credit 3 units.

L38 Span 531 Thousand and One Travelers' Tales: Exile, Immigration and Memory in Contemporary Spanish Culture

In light of recent migratory flows to Spain, such issues as multiculturalism, racial and ethnic conflict, and religious and linguistic diversity have received renewed attention within the Social Sciences, and have also been the subject of recent films and selected literary text. However, these issues have not been sufficiently discussed in relevance to the debates on the constructions of cultural memory (particularly in regards to the Spanish Civil War and its aftermath), which in many ways have dominated the field of Spanish Cultural Studies. In this course, we will attempt to bridge this gap, while simultaneously studying the main historical developments from the Second Republic in 1932 to the present. We will examine, among other issues, the meanings of the Medieval "convivencia" of Arabs, Christians and Jews in contemporary Spain, the relationship between the end of this period and the forging of an Imperial culture, which was nostalgically invoked during the Francoist era, the myth that Francisco Franco saved Spanish Jews from a certain death in the Holocaust, the meanings attached to a "Mediterranean" culture, contemporary tours of Jewish and Arab Spain, and the representation of immigration in contemporary narrative and film. Readings include works by Nicolas Abraham and Maria Torok, Ammiel Alcalay, Cathy Caruth, Américo Castro, Jacques Derrida, Federico García Lorca, Paul Gilroy, Juan Goytisolo, Ranjana Khanna, Julia Kristeva, María Rosa Menocal, Angelina Muñiz-Huberman, Antonio Muñoz Molina, David Nirenberg, Juana Salabert, and Edward Said. We will also watch films by Carlos Saura, Iciar Bollaín and Fernando León de Aranoa.
Credit 3 units.

L38 Span 532 Poetics and Politics in Democratic Spain

This course examines the various political implications of some of the most influential poetic movements during the last 40 years taking place in Spain. The course combines close readings of the work of key poets of the period, with the critical analysis of their respective poetics in relation to the politics of the "Transition" period, and the ensuing democratic period after Franco's totalitarian regime. Throughout the course, we will examine various historical, political, and social events determining the poetic and cultural production of the period such as the politics of memory, gender inequality, exile, and migration. We will also focus on the tensions between various Iberian national identities, the impact of key Latin American poets in exile during the 1970s, as well as the more recent 15-M movement and the economic crisis in the early 21st century. Some of the poets that we will study (originating from various regions of Spain, Latin America and Equatorial Guinea) include Jaime Gil de Biedma, Gloria Fuertes (1960s); Jose Ángel Valente Leopoldo María Panero, Juan Gelman, Mario Benedetti, Raquel Ilombe, Cristina Peri Rossi (in the 1970s); Ana Rossetti, Luis García Montero, Joaquin Sabina (1980 and 90s); Kirmen Uribe, Agustín Fernández Mallo, Chantal Maillard, Ana Merino, Víctor Rodríguez Núñez, and Carla Badillo Coronado (2000s). We will also read critical essays by Hannah Arendt, María Zambrano, Cristina Moreiras, Jo Labanyi, Antonio Méndez Rubio, Guillem Martínez, Germán Labrador Méndez, José Ignacio Padilla, and Belén Gopegui, among other writers, and scholars in the field. Offered in Spanish, for graduate students only. Requirements: In-class participation, individual presentations, weekly online responses, and final research paper.
Credit 3 units.

L38 Span 534 Early Modern Spectacular Culture

This seminar studies a range of early modern visual and theatrical representations from the sixteenth and seventeenth centuries, in order to understand the major role that public spectacle played in Hispanic cultures shaped by popular literacies. We will examine the deployment of spectacle for the purpose of cultural formation, in royal pageantry and elite portraiture that sought to shape historical memory, and in the rich staging of Jesuit school plays that aimed to inform beliefs and recruit (male) public interest in reading, writing, and social advancement. At the same time, we will explore works of the comedia that drew crowds from all walks of life, as Lope de Vega's ARTE DE NUEVO DE HACER COMEDIAS spurred a boom in plays that abandoned classical formal models instead to "mirror life" for an avid public of mixed literacies. Shaped by popular tastes, this new form of entertainment represented social relations between elites and common subjects, as well as between genders, as complex and contested dynamics of power, negotiated by performances of identity that could invite public laughter, scorn, or censure. These works incorporated a wide range of questioning voices into the spectacular formation of early modern Hispanic culture. Our focuses will include visual and textual sources of elite spectacles, a Jesuit school play, Lope's dramatic treatise, and a range of comedias that deploy visual and linguistic spectacle as a means of cultural performance, including most works on the doctoral reading list for this period. Critical and theoretical selections as well as visual materials will inform our analyses. Prereq. Graduate standing.
Credit 3 units.

L38 Span 535 Sociology of Latin American Literature
This class is an introduction to the field of sociology of literature as relevant to Latin America. This field is focused on the study of literature as a material and institutional practice and of the concrete structures of production, circulation and reception of literary works. The class will focus on the study of issues such as: the construction of an "autonomous literary field" within the "field of cultural production"; the sociology of literary form; and the relationship between literature and the economic market, via institutions such as magazines, publishers and agents. These questions will be explored through both theoretical discussions and case studies, mostly focused in Mexico. The course will focus readings from major theories of literary sociology (including Georg Lukàcs, Franco Moretti, Pierre Bourdieu and others), major interventions on the subject by Latin American critics (Pedro Ángel Palou, Ericka Beckman, Jean Franco and others) and some canonical authors which will be used to exemplify the theories (José Asunción Silva, Jorge Cuesta, José Joaquín Fernández de Lizardi, Juan Rulfo and others). Readings in English and Spanish, course taught in Spanish. Prereq. Graduate standing.
Credit 3 units.

L38 Span 536 Colonial Memories, Postcolonial Crossings, and Spanish Cultural Studies
In this course we will examine different approaches to postcolonial studies (Edward Said, Gayatri Spivak, Dipesh Chakrabarty, Ella Shohat, Walter Mignolo) in relation to texts focusing specifically on Spain's cultural and religious pluralism (Américo Castro, Daniela Flesler, Susan Martin-Márquez, Eduardo Subirats, Alfredo Campoy-Cubillo). We will also discuss the theoretical foundations of such concepts as "Convivencia," "Orientalism," "Transatlantic Studies," and "Mediterranean Studies." We will begin the semester by discussing the end of Spanish empire in the nineteenth century and then move across the violent twentieth century and into the twenty-first century in order to assess the ways in which colonial, postcolonial, and neo-colonial discourses shape contemporary culture in Spain and the nation's former colonies. Primary texts may include novels (Ana María Matute's PRIMERA MEMORIA, Juan Goytisolo's DON JULIAN), films (Chus Gutiérrez's films PONIENTE [2001] and RETORNO A HANSALA [2008], Iciar Bollaín's films FLORES DE OTRO MUNDO [1999] and TAMBIÉN LA LLUVIA [2012]), and more recent depictions of and approaches to migration, multiculturalism, and memory in Spain in times of crises. All texts are available in translation.
Credit 3 units.

L38 Span 537 The Production of Culture: Jose Maria Arguedas and the Migrating Andes
Taking the oeuvre of writer, folklorist, and anthropologist José María Arguedas as a case study, this graduate seminar will examine the way 20th-century intellectuals dealt with material transformations in the production and circulation of cultures in the Andean region. Through the analysis of literary texts, ethnographies, journalism, practices of cultural promotion and recordings, we will explore the role of orality, writing and other, more recent technologies (such as the voice recorder, the radio, and music records), as well as that of capitalist markets and cultural commodification, in the configuration of public spheres in the Andes. Similarly, we will analyze the impact of the emergence of said public spheres on the imaginaries and materialities of nation, ethnicity, and the political dimension of culture. Conceptualizing immigration and urbanization as the key historical processes for our case study, the seminar will offer a historical and theoretical framework for understanding the transformations. rural and urban cultures in the Andean region region underwent during the past century, paying close attention to the classical debates these transformation generated in the field of Andean studies. This seminar will have a strong interdisciplinary appproach, combining topics such as cultural production, intellectual and cultural history, media studies, culture history, and public sphere. Readings in English and Spanish; course taught in Spanish. Prereq: Graduate standing.
Credit 3 units.

L38 Span 538 Literature and Modernity in 20th-Century Mexico
This class will develop a critical reading of the literary history of Mexico from the late Porfiriato to the year 2000. The course will focus on the way in which different genres (novel, short story, essay, chronicle, poetry) engage with four different moments of capitalist modernization in Mexico: The Porfirian reforms, the Mexican Revolution, the "Mexican Miracle" of the 1950s and 1960s and Neoliberalism. Each session will engage in the comparative study of representative texts of two and three authors, with key works of theory and criticism, in order to understand phenomena such as cultural mediation, ideology, urbanization, technology, national identity, cosmopolitanism and the construction of literary institutions. Authors and movements include late MODERNISMO, the stridentist movement, Octavio Paz, Juan Rulfo, José Revueltas, the CASA DE LAGO movement, LA ONDA and the CRACK group. Prereq: Graduate Standing. In Spanish.
Credit 3 units.

L38 Span 539 Crisis and Modernity in the Spanish Fin de Siecle
This course will focus on the literature and culture of the Spanish fin de siècle, a moment of social, political, and cultural crisis marked by both domestic instability and imperial loss abroad, even as the nation was making its uncertain and uneven entry into modernity. We will explore the impact that this crisis had on literary and cultural representations at the turn of the century, as well the cultural debates that it generated on the problem of Spanish national identity. Taking as a point of departure a statement made in a novel by the nineteenth-century realist Benito Pérez Galdós, that the late nineteenth century was a moment that saw the disappearance of "classes, groups and categories," we will examine how the general crisis of category in the fin-de-siècle transformed perceptions of identity--such as class, gender, sexuality, race, and nationality--and gave rise to new aesthetic forms and preoccupations that heralded a modern(ist) sensibility. Materials to be examined will include works by both canonical writers and artists, as well as popular cultural representations, on both sides of the century line.
Credit 3 units.

L38 Span 540 Baroque Intellectuals: Sor Juana Ines de la Cruz and Siguenza y Gongora
The multifaceted intellectual and literary production of Sor Juana Inés de la Cruz and Carlos de Sigüenza y Góngora dominates the cultural landscape of seventeenth -century colonial Mexico. In this class we will examine representative works from both of these authors, addressing a wide variety of genres - history, theology, poetry, theater, scientific writing, autobiography and biography - to plot the contours of elite baroque culture. In bringing these two authors together in one class we will be able to examine in detail the preoccupations of these baroque intellectuals - their inferior status as criollos (Mexicans of pure Spanish descent), the challenges involved in disseminating their works, as well as the difficulties imposed by an absolutist state and orthodox religious power structure. We will also focus on the differences in their works and lives that sprang from their respective genders, taking a close look at the production of femininity and masculinity in colonial Mexico. This class will also strive to create a detailed socio-cultural and historical context in which to place the works of these two figures. Primary texts will include Paraíso occidental, Respuesta a Sor Filotea de la Cruz, Autodefensa espiritual, Infortunios de Alonso Ramírez, Teatro de virtudes políticas, Neptuno alegórico, Libra astronómica, Carta Atenagórica, as well as a selection of Sor Juana's poetry and villancicos. Secondary sources will include works by Foucault, Paz, Moraña, Merrim, More, Glantz and Ross. Graduate standing. In Spanish.

Credit 3 units.

L38 Span 541 Memory, Mobility, and Space in Contemporary Spain

From the mythical medieval "convivencia" to the nineteenth-century notion that "Africa begins at the Pyrenees," from the "two Spains," to "Spain is Different," from the "Pacto del Olvido" to the "recuperation of historical memory," from "Una, Grande, y Libre" to "Catalonia is not Spain," from "en España se vive bien" to the predicaments of the "Generación Noqueada," discourses over identity and belonging in contemporary Spain have been fraught with conflicts and contradictions. Recent theoretical approaches to memory, mobility, and space provide productive perspectives that make it possible to examine these conflicts and contradictions. Thus, in addition to examining the key debates within Spanish Cultural Studies from the 1990s to the present, the course provides students with theoretical and methodological tools, stemming from such fields as Memory Studies, Migration Studies, Postcolonial Studies, Spatial Humanities, and Transatlantic Studies. Readings include works by Aleida Assmann, Max Aub, Américo Castro, Javier Cercas, Tim Creswell, Helen Graham, David Harvey, Anne Knowles, Federico García Lorca, Paul Gilroy, Juan Goytisolo, Susan Martin Márquez, María Rosa Menocal, Antonio Muñoz Molina, Michael Rothberg, and Edward Said. We will also watch films by Iciar Bollaín and Fernando León de Aranoa, Emilio Martínez Lázaro, and Julio Medem. Prereq: Graduate Standing. In Spanish.

Credit 3 units.

L38 Span 5410 Major Seminar

An undergraduate seminar. Topics vary. Prereq: Span 307D and Span 308E and at least two 300-level literature/culture surveys taught in Spanish.

Same as L38 Span 410

Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L38 Span 542 Latin American Mediascapes: From Mass Culture to Indigenous Media and Global Consumption

The increasing commodification and technological mediation of culture over the past century has transformed the constitution of identities and communities, as well as the very form of the popular and the political. How have these transformations modified our understanding of national, regional, and local cultures in Latin America? How do the ways in which indigenous and urban populations experience identity and community differ? What comes after the dissolution of categories such as lo alto, lo popular y lo indígena? Concentrating on Latin American cultures from the twentieth century to the present, this course takes an interdisciplinary approach in order to answer these questions, and explores them through three aspects of mediation: commodification, technology and consumption. These aspects are studied within four different debates: (1) Literary responses to mass culture: tensions between lettered practices and mass media, the value of democratization, and the politics of mass-oriented culture and literature are analyzed. Authors discussed may include: Mario Vargas Llosa, Ricardo Piglia, and Luis Rafael Sánchez; (2) Communication and nation: the role of technological orality (and its clash with print culture) in the configuration of national and campesino cultures in the Andes is explored; (3) The emergence of Indigenous media: an analysis of the reformulation of the politics of representation and the agency of "indigenous" and subaltern subjects in the countryside and the city in the midst of the boom of this kind of media throughout Latin America, particularly in the Amazon; (4) Consumer cultures: early twentieth-century consumption of popular print culture (sensationalist press) is compared to current discussions of consumption in contemporary urban Latin America in order to discuss democratization, citizenship, and global identities. Readings include works by Theodor Adorno, Walter Benjamin, Arjun Appadurai, Friedrich Kittler, Jean Franco, George Yúdice, and Beatriz Sarlo. Students are encouraged to propose and discuss additional examples of national cases or authors. Prereq: Graduate Standing. In Spanish.

Credit 3 units.

L38 Span 543 Gender, Race, and Colonialism at the End of Empire in 19th-Century Spain

This course will examine the ways in which gender, race, and colonialism informed discourses on nation and empire in the "long" 19th century in Spain. Drawing on recent developments in gender, postcolonial, and critical race theories, we will analyze literary and other forms of cultural representation that engaged with major social and political debates of the century around issues such as slavery, gender equality, prostitution and sex-trafficking, transoceanic migration, racial degeneration, "improvement" (eugenics), and mestizaje. Materials to be examined include plays of the early century, such as María Rosa Gálvez's "Zinda" and Duque de Rivas's "Don Álvaro"; the poetry and anti-slavery writings of Romanic authors Carolina Coronado and Gertrudis Gómez de Avellaneda; the narrative fiction of canonical realists such as Galdós, Clarín, and Pardo Bazán; and the works of popular novelists of the fin-de-siglo, such as López Bago, Eugenio Flores, and Felipe Trigo.

Credit 3 units.

L38 Span 544 Humanism, Magic, Love, and Rhetoric in Spanish Literature of the 15th Century

This is a course devoted to three related subjects that were central to the life and work of the Spanish intellectual elite during most of the 15th Century: the power of words, the nature of love, and an idea of magic that permeates the world, not only as a force to be reckoned with, but also as a means to better one's own position in society, both in the private and also in the public sphere. We will study a selection of texts produced in courtly and university circles, especially at the court of Isabel de Castile and at the University of Salamanca. Given the dynamic cultural exchange that was taking place at that time between the Iberian and the Italian peninsulas, special attention will be given to the arrival and development of humanism in Spain. We will study a selection of sentimental fiction, treatises of love, magic, and rhetoric, and conclude the course reading and analyzing the TRAGICOMEDIA DE CALISTO Y MELIBEA also known as CELESTINA, which is considered, to this date, the second most famous work of Spanish literature, just after DON QUIJOTE. The analysis of these texts will be simultaneous to an ongoing reflection about the establishment of the Spanish Inquisition and its effects on those who, still after having converted, were threatened and affected by its existence. We will also read a selection of theoretical and critical texts that will help us deepen our understanding of the primary readings. Prereq: Graduate Standing. In Spanish.

Credit 3 units.

L38 Span 545 Warriors and Pilgrims, Sinners and Saints: Foundational Texts of Medieval Castile

We will read and discuss in this seminar a selected corpus of medieval Castilian foundational texts such as: the POEMA DE MIO CID, the PRIMERA CRÓNICA GENERAL, the Romancero poetry related to the Cid, the POEMA DE FERNÁN GONZÁLEZ, the VIDA DE SAN MILLÁN DE LA COGOLLA, selections of: the MILAGROS DE NUESTRA SEÑORA, the CODEX CALIXTINUS, the CANTIGAS DE SANTA MARIA, and the LIBRO DE BUEN AMOR. The reading of this corpus will be enriched by a selection of theoretical and critical studies that will foster a better understanding of the role these texts played at different stages in the formation of Castilian identity. Some of the issues discussed will be: the politics and

poetic forms involved, at different times, in the retelling of historical facts and legends, the relations between oral and written traditions, manuscripts and clerical culture, and the changing perceptions of Christians, Moors and Jews.
Credit 3 units.

L38 Span 546 Theory into Practice: (Re)Reading Span Amer Contemp Narratives Through the Lens of Recent Theories
Guided and inspired by the premise of the inherent synergy between theory and analytical practice, this seminar will provide graduate students with hands-on opportunities to (re)read major 20th and 21st century Spanish American narratives-both fictional and non-fictional-through the "applied" lens of select methodological approaches, most of them cross-disciplinary, such as "social discourse" (Angenot, Ducrot), various perspectives on ecocriticism, decoloniality (Mignolo), memory and trauma studies (Jelin and others), semiotics of spaces (Lotman, Lefebvre, Foucault) as well performance and visual studies. Throughout this course we will strive to achieve critically productive "uses" of theory while attempting to avoid mechanical "applications" and "abuses". Works under analysis will include, among others: selected short stories by Juan Rulfo and Amparo Dávila (México), Jorge Luis Borges, Silvina Ocampo and Luisa Valenzuela (Argentina), Ana Lydia Vega Serova, Aida Bahr and Marilyn Bobes (Cuba), along with selections from "canonical" testimonies (Barnet/Montejo, Cuba; Burgos/Menchú, Guatemala), essays (La fiesta vigilada by Ponte, Cuba), and novels and/or novellas by Carpentier, Fuentes, and García Márquez.
Credit 3 units.

L38 Span 548 The Art of Telling, Writing and Representing History in Medieval and Early Modern Spain
This course will be devoted to analyze a selection of texts produced in the Iberian Peninsula during the middle ages and the early modern period, whose principal subjects are the History and legends of the region that became, eventually, the kindom of Castile. This will be our point of departure to better understand the uses of the past, as it becomes part of a text, and goes through the unavoidable process of fictionalization. We will study, for example, the ever problematic relations between the nobility and the monarchy and the uses of History as a source of exemplary matter, as inspiration to help create and reinforce social identity, and as a way to overcome censorship. With the objective of acquiring a better understanding of the uses of the past as a strategy to comment, explain and try to modify the present moment, and given the popularity that the historical novel has acquired in Spain in recent years, especially after the transition to democracy, our reading list will also include a few examples of these types of texts. For their final projects, the students will be asked to work in a synchronic and comparative way, with various representations of a legend, a character, or a historical event of their choice. In Spanish.
Credit 3 units.

L38 Span 550 Special Topics in Spanish Literature and Culture
Credit 3 units.

L38 Span 551 Reading the "Right To Have Rights": Borders, Mobilities, and Memories
Taking Hannah Arendt's notion of the "right to have rights" as a starting point, this course centers on the connections between the Humanities and Human Rights. We will discuss a variety of literary texts in relation to theoretical works from such fields as Border Studies, Critical Refugee Studies, Mobility Studies, and Memory Studies. This will allow us to examine different histories of displacement, spanning from the early twentieth century to the present. In addition to contextualizing the historical and legal significance of such terms as "refugee," "asylum," "sanctuary," "non-refoulement," or "forced displacement," our discussions will also allow us to engage with the broader meanings of concepts that include hospitality, identity, belonging, and citizenship. A majority of the literary texts on the syllabus stem from the Hispanophone world; all are available in translation. Students will have the opportunity to add material to the syllabus and may base their final projects on their main areas of study, providing they are relevant to the theme and materials of the course.
Credit 3 units.

L38 Span 559 16th-Century Spanish Theatre
Credit 3 units.

L38 Span 560 Torture, Inquisition, and Literature
The course will focus on the theory and practice of torture in the Hispanic world and other countries where the Inquisition flourished: France, Mexico, Peru. Torture manuals will be adduced as well as archival materials. Inquisition trials from Spain and its dependencies will be studied; also historical texts by defenders and opponents of the Inquisition; among them, Marcelino Menéndez y Pelayo, Julio Caro Baroja, Haim Beinert, Henry Kamen, Miguel Blazquez Díaz and others. Literary texts by Marcos Aguinis, Carlos Fuentes. Homero Aridjis, Miguel Delibes, Carme Riera, Arturo Pérez Reverte, and others. Students will consult with the instructor to write a research paper. In addition, a short book report is required and will be the basis of an oral presentation.
Credit 3 units.

L38 Span 563 Seminar in Literary Theory I
Credit 3 units.

L38 Span 5660 Second Language Acquisition
There are many ways in which a second language can be learned: from infancy as the child of bilingual parents, or later through formal instruction, immersion in a new culture, or in a particular work or social situation. This class is an inquiry into the processes by which acquisition occurs. Topics include the nature of language learning within the scope of other types of human learning; the relationship between first and second language acquisition; the role of linguistic, cognitive, and sociocultural factors; insights gained from analyzing learners' errors; key concepts such as interlanguage and communicative competence; bilingualism; the optimal age for second language acquisition; and a critical appraisal of different theories of second language acquisition. Both theoretical and instructional implications of second language acquisition research are considered. This course can be used towards certification in TESOL and is a required course for the Graduate Certificate in Language Instruction. Prerequisite: Ling 170D or equivalent is recommended, especially for undergraduates, but is not required.
Same as L44 Ling 466
Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L38 Span 570 Nueva Narrativa Weird
With novels that include everything from talking refrigerators to ghostly twins, alternate histories to extraterrestrials, Latin American narrative of the last two decades from Mexico to Argentina has seen the rise of a "nueva narrativa weird." We will explore the various theorizations of the "weird," from Lovecraft, Freud, Borges and Cortázar to more recent conceptualizations and use them to evaluate novels by Rodrigo Fresán, Guadalupe Nettel, Jorge Baradit, Mike Wilson, Daniela Tarazona, Edmundo Paz Soldán and Álvaro Bisama. We will examine themes that run from cyborg theory to underground culture and a developing narrative aesthetic of intertextuality based on mashups and sampling.
Credit 3 units.

L38 Span 572 (Re)Imagining the Greater Caribbean Through the Lens of Gender and Ethnicity
Conceived as a multicultural space, "The Caribbean" immediately calls to mind many complex images: the slave trade and plantation economy; the diaspora and Pan-Africanism; magical realism and the "dark" (post)colonial side of modernity. As Caribbeanists, we will look comparatively at the commonalities and the differences among the literary and cultural productions of Cuba, Puerto Rico, Dominican Republic, Columbia and Haiti, along with their respective diasporas. Exploring the notions of gender and ethnicity will enable us to further focus on such overarching themes as creolization and national building (belonging, inclusion, marginalization), gendered and racial politics of the diaspora, the performance of gender, sexual politics of tourism, the configuration of Afro-Latinidad, and the "hybrid" aesthetics emerging from the spiritual practices of "African-derived" (syncretic) religions. A combination of canonical and newest works will be presented in a variety of genres (testimonio, short stories, poetry, novels, theatre, film, essays, visual culture). In addition, we will tackle the complex methodological issues involved in cross-cultural and cross-racial research, including the works of Trouillot, Glissant, Césaire, Fanon, Mintz, La Fountain Stokes, Araújo, Benítez Rojo, Fernández Retamar, Torres Saillant, Paravisini-Gebert, among others. This seminar is also designed to guide you through the intense process of researching, drafting and writing a seminar paper of publishable quality.
Credit 3 units.

L38 Span 574 Seminar on the Complete Works of Leonardo Padura
The highly acclaimed and award-winning Cuban author Padura is known for his seven detective novels and many journalistic articles that deal with social and political issues in Cuba. We will read his works Fiebre de caballo, Pasado perfecto, Vientos de cuaresma, Máscaras, Paisaje de otoño, La novela de mi vida, Adios Hemingway, La cola de la serpiente, La niebla del ayer, El hombre que amaba los perros, and Herejes. These works will be studied using scholarship on Padura as well as sources used by Padura in his writing; special attention will be paid to his style, structure and inter-textual preferences in examining Cuba's social and historical conditions as he raises questions about values and character creation in ways reminiscent of Tolstoy, Dostoievsky, Galdos and Dickens. Students will present a report on one of the novels, and produce a research paper of 20-25 pages on a topic chosen in consultation with the professor. Prereq: Graduate Standing. In Spanish.
Credit 3 units.

L38 Span 590 Dissertation
Credit variable, maximum 12 units.

L38 Span 591 Studies in Spanish-American Literature
Credit 3 units.

L38 Span 591A Poesia-Hispano
Credit 3 units.

L38 Span 591B Huidobro and Vallejo and Neruda and Guillen and Girondo
Credit 3 units.

L38 Span 592 Wor(l)ds in Dispute: Spanish American Testimonio
Graduate students interested in cross-disciplinary perspectives should be able to benefit from and contribute to this course, since by virtue of its hybridity Spanish-American TESTIMONIO invites approaches from literary criticism, anthropology, gender studies, history, philosophy and political science, to name only a few. We will look (critically) at some of the most compelling interpretations of TESTIMONIO, and will derive our own theories from in-depth readings of four of the "exemplary" testimonials: Miguel Barnet's BIOGRAFIA DE UN CIMARRON, Rodolfo Walsh's OPERACION MASACRE, Elisabeth Burgos-Rigoberta Menchú's ME LLLAMO RIGOBERTA MENCHU, and Elena Poniatowska's HASTA NO VERTE JESUS MIO. Additional testimonial texts will be read individually, for written projects or oral presentations. Prereq: Span 307D and Span 308D and at least two 300-level literature courses taught in Spanish. In Spanish.
Credit 3 units.

L38 Span 593 Seminar in Literature of the Golden Age
Credit 3 units.

L38 Span 594 Seminar in Literature of the Golden Age
Credit 3 units.

L38 Span 595 20th-Century Spanish Literature
Credit 3 units.

L38 Span 596 Studies in 20th-Century Spanish Literature
Credit 3 units.

L38 Span 597 Seminar: Spanish Novel 19th- and 20th-Century
Credit 3 units.

L38 Span 597A Seminar in the Modern Spanish Novel
Credit 3 units.

L38 Span 598 Seminar in the Modern Spanish Novel
Credit 3 units.

L38 Span 599 Latin American Narrative in the 21st Century
This course explores new directions in Latin American narrative, examining novels published in the last 5 years by both established and new writers. The course will focus on science, technology and the literary expression of a posthuman Latin American identity. Other themes will include: Neoliberalism, Latin American literature and/in the global market, and Latin America and Empire. Theoretical readings include Hayles, Negri & Hardt, and Masiello. Novels by Piglia, Giardinelli, Prado Bassi, Volpi, Paz-Soldán, and Rojas among others.
Credit 3 units.

L38 Span 883 Master's Continuing Student Status

L38 Span 884 Doctoral Continuing Student Status

L38 Span 885 Masters Nonresident

L38 Span 886 Doctoral Nonresident

French and Comparative Literature, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required:** 63 for students without an AM; 72 for students with an AM (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length:** 6 years for students without an AM; 5 years for students with an AM
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Romance Languages and Literatures assures funding for up to 12 semesters for full-time students in good academic standing.
  - The dual PhD degree in French and Comparative Literature requires the study of French literature and culture, over the course of which the student virtually duplicates the courses and other preparations expected of a doctoral candidate in French. In addition, students complete the 12-unit core requirement for the Comparative Literature PhD program, which includes Comp Lit 502 Introduction to Comparative Literature. For a description of this core, please review the requirements for the PhD in Comparative Literature (p. 171).

PhD in French and Comparative Literature

The dual PhD programs require a focus on a "home" literature, in which the student normally duplicates the courses and other preparations expected of a doctoral candidate in that literature or program. This focus is combined with training in approaches, methods, and theories offered by the program in Comparative Literature and articulated by its core requirements. It is expected that students in the dual programs include one or more comparatist elements in their comprehensive examinations and dissertation. Requirements in the home departments vary.

The dual degree student must in any case complete a minimum of 12 units of course work in Comparative Literature: the 12-unit core requirements for the comparative literature program. These core requirements include Comp Lit 502 Introduction to Comparative Literature and three additional Comparative Literature courses (3 units each) distributed among three of four designated categories.

Upon joining the dual degree program, students must be competent in a minimum of two languages pertinent to their work and their objectives. They must also meet the language requirements of the department in which the primary literature program is located. After joining the program, students have the possibility of acquiring reading knowledge of an additional language pertinent to their dissertation work.

Required Courses

- Four courses comprising the Comparative Literature core requirement, including Comp Lit 502 Introduction to Comparative Literature and three additional courses distributed among designated categories (refer to the PhD in Comparative Literature (p. 171) for the listing of designated categories).
- Courses as required for the PhD in French (refer to the PhD in French Language and Literature (p. 399) for the listing of course requirements).
- Language Requirements:
  - Upon joining the dual degree program, students must be competent in a minimum of two languages pertinent to their work and their objectives. Both languages will be evaluated by an expert in each language.
  - Students must also meet the language requirements of the department in which the primary literature program is located.
- Qualifying Examinations:
  - Comparative Literature PhD dual degree students will take the comprehensive examinations required in French. At least one of these examinations must entail a comparatist element; this element is to be identified and negotiated with the examination committee, which will include at least one faculty member representing Comparative Literature.
- Dissertation Committee:
  - The dissertation committee should include at least one faculty member representing Comparative Literature. The dissertation itself should — in its theoretical grounding, approach, transnational or transcultural scope, and/or interdisciplinarity — speak to the field of Comparative Literature as currently constituted.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of

time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way

Students who do not already hold a master's degree in French literature will receive one from Washington University during the course of their study for the PhD upon successful completion of the AM exam.

Contact:	Contact info to come

French Language and Literature, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required:** 51 for students without an MA; 60 for students with an MA (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length:** 6 years for students without an MA; 5 year for students with an MA
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Romance Languages and Literatures assures funding for up to 12 semesters for full-time students in good academic standing.

Optional pedagogical or interdisciplinary study can be acquired by means of one of the graduate certificate programs in Arts & Sciences.

Students in the PhD in French Language and Literature program take courses in all areas of French and Francophone studies, as well as a number of courses in a related secondary field of their choice, for a total of 51 units for students entering without an MA or 60 units for students entering with an MA (who may transfer 18 units) at the graduate level. Students may also pursue a graduate certificate for a total of 72 credits. During their third semester, students take the AM exam. During the semester after they finish their courses, students take the PhD exam, for which they submit proposed syllabi for a two-semester sequence of undergraduate literature courses and two qualifying papers (potentially publishable articles of 25 pages, revised from seminar papers in two different periods). An oral exam by the entire faculty, based on these submissions, will follow. Students further defend their dissertation prospectuses before their thesis committees of three faculty members. They then have approximately two years to complete the research and writing of their dissertations, which they defend during the last semester of their programs.

Students need to take courses for a letter grade and earn a B or better, with a B average overall.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

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Submission of the Dissertation

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Phone: 314-935-5175
Email: rll@wustl.edu

Hispanic Studies, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin*.

Program Requirements

- **Total Units Required: 45** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 6 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Romance Languages and Literatures assures funding for up to 12 semesters for full-time students in good academic standing.
  - Students need to take these courses for a letter grade and earn a B- or better, with a B average overall, per departmental requirements.

Students in the Hispanic Studies PhD program take a required seminar in language teaching methodology in addition to the requirements specified below. Students in French complete a language teaching practicum. Optional pedagogical or interdisciplinary study can be acquired by means of one of the graduate certificate programs in Arts & Sciences.

PhD in Hispanic Studies

Students in the PhD in Hispanic Studies program take courses in all areas of Latin American and Iberian studies. During the fifth semester, students take comprehensive exams from among the three options offered to them. After passing their comprehensive exams, students submit and defend a dissertation prospectus. Students then research, write, defend, and submit their doctoral dissertation. Details of the program stages and requirements are available on the Hispanic Studies Graduate Programs page of the Romance Languages and Literatures website.

Required Courses

Students must complete 15 courses in the department. Of these 15 courses, four out of five Transdisciplinary Connections courses and the Contemporary Spanish Language Teaching course (noted in the chart below) are required for all students. The remaining courses are considered Core Courses.

Code	Title	Units
Span 5011	Cultural Theory	3
Span 5021	Contemporary Spanish Language Teaching	3
Span 5031	Global Hispanic Studies	3
Span 5041	Media, Material, and Popular Cultures	3
Span 5051	Gender and Sexuality	3
Span 5061	Race and Ethnicity: Race, Labor and Affect in Latinx culture	3

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

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The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

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defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Phone:	314-935-5175
Email:	rll@wustl.edu

Hispanic Studies and Comparative Literature, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 57** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 6 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Romance Languages and Literatures assures funding for up to 12 semesters for full-time students in good academic standing.
  - The dual PhD degree in Hispanic Studies and Comparative Literature requires the study of Hispanic Studies literature and culture, over the course of which the student virtually duplicates the courses and other preparations expected of a doctoral candidate in Hispanic Studies. In addition, students complete the 12-unit core requirement for the Comparative Literature PhD program, which includes Comp Lit 502 Introduction to Comparative Literature. For a description of this core, please review the requirements for the PhD in Comparative Literature (p. 171).
  - Students must obtain a minimum grade of B- in graduate courses for them to count toward the degree (certificate). Students are expected to maintain a cumulative grade point average of 3.0 on a 4.0 scale.

PhD in Hispanic Studies and Comparative Literature

The dual PhD programs require a focus on a "home" literature, in which the student normally duplicates the courses and other preparations expected of a doctoral candidate in that literature or program. This focus is combined with training in approaches, methods, and theories offered by the program in Comparative Literature and articulated by its core requirements. It is expected that students in the dual programs include one or more comparatist elements in their comprehensive examinations and dissertation. Requirements in the home departments vary.

The dual degree student must in any case complete a minimum of 12 units of course work in Comparative Literature: the 12-unit core requirements for the comparative literature program. These core requirements include Comp Lit 502 Introduction to Comparative Literature and three additional Comparative Literature courses (3 units each) distributed among three of four designated categories.

Upon joining the dual degree program, students must be competent in a minimum of two languages pertinent to their work and their objectives. They must also meet the language requirements of the department in which the primary literature program is located. After joining the program, students have the possibility of acquiring reading knowledge of an additional language pertinent to their dissertation work.

Required Courses

- Four courses comprising the Comparative Literature core requirement, including Comp Lit 502 Introduction to Comparative Literature and three additional courses distributed among designated categories (refer to the PhD in Comparative Literature (p. 171) for the listing of designated categories).
- Courses as required for the PhD in Hispanic Studies (refer to the PhD in Hispanic Studies (p. 400) for the listing of course requirements).
- Language Requirements:

- Upon joining the dual degree program, students must be competent in a minimum of two languages pertinent to their work and their objectives. Both languages will be evaluated by an expert in each language.
- Students must also meet the language requirements of the department in which the primary literature program is located.

- Qualifying Examinations:
  - Comparative Literature PhD dual degree students will take the comprehensive examinations required in Hispanic Studies. At least one of these examinations must entail a comparatist element; this element is to be identified and negotiated with the examination committee, which will include at least one faculty member representing Comparative Literature.
- Dissertation Committee:
  - The dissertation committee should include at least one faculty member representing Comparative Literature. The dissertation itself should — in its theoretical grounding, approach, transnational or transcultural scope, and/or interdisciplinarity — speak to the field of Comparative Literature as currently constituted.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the

defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Contact: Contact info to come

Language Instruction, Graduate Certificate

Certificate Candidacy

To earn a graduate certificate at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. Graduate certificates are not standalone programs and are only available to current students in applicable graduate programs. Thus, graduate certificates are conferred at the same time as the student's primary graduate program.

Program Requirements

- **Total Units Required: 15**
- **Certificate Length: To be completed by end of student's PhD program**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Required Courses

- 15 units of credit — one course from each of the following groups — are required:
  1. Language Teaching Methodology (French 501 Seminar in the Teaching of Romance Languages/Span 501 Seminar in Teaching of Romance Languages) or the equivalent in another department for students of that language
  2. Linguistics and Language Learning (APL 5111 Linguistics and Language Learning) or other approved equivalent
  3. Second Language Acquisition (Span 5660 Second Language Acquisition), (may have crosslistings with other languages)
- Two of the following elective courses are required:
  1. Reading and Writing in a Second Language (L92 5692)
  2. Grammar and Vocabulary Acquisition (L38 567)
  3. Phonology and Second Language Acquisition (L38 5170)
  4. Second Language Acquisition and Technology (APL 5023 Second-Language Acquisition and Technology)

Students need to take these courses for a letter grade and earn a B- or better, with a B average overall.

Origin and Purpose

The Graduate Certificate in Language Instruction is an interdisciplinary certificate related to the fields of applied linguistics, second language acquisition, psychology, neuroscience, and other disciplines that has important implications for the way we teach foreign languages. Study within these different fields provides a fascinating examination of the way that second languages (L2) are learned and how second language is generated by learners. An understanding of second language acquisition processes both enriches our knowledge of how the mind works and serves to better inform the ways that foreign language teachers design and implement curricular approaches for different levels and skills.

Program Details

Students must apply to be considered for the certificate program and will be evaluated by a faculty committee, twice a year, on approximately October 15 and March 15. (The committee is made up of co-directors and graduate directors of participating departments.) The certificate consists of five courses: three required courses and two electives. This application is submitted at the beginning of the student's doctoral course work. Master's degree students are not eligible for consideration.

The goal of the five-course sequence is to provide certificate students with a solid base in the theoretical and instructional implications of research on language acquisition across different linguistic subsystems (phonology, lexis, syntax, pragmatics) and different linguistic modalities (spoken and written). This formation will also prepare students to be involved in language program design and curricular development.

To provide our graduate students with additional qualifications and formal development that will make them strongly prepared for a range of demanding academic positions, the Department of Romance Languages and Literatures offers the Graduate Certificate in Language Instruction for students enrolled in PhD programs at Washington University.

For more information, visit the Graduate Certificate in Language Instruction page of the Department of Romance Languages and Literatures website, contact Professor Joe Barcroft, or call 314-935-5175.

Phone:	314-935-5175
Email:	rll@wustl.edu

Sociology

The Department of Sociology employs a range of methodological approaches to understand the origins and reproduction of social inequality and apply that knowledge to address issues of pressing public concern. Re-established in 2020, our graduate program prepares its students for active careers in scholarly research and teaching as well as public engagement, with a primary focus on the fields of race/ethnicity, community and urban sociology, gender and the family, work and organizations, immigration, policing and criminal justice, and political sociology and social movements. Graduate students work closely with our faculty in mentoring and collaborative relationships that encourage students' production and publication of original research and that prepare them for careers as experts in their subfields. By equipping our students with a broad set of theoretical perspectives, methodological skills, and professional experiences, the Department of Sociology sets the groundwork for our graduates to make major contributions to the discipline and to society at large.

Contact:	Kaitlyne A. Motl, PhD
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Website:	http://sociology.wustl.edu

Faculty

Chair

Jake Rosenfeld
Professor
PhD, Princeton University

Associate Chair

Ariela Schachter
Associate Professor
PhD, Stanford University

Director of Graduate Studies

Kenneth (Andy) Andrews
Professor
PhD, State University of New York at Stony Brook

Director of Undergraduate Studies

Caitlyn Collins
Associate Professor
PhD, University of Texas at Austin

Department Faculty

Darwin Baluran
Assistant Professor
PhD, Vanderbilt University

Yannick Coenders
Assistant Professor
PhD, Northwestern University

David Cunningham
Professor
PhD, University of North Carolina at Chapel Hill

Steven Fazzari
Bert A. and Jeanette L. Lynch Distinguished Professor
PhD, Stanford University

Cynthia Feliciano
Professor
PhD, University of California, Los Angeles

Patrick Ishizuka
Assistant Professor
PhD, Princeton University

Samuel Kye
Assistant Professor
PhD, Indiana University

Zakiya Luna
Associate Professor
PhD, University of Michigan

Margot Moinester
Assistant Professor
PhD, Harvard University

Adia Harvey Wingfield
Mary Tileston Hemenway Professor in Arts & Sciences
PhD, Johns Hopkins University

Kiara Wyndham-Douds
Assistant Professor
PhD, New York University

Degree Requirements

- Sociology, PhD (p. 409)

Courses

Visit online course listings to view semester offerings for L40 SOC.

L40 SOC 500 Independent Work
This course entails graduate-level independent study, usually involving directed readings supervised by a faculty mentor. The work in this course cannot be used to fulfill other program requirements, such as work on one's Mentored Research Collaboration, thesis, qualifying exam, dissertation proposal, or dissertation. Students and faculty

should work together to establish course objectives, readings, assignments, and deadlines prior to registration. Students will be waitlisted, pending faculty confirmation. Prerequisite: graduate standing in the Department of Sociology.
Credit variable, maximum 3 units.

L40 SOC 5001 Central Questions and Approaches in Sociology
This is a crash course in some of the most important and prominent questions, research programs, and methodological approaches within the discipline of sociology. Students will read a series of major books and/or articles and discuss current trends, debates, or emerging areas in the field. The course also works to connect lines of scholarly research with practical problems. Students will also have a chance to think creatively about where they fit in the discipline; what questions, assumptions, or arguments need further scrutiny; and how they might productively engage in central debates in the field through their own emerging research. Enrollment is only open to first-year Sociology graduate students.
Credit 2 units.

L40 SOC 5002 Sociology Professional Development
This course serves as an introduction to professional socialization for first-year Sociology graduate students. In addition to orienting students to the department and the discipline, the course will demystify various aspects of the academy and provide tips for navigating graduate school and beyond. Sample topics include: the hidden curriculum of graduate school; being a good colleague and advisee; professional organizations; managing references; reading articles and books; research ethics; applying for external grants and fellowships; developing CV's; giving effective research presentations; the publication process; attending academic conferences; professional networking; public engagement and social media; and preparing for different types of jobs and job markets. This course is open only to graduate students in Sociology.
Credit 1 unit.

L40 SOC 500A Research in Sociology
Students will conduct individual research in collaboration with and under the supervision of an assigned faculty mentor. This course aims to familiarize graduate students with the research and publication process, in addition to providing informal professional socialization during their early years within the department's PhD program. Students must register for the section assigned to their respective faculty member, and consult with their faculty member about course requirements and research expectations prior to enrollment. Students must successfully complete three semesters of the course to fulfill graduate program requirements; however, the collaborations and relationships forged within this course sequence are strongly encouraged to continue well past students' required enrollment. This course is open only to Sociology graduate students.
Credit variable, maximum 3 units.

L40 SOC 5050 Quantitative Methods I
This is the first class in sociology's required two-course graduate quantitative methods sequence. This course is designed to help sociology PhD students develop a strong base in statistical methods. Starting from basic math, students will build up a foundation for linear regression and its application to causal inference. Students will also learn how to use STATA to conduct replicable and reliable analyses. The course is focused on the tools needed to do research as a PhD-level sociologist and draws examples from across the social sciences. Students can take this course both as a introductory course in linear regression or as a deeper dive into regression than what is learned in a typical undergraduate statistics sequence. Prerequisite: graduate standing; priority enrollment will be given to first- and second-year Sociology graduate students.
Credit 3 units.

L40 SOC 5051 Quantitative Methods II
This is the second course in the Department of Sociology's required two-course graduate quantitative methods sequence. This course is designed to assist sociology PhD students in understanding statistical methods with the goal of conducting independent and original quantitative research. Building on the first course of the graduate program's quantitative methods sequence, students will focus on extensions of standard linear regression models, including models for binary and categorical outcomes and analysis of panel data. Good quantitative social science research requires not only understanding statistical methods but also training in how to manage data and code, assess the robustness of results, connect theory and statistical practice, and interpret findings. The course emphasizes both understanding statistical methods and applying those methods in empirical research. Prerequisites: graduate standing and either successful completion of SOC 5050 - OR - consent of the instructor. Priority enrollment will be given to first- and second-year Sociology graduate students.
Credit 3 units.

L40 SOC 5060 Qualitative Methods
This course is an in-depth examination of qualitative research methods in sociology. The goals of this course are as follows: (1) to examine the epistemology, politics, practice, and ethics of qualitative methods; (2) to explore the strengths and limitations of these approaches; and (3) to develop the skills to design, collect, analyze, and write using qualitative data. Students will read exemplary canonical and contemporary books and articles that use a variety of qualitative methods. Students will learn to evaluate how different researchers approach developing research questions, field site and case study selection, gaining entree, building rapport and trust, note taking and audio recording, the nuts and bolts of conducting interviews and observation, and reflexivity in the field, among other topics. Students will gain hands-on experience with interview and field observation techniques, data analysis, and writing. By the end of the course, students will possess the skills necessary to independently design and undertake a rigorous qualitative research project from conception to write-up as well as the ability to evaluate qualitative studies conducted by others. Prerequisite: graduate standing. Priority enrollment will be given to first- and second-year Sociology graduate students.
Credit 3 units.

L40 SOC 5200 Research Design
This course covers the fundamentals of sociological research design, including the formation of research questions and testable hypotheses, the relationship between theory and empirical research, issues of measurement and sampling, the choice of appropriate data collection methods and analytic techniques, causal inference, assessment and critique of research, and the writing of research proposals. Emphasis is placed on principles that are applicable in various kinds of research, such as surveys, participant observation, comparative historical studies, experiments, qualitative interviews, and secondary data analysis. By the end of this course, students will have developed a concrete research proposal for their master's thesis. This course is open only to Sociology graduate students.
Credit 3 units.

L40 SOC 5211 Race and Place
In this course, students will investigate the claim that race and place are mutually constitutive; that is, race shapes how people perceive and organize places, and places in turn shape understandings and experiences of race. This investigation will span time - form the beginning of colonization in North America to the present - and space - from rural communities to central cities. Students will use a primarily sociological lens, but will also draw insights from history, political science, demography, and philosophy. Topics of study include

segregation, housing, the criminal legal system, schooling, work, and more. This seminar is an upper level course intended for advanced sociology majors and minors, as well as graduate students. Graduate students should enroll in the 500-level offering.
Same as L40 SOC 4211
Credit 3 units. A&S IQ: SSC, SC Arch: SSC Art: SSC EN: S

L40 SOC 5250 Sociology Master's Thesis
This course is a structured independent study for second-year Sociology graduate students to work closely with their thesis committee as they prepare to undertake their Master's Thesis. While the Master's Thesis is to be defended in the Fall term of a student's third year in the program, the course will consist of preparing thesis reading lists, collecting and analyzing data, and constructing preliminary document drafts related to this key program milestone. Students will be waitlisted until they submit both their departmental AM Thesis Committee Declaration form and the OGS-required Research Advisory Committee form to the Academic Coordinator. This course is open only to Sociology graduate students.
Credit 3 units.

L40 SOC 5289 Neighborhoods, Schools, and Social Inequality
A major purpose of the course is to study the research and policy literature related to neighborhoods, schools and the corresponding opportunity structure in urban America. The course will be informed by theoretical models drawn from economics, political science, sociology, anthropology, education and law. A major focus is to gain greater understanding of the experiences and opportunity structure(s) of urban dwellers, in general, and urban youth, in particular. While major emphasis will be placed on data derived from the interface of urban environments and the corresponding institutions within them, the generational experiences of various ethnic groups will complement the course foci. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment note: All students are enrolled onto the waitlist. Priority is given to Department of Education majors, minors, and graduate students. Undergraduate students must enroll in Educ. 4289 and graduate students must enroll in Educ. 5289
Same as L12 Educ 4289
Credit 3 units. A&S IQ: SSC, SC, SD Arch: SSC Art: SSC BU: BA EN: S

L40 SOC 5300 Professional Writing
This class focuses on various aspects key to the successful publication of sociological research. Though the main focus will be on writing for peer-reviewed disciplinary outlets (for which the process is far from intuitive), students will also engage and value strategies to translate research for a broader range of audiences. Working with existing writing associated with their Master's thesis or another ongoing research project, students will move through the various components of a publishable article, culminating in the presentation of their research to the department during the final week of the semester. This course is open only to Sociology graduate students.
Credit 3 units.

L40 SOC 5310 Stratification
This course is a graduate-level seminar exploring the the tools needed to analyze and understand processes of stratification fundamental to human organization. The course's emphasis will be upon institutions undergirding inequality in modern America, with a special focus on recent trends. The course will provide a survey of many major readings in stratification across the disciplines, and introduce various approaches and topics undertaken by contemporary stratification scholars. Prerequisite: graduate standing. Priority enrollment given to Sociology graduate students.
Credit 3 units.

L40 SOC 5311 Sociology of Higher Education
What we call "higher education" in the United States is a complex web of institutions - nearly 3,000 4-year colleges, 1,500 2-year colleges, and still more postsecondary institutions that grant a variety of credentials. It is a system through which tens of millions of students pass each year; over the last few decades, the importance of earning a postsecondary credential has increased markedly. As such, higher education is deserving of rigorous scrutiny and careful interrogation. But in studying "higher education," we are in fact attending to a multitude of things - among other things, varied institutional types with different resources and different imperatives, experiences of accessing and navigating higher education that are widely divergent along axes of inequality, and institutional processes that play out on campus but have resonance beyond the university gates. In this course, which will be conducted as a discussion-based seminar, we will engage with texts examining the enterprise of higher education from varied vantage points, but always through a sociological lens. We'll discuss why and how higher education came to be so important and loom so large in contemporary life, the stark differences between different sectors of the higher education landscape, and how stratification occurs between and within institutions. We'll talk at length about how higher education is a microcosm of many of the inequalities we see in the broader society, looking at issues of race, class, gender, and politics on campus. By taking a sociological lens to studying higher education, we'll learn a language and facility for rooting discussion of issues in higher education in theoretical grounding and empirical evidence. In so doing, students will develop the capacity to more critically assess research and public discourses on higher education, as well as their own work and experiences in the sector. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment Note: Undergraduate students must enroll in Educ. 4310, and graduate students must enroll in Educ. 5310.
Same as L12 Educ 4310
Credit 3 units. A&S IQ: SSC, SC EN: S

L40 SOC 5312 Race, Ethnicity, and Inequality
This graduate seminar is designed to be a foundational course for graduate students interested in race and ethnicity. Drawing primarily from sociological theory and research, we will interrogate the concepts of race and ethnicity as social constructions. This course provides an overview of major debates and theoretical and empirical approaches to the study of race, ethnicity, and racial inequality in Sociology. Prerequisites: There are no specific prerequisites but this course is intended for sociology graduate students. It is open to graduate students in other departments with instructor approval.
Credit 3 units.

L40 SOC 5313 Intersectionality: Theory, Method, and Praxis
This graduate-level seminar course draws on sociological research, while also drawing on other disciplines and texts by activists themselves. Students will consider intersectionality theory and its application and "travel" to various spaces including online. In what ways does intersectionality require critical race analysis? In what ways does intersectionality differ on the page as compared to embodied spaces such as social movements? Throughout the course, students will be attentive to the (seeming) tension between intersectionality as a theoretical tool and intersectionality as praxis. In addition to discussion of theory building and content, students will consider the politics of research and how these issues relate to students' own projects. To that end, students will practice a range of learning modalities. Prerequisite: graduate standing.
Credit 3 units.

L40 SOC 535A Qualifying Exam Paper - Area I
This course is a structured independent study for Sociology graduate students to work closely with their Qualifying Exam Area I faculty advisor as they prepare to undertake their Qualifying Exam Paper. Students should enroll in this course in the semesterthey anticipate completing their Qualifying Exam Paper - usually during the Spring term of one's third year in the program. Students must concurrently enroll in L40 SOC 535B - Qualifying Exam Paper - Area II with their Area II faculty advisor. This course pair may only be taken once. Students will be waitlisted until they submit the departmental Qualifying Exam Paper Committee Declaration form. This course is open only to Sociology graduate students.
Credit 1 unit.

L40 SOC 535B Qualifying Exam Paper - Area II
This course is a structured independent study for Sociology graduate students to work closely with their Qualifying Exam Area II faculty advisor as they prepare to undertake their Qualifying Exam Paper. Students should enroll in this course in the semester they anticipate completing their Qualifying Exam Paper - usually during the Spring term of one's third year in the program. Students must concurrently enroll in L40 SOC 535A - Qualifying Exam Paper - Area I with their Area I faculty advisor. This course pair may only be taken once. Students will be waitlisted until they submit the departmental Qualifying Exam Paper Committee Declaration form. This course is open only to Sociology graduate students.
Credit 1 unit.

L40 SOC 540 Sociology of Immigration
This course reviews theoretical and empirical research on how and why people migrate across international borders, and the consequences of international migration for immigrants and natives in the United States. While immigration is one of the most controversial issues in the contemporary United States, these contentious debates are not new. Americans once voiced the same concerns about the economic and social impact of Southern and Eastern European immigrants that today are aimed at immigrants from Latin America, Asia, Africa, and the Caribbean. In this course, students will compare historical (1880-1920) and contemporary (1965-present) waves of immigration to the United States. In this, students will explore why and how people migrate; immigrant integration; the impact of immigration on native-born Americans; and how government policies - at the national, state, and local level - shape immigrant assimilation and what it means to be considered truly "American" in a social as well as a legal sense. Prerequisite: successful completion of an introductory Sociology course or consent of the instructor.
Same as L40 SOC 3710
Credit 3 units. A&S IQ: SSC, SC, SD Arch: SSC Art: SSC BU: BA EN: S

L40 SOC 5450 Sociology Dissertation Proposal
This course is a structured independent study for Sociology graduate students to work closely with members of their dissertation committee members as they begin crafting their dissertation proposal. Enrolled students should anticipate defending their dissertation proposal before the conclusion of the term in which they take the course. Students should consult with their dissertation chair and the DGS prior to registration. Students will be waitlisted until they submit the departmental Dissertation Proposal Committee Declaration form to the Academic Coordinator. This course is open only to Sociology graduate students.
Credit 1 unit.

L40 SOC 5515 Migration and Health
This course explores the complex relationship between migration and health, with a focus on immigrant health in the United States. Topics include the immigrant health paradox, the impact of immigration enforcement on health and health behavior, access to health care, the health effects of migration on those left behind, and refugee health. Throughout the course, students will pay particular attention to the diverse mechanisms through which immigration and immigration status affect health. In addition to sociology, students will draw on scholarship from the fields of anthropology, demography, medicine, public health, and public policy. Prerequisite: successful completion of an introductory Sociology course or consent of instructor. Graduate students should enroll in the 500-level offering.
Same as L40 SOC 4515
Credit 3 units. A&S IQ: SSC, SC Arch: SSC Art: SSC BU: BA EN: S

L40 SOC 5530 Sociology of Education
There are few institutions that nearly all Americans pass through, and schools are one of them; around fifty million students are enrolled in preK-12 schooling in the United States. As such, schools are an institution deserving of rigorous scrutiny and careful interrogation. But in studying K- 12 schools, we are in fact attending to a multitude of things - competing visions of and purposes for schools, and disparate experiences of accessing and navigating education that are widely divergent along axes of inequality. In this course, which will be conducted as a discussion-based seminar, we will engage with texts examining the enterprise of education from varied vantage points, but always through a sociological lens. We'll discuss the varied purposes theorists and practitioners envision for schools, and the extent to which schools live up to those ideals. We'll talk at length about how schools are a microcosm of many of the inequalities we see in the broader society, looking at issues of race, class, gender, and place. By taking a sociological lens to studying education, we'll learn a language and facility for rooting discussion of issues in education in theoretical grounding and empirical evidence. In so doing, students will develop the capacity to more critically assess scholarly research and public discourses on education, as well as their own experiences. Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment note: All students are enrolled onto the waitlist. Priority is given to Department of Education majors, minors, and graduate students. Undergraduate students must enroll in Educ. 453B and graduate students must enroll in Educ. 5530
Same as L12 Educ 453B
Credit 3 units. A&S IQ: SSC, SC, SD Arch: SSC Art: SSC BU: BA, ETH EN: S

L40 SOC 558 Sociological Theory
This course provides the theoretical basis for advanced sociological inquiry. Students will engage with the works of both classical and contemporary authors, exploring their contributions to the discipline of sociology and fields adjacent to it. Open exclusively to first-year sociology graduate students.
Credit 3 units.

L40 SOC 5601 Historical Racial Violence: Legacies & Reckonings
There is growing awareness of the legacies of historical racial violence in the United States and a related increase in reckoning efforts. Area histories of enslavement, lynching, and other racial terror and dispossession relate to inequality, conflict, and violence in the same places today. These 'haunting legacies' include heart disease and other health disparity, homicide rates, white supremacist mobilization, and corporal punishment in schools. Meanwhile, many communities and institutions are moving to acknowledge and address legacies of historical racial violence in various ways. This course combines seminar-style readings and writing on legacies of racial violence with a practicum component, where individual students or groups of students will conceptualize and develop interventions intended to clarify and disrupt legacies of racial violence, facilitating contemporary reckoning.

The practicum will explore and support a broad range of interventive efforts, including public policy measures, original research projects, archival development, commemorative efforts, and a related array of mediums, including visual art, design, film, digital projects, and other creative approaches.
Same as L90 AFAS 4601
Credit 3 units. A&S IQ: SSC, SC, SD Arch: SSC Art: SSC BU: BA EN: S

L40 SOC 5621 Politics of Education
In this course, politics is interpreted broadly to include both formal policy-making processes and any situation in which people have to solve a problem or come to a decision. The purpose of this course is to explore the following processes: (1) how ideologies and power dynamics influence educational policies and decisions; (2) how educational policies and decisions translate into specific school programs and practices; (3) how specific programs and practices influence pedagogies, especially in the relationships among students, teachers, and knowledge pedagogies; (4) how these pedagogies impact student opportunities and outcomes; and (5) how student outcomes and opportunities reinforce ideologies and power dynamics. This course considers politics across time, space, and individuals, noting how historical, geographical, cultural, social, psychological, political, and economic contexts can shape the politics of education. In addition, as this course considers the relationship between politics and power, we explore how politics can manifest itself in ways that promote exclusion and subjugation or work toward the common good. Finally, after carefully examining the research on inequalities and inefficiencies resulting from the current politics of education, we will transition from problem identification (i.e., "What went wrong?") to problem solution (i.e., "Where do we go from here?"). Prerequisite: Completion of any 1000, 2000, or 3000-level Education course, graduate standing, or permission of instructor. Enrollment Note: All students are enrolled onto the waitlist. Priority is given to Department of Education majors, minors, and graduate students. Undergraduate students must enroll in Educ. 462, and graduate students must enroll in Educ. 5620.
Same as L12 Educ 462
Credit 3 units. A&S IQ: SSC, SC, SD Arch: SSC Art: SSC EN: S

L40 SOC 5720 Race, Reproduction, and Justice
Reproduction is biological, economic, political, and social. Of course, individuals reproduce, but when, how, why, and with whom we do (or do not) is also a matter of public policy and social concern. Drawing on readings from sociology, law and other fields that engage continually with these key questions: Why is reproduction an important site through which to understand sociology? How do statuses such as race, class, gender, sexuality, and ability influence people's reproductive possibilities? How have communities supported or resisted efforts at reproductive control? Why is reproductive justice central to these answers? Students will review theoretical pieces, empirical research, media and more to explore the answers. This course primarily focuses on the US but will expose students to global reproductive concerns. Class sessions include lecture, in-class discussion and online discussion, media analysis and other activities. This upper-level seminar presumes an understanding of the basic concepts in sociology such as sociological imagination and social construction. Prerequisite: successful completion of an introductory-level Sociology course or consent of the instructor. Graduate students should enroll in this 500-level offering.
Same as L40 SOC 4720
Credit 3 units. A&S IQ: SSC, SC EN: S

L40 SOC 5884 Advanced Seminar: The Roots of the American Working Class: Myths, Realities, Histories
The diverse realities of American labor and working-class experience have long been submerged under layers of politics and ideology. How should we study the lives of working people? What questions should we ask? Where do we go to answer them? This research seminar engages the lived experiences of the American working classes, in all their complexity, over the long 19th- and 20th-centuries, to the present. The course has the double project of (1) exploring the roots of mythologies about American working people that have the effect of distorting or erasing their experiences, efforts and accomplishments, and struggles for organization, visibility, citizenship, and power, with special attention to mythologies about American workers who are non-white, non-male, and non-U.S.-born who did/do not fit conventional tropes of "American labor" or "the white worker"; and (2) exploring the roots of working people's experiences, as shaped by forces of technology, class, race, gender and sexuality, religion, nationalism, and violence : what are the challenges, conceptual and archival, of studying the people, in their working and familial/community lives, as producers and consumers, in their organizing efforts, and in their civic and political capacities? How did the transformation of work, technology, culture, and society over this long era from Enslavement to Artificial Intelligence, from Blackface Minstrelsy to Hip Hop, shape working people's lives and struggles? How did working people survive cataclysmic crises, from the Civil War to Covid, and mold the evolution of American citizenship and democracy? Each student will produce a 12-15 page original research paper related to the course material, based on an analysis of primary sources, in consultation with the instructor, and due at the end of the semester; the course is designed to closely mentor students in this project.
Same as L22 History 4884
Credit 3 units. A&S IQ: HUM, SC EN: H

Sociology, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Overview

The PhD program is a six-year degree program. Although students will normally earn a master's degree on the way to the PhD, we do not offer a standalone master's degree program. All required course work is meant to be completed within the first three years, although students may continue to take elective courses after the third year, especially if they pursue a graduate certificate in an adjacent field. The program is designed in an integrated and streamlined way so that students have ample opportunity to develop research on their own and with faculty and peers. Alongside required course work and milestones, graduate students will be expected to participate in professional socialization activities including departmental colloquiums, departmental workshops, and departmental mini-conferences, among other opportunities.

Program Requirements

- **Total Units Required: 42** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 6 years**
  - Students are expected to complete all milestones and course work (detailed below) within six years.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.
  - Sociology assures funding for up to 12 semesters for full-time students in good academic standing. Summer course work will not be covered without prior approval from the Department and the Office of Graduate Studies.

Dissertation

The PhD dissertation should be an integrated, coherent, and original work. It may be modeled on a book manuscript that builds from an introduction and description of the research to a series of empirical chapters. Alternatively, it may take a "three-paper" format, in which each chapter takes the form of a paper that could be submitted for publication on its own. According to the degree requirements of the Office of Graduate Studies, Arts & Sciences, the dissertation must be defended before a committee of five faculty members, including at least three faculty members from this department and one person from another department or university.

Required Courses

Students must earn at least a B- in each core course listed below in order to count toward program credit. Additionally, students must maintain a *minimum* GPA of 3.3 across all required Sociology courses, as well as a *minimum* cumulative GPA of at least 3.0 across all courses taken.

- Mentored Research Experience (3 semesters, 1 unit each)
  - During their first three semesters, students will engage in a required collaborative research project with an assigned faculty mentor. These research collaborations will integrate students into a faculty member's research as to strengthen students' research and analytical skills. Students will work closely with their faculty mentor - ideally to produce a jointly-authored publication early in the student's program of study and ensure a strong foundation for the student's own research agenda. These collaborations will often continue informally past the third semester.
- Central Questions and Approaches in Sociology (2 units)
- Professional Development (1 unit)
- Sociological Theory (3 units)
- Quantitative Methods I and II (two-semester sequence, 3 units each)
- Qualitative Methods (3 units)
- Mentored Teaching/Professional Experience (3 semesters, 0 credits each)
  - Students participate in a Mentored Experience for at least three semesters. At least two of those Mentored Experiences will be Mentored Teaching Experiences (MTEs), and one may be a Mentored Professional Experience (MPE). Most students will engage in a Mentored Teaching Experience for three semesters. Students who wish to teach independently at Washington University must complete all three Mentored Teaching Experiences; those who do not will not be eligible for teaching assignments.
- Research Design (3 units)
- Professional Writing (3 units)
- 15 credits of elective course work (typically, 5 courses of 3 units each)
  - Other substantive or methods courses in sociology will be offered that reflect our faculty's research and methodological areas of expertise. With departmental approval, advanced methods courses and courses pertaining directly to the student's research interests may be taken in other departments and count toward degree requirements. Course work that has not been approved for elective use by the Graduate Committee will not count toward program requirements, but may fulfill other certificate or Arts & Sciences requisites.
- Sociology Master's Thesis (3 units)
  - The master's thesis/empirical paper is an important milestone and a major publication opportunity. No later than midway through the second year, students will assemble a committee of three faculty members who will detailed collective feedback on their research. By the end of the summer after their second year, students will complete a draft of their thesis/paper and submit it to their advisor for feedback. By the end of the fifth semester, students will have polished their thesis/paper in the professional writing seminar, defended it before their faculty committee, and submitted the research for publication.
- Qualifying Exam Paper: Areas I and II (1 unit each)
  - After completing the required course work and the master's thesis/empirical paper, students will write one qualifying exam paper that demonstrates their expertise in two particular subfields of the discipline. Students will develop *two* reading lists formed in collaboration with faculty that contains central contributions to the Department's major areas of study, such as race and ethnicity, gender and family, immigration, political sociology and social movements, work and organizations, policing and criminal justice, and community and urban sociology. Students will be encouraged to add supplemental readings that pertain to their specific emerging research interests.

- After reading the material on the two lists, students will write an integrative paper that identifies important areas of overlap or divergence in the two sociological subfields, that applies insights from one subfield to another, or that otherwise reviews the existing research in a novel way. This process should produce a paper with original insights and potentially be suitable for publication in one of several journals that explicitly welcomes agenda-setting or review articles. This paper will typically be completed by the end of the third year.

- Dissertation Proposal (1 unit)
  - After completing the qualifying exam paper, students should write a dissertation proposal that describes the motivation and plan for their research. They will receive feedback on drafts of the proposal from a committee they have assembled that consists of at least three faculty members. A final dissertation proposal must be defended before the committee no later than the second semester of the fourth year.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the

defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way/ In Lieu of a PhD

Students who wish to earn a master's degree as a part of their broader doctoral study may do so by completing all relevant course work and milestones. Please reference the most recent version of the posted Sociology Graduate Handbook for details. The Washington University Department of Sociology does not offer a standalone master's degree.

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Statistics and Data Science

Statistics — as a core discipline focusing on data-driven discovery, understanding, and decision-making — is rapidly evolving and advancing in the data science era. The new Department of Statistics and Data Science (SDS) strives to be a world-class department with outstanding scholars who will transform the university's intellectual community not only through their own activities and achievements but also through synergistic collaborations with existing faculty and departments across Arts & Sciences, the McKelvey School of Engineering, and all of the other schools at the university.

SDS offers two master's degree programs in statistics and one doctoral degree in statistics. Our master's and PhD graduates regularly secure competitive positions at universities, at government institutions, and as statisticians and data scientists in industry. One of the most attractive features of our program is the friendly and supportive atmosphere that develops among our graduate students.

PhD in Statistics

Students ordinarily complete the PhD program in five years, and those students may expect up to five years of support. Continuation of support each year is dependent upon normal progress toward the degree and the satisfactory performance of duties. Students typically spend their first two years (four semesters) taking graduate courses. At the end of this time, they will have completed requirements for the master's degree. Students ordinarily start the process of finding a dissertation advisor and start their research during their second year.

A student who comes to Washington University with advanced preparation may finish in less time. Alternatively, some students find that it is advisable for them to take some preparatory courses before attempting the qualifying courses. In special cases, the time schedule may be lengthened accordingly.

Washington University's graduate student stipends are in the top 25% of stipends at similar universities, and St. Louis has a low cost of living.

Master of Arts in Statistics

SDS offers two standalone Master of Arts (AM) programs. The Accelerated AB/AM in Statistics is available only to qualified Washington University undergraduates. The AM in Statistics is available to all qualified students from any field. These programs provide students with the analytical background needed to prepare them for diverse careers, from positions in government and business to further PhD studies.

The regular AM in Statistics consists of 36 units of course work to be completed in three to four semesters. After completing a well-designed and judiciously chosen set of core courses (currently five), AM students can choose from a wide range of electives that includes several courses from other departments. AM students can also challenge themselves to take the more advanced Statistics PhD qualifier courses to prepare them for further PhD programs upon graduation. High-achieving students may also choose to complete a master's thesis.

Another distinctive feature of our program is a practical training experience, which will typically involve an internship off campus or working in a research group on campus.

The Accelerated AB/AM in Statistics allows highly qualified undergraduate majors to earn both the AB and AM degrees with two additional semesters of work (i.e., usually a total of five years). Participants can count up to 15 units of 400-/500-level course work earned during the four years of undergraduate study (with grades of B or better) toward the AM course requirements. Counting these 15 units makes it possible to finish the master's requirements in one additional year, but the program is still fast-paced and requires a lot of intense work and some careful planning. SDS expects applicants to have backgrounds comparable to the students admitted to the regular AM program.

Overview of Faculty Research

The interdisciplinary interests of our faculty span a broad range of areas including the application of statistics and data science to medicine, finance, environmental sciences, and technology. Research interests of our faculty include the following:

1. Bioinformatics
2. Bootstrap methodology
3. Environmental statistics
4. Functional data analysis
5. High-dimensional statistics
6. Statistical computing for massive data
7. Mathematical and statistical finance
8. Model selection and post-selection inference
9. Network analysis
10. Objective Bayes
11. Robust statistics
12. Statistical and machine learning
13. Time series and spatial statistics

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Faculty

Chair

Xuming He
Kotzubei-Beckmann Distinguished Professor
PhD, University of Illinois at Urbana-Champaign
Robust statistics; quantile regression; Bayesian inference; post-selection inference

Director of Graduate Studies, PhD Program

José Figueroa-López
Professor
PhD, Georgia Institute of Technology
Inference methods for stochastic processes based on high-frequency sampling data; nonparametric estimation and model selection methods; time series analysis; high-frequency algorithmic trading, limit order book modeling, and asset price formation

Director of Graduate Studies, AM Program

Nan Lin
Professor
PhD, University of Illinois at Urbana–Champaign
Statistical computing in massive data, bioinformatics, Bayesian quantile regression, longitudinal data and functional data analysis, and statistical applications in anesthesiology

Department Faculty

Nilanjan Chakraborty
William Chauvenet Postdoctoral Lecturer
PhD, Michigan State University
High dimensional inference; time series; bootstrap

Likai Chen
Assistant Professor
PhD, University of Chicago
Time series; high dimensional data analysis; statistical learning theory

Jimin Ding
Associate Professor
PhD, University of California, Davis
Survival analysis; longitudinal data analysis; joint modeling of longitudinal and survival data; functional data analysis; nonparametric smoothing methods; systems of differential equations; dynamical systems; profile likelihood; asymptotic theories

Abigail Jager
Senior Lecturer
PhD, University of Chicago
Statistics; causal inference

Chetkar Jha
Postdoctoral Lecturer
PhD, University of Missouri–Columbia
Hierarchical Bayesian methods; high-dimensional data analysis; network analysis with applications to biomedical datasets such as single-cell RNA sequencing datasets; SNP genotyping datasets

Todd Kuffner
Associate Professor
PhD, Imperial College London
Statistics; econometrics; Bayesian asymptotics; applications of differential geometry to statistics; empirical likelihood; variable and model selection methods

Soumendra Lahiri
Stanley A. Sawyer Professor
PhD, Michigan State University
Asymptotic expansions, astrostatistics, inference for high dimensional and massive data sets, machine learning and predictive modeling, resampling and computer intensive methods, spatial statistics, time series and econometrics

Robert Lunde
Assistant Professor
PhD, Carnegie Mellon University
Statistical network analysis; time series; resampling methods; high-dimensional statistics

Debashis Mondal
Associate Professor
PhD, University of Washington
Spatial statistics; computational science; machine learning; applications in ecology (including microbial ecology); environmental sciences

Debjoy Thakur
Postdoctoral Lecturer
PhD, Indian Institute of Technology
Spatial statistics, resampling method, copula, spatial extreme, statistical neural network

Bowen Xie
Postdoctoral Lecturer
PhD, Iowa State University
Queuing theory; stochastic control problems; mathematical finance

Degree Requirements

- Statistics, Accelerated AB/AM (p. 417)
- Statistics, AM (p. 418)
- Statistics, PhD (p. 419)

Courses

Visit online course listings to view semester offerings for L87 SDS.

L87 SDS 500 Independent Work
Prerequisites: graduate standing (or, for advanced undergraduates permission of the Department's Director of Undergraduate Studies)
Credit variable, maximum 6 units.

L87 SDS 5010 Probability
Mathematical theory and application of classical probability at the advanced level; a calculus based introduction to probability theory. Topics include the computational basics of probability theory, combinatorial methods, conditional probability including Bayes' theorem, random variables and distributions, expectations and moments, the classical distributions, and the central limit theorem. Prerequisites: Mutivariate Calculus (Math 233); a course in linear algebra at the level of Math 309 or Math 429. Some knowledge of basic ideas from analysis (e.g. Math 4111) will be helpful: consult with instructor.
Credit 3 units. Art: NSM

L87 SDS 5020 Mathematical Statistics
Theory of estimation, minimum variance and unbiased estimators, maximum likelihood theory, Bayesian estimation, prior and posterior distributions, confidence intervals for general estimators, standard estimators and distributions such as the Student-t and F-distribution from a more advanced viewpoint, hypothesis testing, the Neymann-Pearson Lemma (about best possible tests), linear models, and other topics as time permits. Prerequisite: CSE 131 or 200, Math/SDS 3200 and Math/SDS 493.
Same as L87 SDS 494
Credit 3 units. A&S IQ: NSM Art: NSM

L87 SDS 5061 Theory of Statistics I
An introductory graduate level course. Probability spaces; derivation and transformation of probability distributions; generating functions and characteristic functions; law of large numbers, central limit theorem; exponential family; sufficiency, uniformly minimum variance unbiased estimators, Rao-Blackwell theorem, information inequality; maximum likelihood estimation; estimating equation; Bayesian estimation; minimax estimation; basics of decision theory. Prerequisite: Math/SDS 493 or the equivalent. Some knowledge of basic ideas from analysis (e.g. Math 4111) will be helpful: consult with instructor.
Credit 3 units.

L87 SDS 5062 Theory of Statistics II
Continuation of Math/SDS 5061. Prerequisite: Math/SDS 5061 or permission of instructor.
Credit 3 units.

L87 SDS 5070 Stochastic Processes
Content varies with each offering of the course. Past offerings have included such topics as random walks, Markov chains, Gaussian processes, empirical processes, Markov jump processes, and a short introduction to martingales, Brownian motion and stochastic integrals. Prerequisites: Math 309; Math/SDS 493 or Math/SDS 3211.
Same as L87 SDS 495
Credit 3 units. A&S IQ: NSM Art: NSM

L87 SDS 5071 Advanced Linear Models I
Theory and practice of linear regression, analysis of variance (ANOVA) and their extensions, including testing, estimation, confidence interval procedures, modeling, regression diagnostics and plots, polynomial regression, collinearity and confounding, and model selection. The theory will be approached mainly from the frequentist perspective and use of statistical software (mostly R) to analyze data will emphasized. Prerequisites: an introductory statistics course at the level of Math/SDS 3200; a course in linear algebra at the level of Math 309 or 429; some acquaintance with fundamentals of computer programming (CSE 131); Math/SDS 493.
Credit 3 units.

L87 SDS 5072 Advanced Linear Models II
Generalized linear models including logistic and Poisson regression (hetrogeneous vairance structure, quasi-likelihood), linear mixed-effects models (estimation of variance components, maximum likelihood estimation, restricted maximum likelihood, generalized estimating equations), generalized linear mixed-effects models for discrete data, models for longitudinal data, and optional multivariate models as time permits. The computer software R will be used for examples and homework problems. Implementation in SAS will be mentioned for several specialized models. Prerequisites: Math/SDS 5071 and a course on mathematical statistics at the level of Math/SDS 494 (can be taken concurrently).
Credit 3 units.

L87 SDS 507M Statistics for Medical and Public Health Researchers
This course is an introduction to basic statistical analysis for graduate students in medicine, biology, and public health. Students will be introduced to core statistical tools used to study human health outcomes. Topics include: measurement, descriptive analysis, correlation, graphical analysis, hypothesis testing, confidence intervals, analysis of variance, and regression analysis. Major components of the course include learning how to collect, manage, and analyze data

using computer software, and how to effectively communicate to others results from statistical analyses. The second aspect of the course is focused on the statistical package R, which is is the most powerful, extensively featured, and capable statistical computing tool available. Course may not be used for credit in undergraduate math major/minor programs, nor in any Mathematics or Statistics graduate programs. Prerequisite: Current graduate enrollment in a program in DBBS, medicine or public health, or permission of instructor.
Credit 3 units.

L87 SDS 5111 Experimental Design
A first course in the design and analysis of experiments, from the point of view of regression. Factorial, randomized block, split-plot, Latin square, and similar design. Prerequisite: CSE 131 or 200; Math/SDS 3200, or Math/SDS 3211.
Same as L87 SDS 420
Credit 3 units. A&S IQ: NSM Art: NSM

L87 SDS 5120 Survival Analysis
Life table analysis and testing, mortality and failure rates, Kaplan-Meier or product-limit estimators, hypothesis testing and estimation in the presence of random arrivals and departures, and the Cox proportional hazards model. Techniques of survival analysis are used in medical research, industrial planning and the insurance industry. Prerequisites: CSE 131 or 200; Math 309 or 429; Math/SDS 3200 or Math/SDS 3211.
Same as L87 SDS 434
Credit 3 units. A&S IQ: NSM

L87 SDS 5130 Linear Statistical Models
Theory and practice of linear regression, analysis of variance (ANOVA) and their extensions, including testing, estimation, confidence interval procedures, modeling, regression diagnostics and plots, polynomial regression, colinearity and confounding, model selection, geometry of least squares, etc. The theory will be approached mainly from the frequentist perspective and use of the computer (mostly R) to analyze data will be emphasized. Prerequisite: CSE 131 or 200; a course in linear algebra (such as Math 309 or 429); Math/SDS 3211 or Math/SDS 3200 and Math/SDS 493 (493 can be taken concurrently). If Math/SDS 3211 is taken, Math/SDS 493 is not required.
Same as L87 SDS 439
Credit 3 units. A&S IQ: NSM Art: NSM

L87 SDS 5140 Advanced Linear Statistical Models
Review of basic linear models relevant for the course; generalized linear models including logistic and Poisson regression (heterogeneous variance structure, quasilikelihood); linear mixed-effects models (estimation of variance components, maximum likelihood estimation, restricted maximum likelihood, generalized estimating equations), generalized linear mixed-effects models for discrete data, models for longitudinal data, optional multivariate models as time permits. The computer software R will be used for examples and homework problems. Implementation in SAS will be mentioned for several specialized models. Prerequisites: Math/SDS 439 and a course in linear algebra (such as Math 309 or 429).
Same as L87 SDS 4392
Credit 3 units. A&S IQ: NSM

L87 SDS 5155 Time Series Analysis
Time series data types; autocorrelation; stationarity and nonstationarity; autoregressive moving average models; model selection methods; bootstrap condence intervals; trend and seasonality; forecasting; nonlinear time series; filtering and smoothing; autoregressive conditional heteroscedasticity models; multivariate time series; vector autoregression; frequency domain; spectral density; state-space models; Kalman filter. Emphasis on real-world applications and data analysis using statistical software. Prerequisite: Math/SDS 493 or Math/SDS 3211; Math/SDS 3200, Math/SDS 494 or Math/SDS 4211.
Same as L87 SDS 461
Credit 3 units. A&S IQ: NSM Art: NSM

L87 SDS 5210 Statistical Computation
Introduction to modern computational statistics. Pseudo-random number generators; inverse transform and rejection sampling. Monte Carlo approximation. Nonparametric bootstrap procedures for bias and variance estimation; bootstrap confidence intervals. Markov chain Monte Carlo methods; Gibbs and Metropolis-Hastings sampling; tuning and convergence diagnostics. Cross-validation. Time permitting, optional topics include numerical analysis in R, density estimation, permutation tests, subsampling, and graphical models. Prior knowledge of R at the level used in Math 494 is required. Prerequisite: Math 233; Math 309 or 429; multivariable-calculus-based probability and mathematical statistics (Math/SDS 493-494 or Math/SDS 3211/4211), not taken concurrently; acquaintance with fundamentals of programming in R.
Same as L87 SDS 475
Credit 3 units. A&S IQ: NSM Art: NSM

L87 SDS 5211 Statistics for Data Science I
This course starts with an introduction to R that will be used to study and explore various features of data sets and summarize important features using R graphical tools. It also aims to provide theoretical tools to understand randomness through elementary probability and probability laws governing random variables and their interactions. It integrates analytical and computational tools to investigate statistical distributional properties of complex functions of data. The course lays the foundation for statistical inference and covers important estimation techniques and their properties. It also provides an introduction to more complex statistical inference concepts involving testing of hypotheses and interval estimation. Required for students pursuing a major in Data Science. Prerequisite: Multivariable Calculus (Math 233). No prior knowledge of Statistics is required. NOTE: Math/SDS 3211 and Math/SDS 3200 can not both count towards any major or minor in the Statistics and Data Science Department.
Same as L87 SDS 3211
Credit 3 units. A&S IQ: NSM, AN Art: NSM

L87 SDS 5310 Bayesian Statistics
Introduces the Bayesian approach to statistical inference for data analysis in a variety of applications. Topics include: comparison of Bayesian and frequentist methods, Bayesian model specification, choice of priors, computational methods such as rejection sampling, and stochastic simulation (Markov chain Monte Carlo), empirical Bayes method, hands-on Bayesian data analysis using appropriate software. Prerequisite: CSE 131; Math 309; multivariable-calculus-based probability and mathematical statistics (Math/SDS 493-494 or Math/SDS 3211/4211).
Same as L87 SDS 459
Credit 3 units. A&S IQ: NSM

L87 SDS 533 Mathematical Statistics I
Credit 3 units.

L87 SDS 5430 Multivariate Statistical Analysis
A modern course in multivariate statistics. Elements of classical multivariate analysis as needed, including multivariate normal and Wishart distributions. Clustering; principal component analysis. Model selection and evaluation; prediction error; variable selection; stepwise regression; regularized regression. Cross-validation. Classification;

linear discriminant analysis. Tree-based methods. Time permitting, optional topics may include nonparametric density estimation, multivariate regression, support vector machines, and random forests. Prerequisite: CSE 131; Math 233; Math 309 or Math 429; multivariable-calculus-based probability and mathematical statistics (Math/SDS 493-494 or Math/SDS 3211/4211); Math/SDS 439. Prior knowledge of R at the level introduced in Math/SDS 439 is assumed.
Same as L87 SDS 460
Credit 3 units. A&S IQ: NSM

L87 SDS 5440 Mathematical Foundations of Big Data
Mathematical foundations of data science. Core topics include: Probability in high dimensions; curses and blessings of dimensionality; concentration of measure; matrix concentration inequalities. Essentials of random matrix theory. Randomized numerical linear algebra. Data clustering. Depending on time and interests, additional topics will be chosen from: Compressive sensing; efficient acquisition of data; sparsity; low-rank matrix recovery. Divide, conquer and combine methods. Elements of topological data analysis; point cloud; Cech complex; persistent homology. Selected aspects of high- dimensional computational geometry and dimension reduction; embeddings; Johnson-Lindenstrauss; sketching; random projections. Diffusion maps; manifold learning; intrinsic geometry of massive data sets. Optimization and stochastic gradient descent. Random graphs and complex networks. Combinatorial group testing. Prerequisite: Multivariable calculus (Math 233), linear or matrix algebra (Math 429 or 309), and multivariable-calculus-based probability and mathematical statistics (Math/SDS 493-494 or Math/SDS 3211/4211). Prior familiarity with analysis, topology, and geometry is strongly recommended. A willingness to learn new mathematics as needed is essential.
Same as L87 SDS 462
Credit 3 units. A&S IQ: NSM

L87 SDS 5480 Topics in Statistics
Topic varies with each offering.
Same as L87 SDS 496
Credit 3 units. A&S IQ: NSM Art: NSM

L87 SDS 551 Advanced Probability I
Credit 3 units.

L87 SDS 552 Advanced Probability II
Credit 3 units.

L87 SDS 553 Topics in Advanced Probability
Credit 3 units.

L87 SDS 5531 Advanced Statistical Computing I
This course is the first of a sequence of two courses on advanced methods and tools for Statistical Computing. The course sequence provides opportunities to develop programming skills, algorithmic thinking, and computing strategies for statistical research. Key topics in SDS 5531 include EM algorithms, dynamic programming, random number generation, Monte Carlo methods, Markov Chain Monte Carlo (MCMC) and other advanced variants. Prereq: Math 233; a course in linear algebra at level of Math 309 or Math 429; multivariable-calculus-based probability and mathematical statistics (Math/SDS 493-494 or Math/SDS 3211/4211); Experience with a high-level programming language like R, Python, C++, etc.
Credit 3 units.

L87 SDS 5532 Advanced Statistical Computing II
This is the second course on advanced methods and tools for Statistical Computing. This course will introduce classical methods, including the EM algorithm and its variants. It also will cover basic convex optimization theory and advanced computing tools and techniques for big data and learning algorithms. Prereq: Math 233; a course in linear algebra at level of Math 309 or Math 429; multivariable-calculus-based probability and mathematical statistics (Math/SDS 493-494 or Math/SDS 3211/4211); Experience with a high-level programming language like R, Python, C++, etc.
Credit 3 units.

L87 SDS 554 Topics in Advanced Probability II
Credit 3 units.

L87 SDS 5595 Topics in Statistics: Spatial Statistics
The course covers all three main branches of spatial statistics, namely, (1) the continuum spatial variations, (2) the discrete spatial variations and, (3) the spatial point patterns. Topics include positive definite functions, geostatistics, variograms, kriging, conditional simulations, Markov random fields, conditional and intrinsic autoregressions, Ising and Potts models, pseudolikelihood, MCMC, Inference for spatial generalized linear and mixed models, Spatial Poisson, and other point processes. The computer software R is used for examples and homework problems. Prerequisites: CSE 131; Math 233; Math 309 or Math 429; multivariable-calculus-based probability and mathematical statistics (Math/SDS 493-494 or Math/SDS 3211/4211); Math/SDS 439. Prior knowledge of R at the level introduced in Math/SDS 439 is assumed.
Same as L87 SDS 4971
Credit 3 units. A&S IQ: NSM Art: NSM

L87 SDS 579 Topics in Statistics
Credit 3 units.

L87 SDS 584C Multilevel Models in Quantative Research
This course covers statistical model development with explicitly defined hierarchies. Such multilevel specifications allow researchers to account for different structures in the data and provide for the modeling of variation between defined groups. The course begins with simple nested linear models and proceeds on to non-nested models, multilevel models with dichotomous outcomes, and multilevel generalized linear models. In each case, a Bayesian perspective on inference and computation is featured. The focus on the course will be practical steps for specifying, fitting, and checking multilevel models with much time spent on the details of computation in the R and Bugs environments. PREREQ: Math 2200, Math 3200, Poli Sci 581, or equivalent.
Same as L32 Pol Sci 584
Credit 3 units.

L87 SDS 586 Topics in Statistics
Credit 3 units.

L87 SDS 590 Research
See the beginning of the mathematics listings and register for the section corresponding to supervising instructor. Prerequisite: Graduate standing and permission of the instructor.
Credit variable, maximum 3 units.

L87 SDS 591 Practical Training in Statistics
The Master of Arts in Statistics program at Department of Statistics and Data Science, Washington University in St. Louis, requires students to participate in extensive practical training as an essential component of the degree program. The program requires all full-time students to participate in practical training at least for one semester or summer session during their degree study. This requirement should be completed prior to the last semester in the degree program. The requirement does not require registration for additional credit but does require registration by ALL students, regardless of citizenship or visa status, for the zero-credit practical training course MATH 591 for one semester or summer session in which a student participates in an internship or co-op. Practical training can be fulfilled by any one of the following three methods: 1. An off-campus Internship or Co-op position with an employer in the data science industry or data science related department of a company is STRONGLY RECOMMENDED as the most preferred component of the Practical Training. The position should be related to the Statistics curriculum and span at least four weeks in duration. The student is required to submit a written report after the internship ends. 2. On-campus research, or research project participation, where the research or project is related to data science under the sponsorship of one or more of a data science institution, industry practitioner or faculty member of Washington University in St. Louis. A detailed written report on the research or project participation should be submitted and approved by a faculty member in the Department of Mathematics and Statistics. 3. Participation in the colloquium or statistics seminar in Department of Mathematics and Statistics, or other data science related research colloquium and seminar talks at Washington University in St. Louis. Students must attend talks regularly. A written report should be submitted to summarize the problems, ideas, approaches and results learned from at least four talks, and provide additional information from further reading and research of the topic.

Statistics, Accelerated AB/AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin*.

Program Requirements

- **Total Units Required: 36 units**
- **Degree Length: Two additional semesters**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Statistics, Accelerate AB/AM

General Information: The Office of Graduate Studies in Arts & Sciences has an accelerated AB/Master's program in which highly qualified undergraduate majors can earn both the AB and AM degrees with two additional semesters of work (usually a total of five years). The department offers an AM degree in statistics.

This program is only for Washington University undergraduates who, if they participate, must do so in the academic year immediately following graduation (no deferments). According to the Office of Graduate Studies in Arts & Sciences, eligibility requires having completed the AB degree from Arts & Sciences (which would rule out, for example, a second major whose degree is from the McKelvey School of Engineering).

The application deadline (subject to change by the Office of Graduate Studies in Arts & Sciences) is the March 15 before beginning the AM program in the fall semester following the completion of the Washington University AB degree. Note that the application is made through the department, which forwards it to the Office of Graduate Studies in Arts & Sciences. Since relevant people in the department might not be available much during the summer months, it is best for students to complete the application by the end of the semester's classes.

General requirements: There are 36 units of course work required and an optional thesis; 3 units may be for thesis research. The minimum residence requirement is one full academic year of graduate study. A GPA of B (3.0) or better must be maintained in the graduate courses.

Optional thesis requirements: To be eligible for the thesis option, a student must maintain a cumulative GPA of 3.5 or higher in the first 18 units of courses satisfying the program requirements.

Required Courses

The program allows participants to count up to 15 units of 400-/500-level course work earned during the four years of undergraduate study (with grades of B or better) toward the AM course requirements. (*The point of the 15-unit limit is to avoid having majors push so much specialized work into the AB years that they limit their opportunities to do the exploration outside of the major that an undergraduate should do.*) Counting these 15 units makes it possible to finish the master's requirements in one additional year, but the program is still fast-paced and requires a lot of intense work and careful planning.

Careful course selection throughout the undergraduate program is required. Usually, the department will *not* recommend that the Office of Graduate Studies, Arts & Sciences, admit a major to this program unless the 15 applicable units of 400-/500-level work will be completed by the time of graduation. In addition, the department expects applicants to have backgrounds comparable to students admitted to the regular master's programs.

The student must take (or have taken) the following six required courses in statistics or their equivalents:

One of the following two sequences:

Code	Title	Units
SDS 5010 & SDS 5020	Probability and Mathematical Statistics	6
or SDS 5061 & SDS 5062	Theory of Statistics I and Theory of Statistics II	
Total Units		**6**

plus:

Code	Title	Units
SDS 5071	Advanced Linear Models I	3
or SDS 5130	Linear Statistical Models	
SDS 5210	Statistical Computation	3
SDS 5310	Bayesian Statistics	3
SDS 591	Practical Training in Statistics	0
Total Units		**9**

If an equivalent course has been taken and proficiency in the course material has been demonstrated, other 500-level and above electives may be substituted in consultation with the advisor. Additional 500-level or higher electives will be chosen by the student in consultation with their advisor to make up the 36 units. Typically, at most three electives shall be chosen from outside the Department of Statistics and Data Science.

Information about fundamental courses and eligible electives is available on the Master's Degree Program Structure page of the Department of Statistics and Data Science website.

Applying to the Program

The Department of Statistics and Data Science asks that interested majors apply to the program by the end of the fall semester of the senior year. If accepted, they must begin the program in the fall semester immediately after graduation: no deferred admissions are allowed by the Office of Graduate Studies, Arts & Sciences.

Students should fill out the application form found on the Department of Statistics and Data Science website and make an appointment to meet with the Administrative Assistant for the department's graduate programs, Mary Ann Stenner, in Cupples I, Room 100. She will clarify the rest of the procedure for students, which includes submitting the application for department consideration and getting the required signatures from the Chair of the Graduate Committee. If the department approves the application, Ms. Stenner will submit it to the Office of Graduate Studies, Arts & Sciences, which will make the final decision.

International Students

For students in the United States on a visa as undergraduates, staying on to complete an AM creates a change in visa status, which will involve reapplication paperwork. Interested students should check on the details with an international student advisor at the Office for International Students and Scholars.

Contact: José E. Figueroa-López
Email: sdsadvising@wustl.edu
Website: https://sds.wustl.edu/

Statistics, AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin*.

Program Requirements

- **Total Units Required: 36 units**
- **Degree Length: 3-4 semesters**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Master of Arts in Statistics

General requirements: There are 36 units of course work required and an optional thesis; 3 units may be for thesis research. The minimum residence requirement is one full academic year of graduate study. A GPA of B (3.0) or better must be maintained in graduate courses.

Optional thesis requirements: To be eligible for the thesis option, a student must maintain a cumulative GPA of 3.5 or higher in the first 18 units of courses satisfying the program requirements.

Course requirements: The student must take (or have taken) the following six required courses in statistics or their equivalents:

One of the following two sequences:

Code	Title	Units
SDS 5010 & SDS 5020	Probability and Mathematical Statistics	6
SDS 5061 & SDS 5062	Theory of Statistics I and Theory of Statistics II	6

plus:

Code	Title	Units
SDS 5071	Advanced Linear Models I	3
or SDS 5130	Linear Statistical Models	
SDS 5210	Statistical Computation (Or a suitable substitute elective approved by the department)	3
SDS 5310	Bayesian Statistics	3
SDS 591	Practical Training in Statistics	0

If an equivalent course has been taken and proficiency in the course material has been demonstrated, other 500-level and above electives may be substituted in consultation with the advisor. Additional 500-level or higher electives will be chosen by the student in consultation with their advisor to make up the 36 units. Typically, at most three electives shall be chosen from outside the Statistics and Data Science Department.

Information about fundamental courses and eligible electives is available on the Master's Degree Program Structure page of the Department of Statistics and Data Science website.

Accelerated AB/AM Degree in Statistics

The Department of Statistics and Data Science offers a Five-Year Accelerated Master's Degree to qualified Arts & Sciences undergraduate students at Washington University. More information about the Five-Year Accelerated Master's Degree program requirements and application process can be found on the Statistics, Accelerated AB/AM page (p. 417) of this *Bulletin*.

Master's Degree in Statistics for Political Science PhD Students

General requirements: This program is a tailored master's degree in statistics for graduate students in political science. Note that, while the program is designed to serve political science graduate students, it is run by the Department of Statistics and Data Science. Students interested in this program will need to begin their additional course work during their third year of study (or before). Students are encouraged to apply for the program in their third year, but they may prefer to try the additional courses first.

Requirements for admission:

- To be eligible for this program, students must have already passed Pol Sci 5052 Mathematical Modeling in Political Science, Pol Sci 581 Quantitative Political Methodology I, and Pol Sci 582 Quantitative Political Methodology II and earned a grade of A- or A in these courses. Although exceptions have been made in the grade requirements at the request of political science faculty, this decision is up to the Department of Statistics and Data Science.
- Students must obtain permission from the methodology field committee in the Department of Political Science.
- Students must formally apply to the Department of Statistics and Data Science Master of Arts program.

Modified course requirements for the degree: Students must meet the core course requirements for the traditional Master of Arts in Statistics (typically five courses), with two exceptions:

- SDS 5130 Linear Statistical Models may be replaced with Pol Sci 581 Quantitative Political Methodology I and Pol Sci 582 Quantitative Political Methodology II, with 3 additional credits produced.
- SDS 591 Practical Training in Statistics is not required.

There are three political science courses that count toward this master's degree in statistics that are required of all political science graduate students:

- Pol Sci 506 Theories of Individual and Collective Choice II
- Pol Sci 581 Quantitative Political Methodology I
- Pol Sci 582 Quantitative Political Methodology II

These additional details make a total 21 credits: 15 required credits from statistics courses, plus 3 additional credits from substituting Pol Sci 581 and Pol Sci 582 for SDS 5130 Linear Statistical Models, plus 3 credits from Pol Sci 506. Outstanding students who wish to not make the substitution can take SDS 5130 Linear Statistical Models and one additional SDS elective, but only with permission. The remaining 15 credits are completed through electives and an optional thesis.

Students may choose any electives acceptable for the traditional Master of Arts in Statistics. The following additional electives are also available for students in this program:

- Pol Sci 5024 Causal Inference
- Pol Sci 5625 Applied Statistical Programming
- Pol Sci 583 Topics in Quantitative Political Methodology: Computational Social Science

Thesis: To be eligible for the thesis option, a student must maintain a cumulative grade point average of 3.5 or above in the first two semesters (or 18 units) of course work satisfying the program requirements. A maximum of 3 units may be used for thesis research. The thesis must be supervised by faculty with an appointment in Mathematics and Statistics (e.g., a faculty member with a joint appointment in Political Science and Mathematics and Statistics).

Contact:	José E. Figueroa-López
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Statistics, PhD

Doctoral Candidacy

To earn a PhD at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; pass certain examinations; fulfill residence and Mentored Experience Requirements; write, defend, and submit a dissertation; and file an Intent to Graduate. For a general layout of doctoral degree

general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Doctoral Degree Academic Information page (p. 33) of the Arts & Sciences *Bulletin.*

Program Requirements

- **Total Units Required: 72** (**Note:** Remission applies for a maximum of 72 graduate-level units.)
- **Degree Length: 4-6 years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

PhD in Statistics

Degree Requirements Summary

A total of 72 graduate units are required, consisting of the following:

- 18 required coursework units in fundamental topics and exam fields
- 18 elective coursework units
- Two qualifying exams in statistics
- Teaching Requirement for PhD Students from the Office of Graduate Studies, Arts & Sciences
- Oral presentation
- Dissertation research, thesis preparation, and defense (up to 36 optional coursework units)

General requirements: Completion of the PhD requires at least four full years of graduate study (72 units), with at least 48 units completed in residence at Washington University. The student must spend at least one academic year as a full-time student; this requirement cannot be met wholly by summer sessions or part-time study. The student may, with departmental permission, transfer a maximum of 24 graduate credits from other universities. The typical course load is 9 credit units per semester. A GPA of B (3.0) or better is required in graduate course work.

Graduate students in statistics may ordinarily expect up to five years of support. Continuation of support each year is dependent upon normal progress toward the degree and the satisfactory performance of duties. Teaching experience is an increasingly important component of graduate education for students who seek academic employment. The PhD in statistics program provides the opportunity for students to work as Assistants to the Instructor and to learn how to teach technical topics to students with a wide range of backgrounds.

For the well-prepared student, "normal progress" usually means the following:

- At the end of the second year, the student has successfully passed the two statistical qualifying exams associated with SDS 5061 Theory of Statistics I–SDS 5062 Theory of Statistics II and SDS 5071 Advanced Linear Models I–SDS 5072 Advanced Linear Models II . They have also completed the courses SDS 5310 Bayesian Statistics and SDS 5210 Statistical Computation.
- At the end of the third year, the student has completed the candidacy requirement.
- At the end of the fourth year, the student has completed the 72-unit course requirement and is making substantial progress on a thesis.

Students must also complete the Teaching Seminar course (Math 597), which prepares them for both Assistant to the Instructor work and academic teaching duties, which are integral to all scholarly activities. For a typical PhD student, the course is taken twice: once in the spring of the first year and again in the fall of the second year. Each student will have departmental duties (e.g., grading, proctoring) of no more than 15 hours per week as Assistant to the Instructor. Students must also complete a Professional Development course (Math 598).

Please note that the sequence outlined above is for "well-prepared" students. The exact point at which any student enters the sequence depends on their ability and background. When warranted, deviation from the normal sequence is permissible, and a tailored program that fits the student's ability and background will be followed.

Specific course requirements: The 72 units of course work must include two basic graduate-level sequences in statistics: SDS 5061 Theory of Statistics I–SDS 5062 Theory of Statistics II and SDS 5071 Advanced Linear Models I–SDS 5072 Advanced Linear Models II; the following statistics courses: SDS 5310 Bayesian Statistics and SDS 5210 Statistical Computation. In exceptional circumstances, departmental permission may be requested to replace one of these sequences with a suitable alternative. The student may also petition the department to waive one or more of these sequences because of work completed previously.

Prerequisites, if needed, are advanced undergraduate courses in linear algebra and real analysis. Such courses would count as 0 credits toward the PhD degree.

It is in each student's best interest to take the two sequences that contain the material covered in the qualifying exams as soon as their individual program allows. Sequels to these courses, at the 500 level, are frequently offered. The qualifying exam courses are generally prerequisites to these 500-level courses.

Prior to finding a research advisor, students are welcome to take any of the Department of Statistics and Data Science 500-level statistics electives, and they may also take reading courses with statistics faculty members (SDS 500/Math 590 Research). Statistics electives offered by the department include the following:

Code	Title	Units
SDS 5070	Stochastic Processes	3
SDS 5120	Survival Analysis	3
SDS 5155	Time Series Analysis	3
SDS 5210	Statistical Computation	3
SDS 5310	Bayesian Statistics	3

SDS 5430	Multivariate Statistical Analysis	3
SDS 5440	Mathematical Foundations of Big Data	3
SDS 5480	Topics in Statistics	3
SDS 5531	Advanced Statistical Computing I	3
SDS 5532	Advanced Statistical Computing II	3
SDS 5595	Topics in Statistics: Spatial Statistics	3
SDS 579	Topics in Statistics	3

Prior to finding a research advisor, students may submit a request to the graduate committee to take a course outside of the department. A decision on such requests will be made in consultation with statistics faculty members.

Students are encouraged to take reading courses with department faculty to learn about the research interests of potential advisors. After the student has found a research advisor and a research topic, the advisor may suggest that the student take some additional courses from other departments that may be useful for the student's research program.

Elective courses taken in other departments allow students to supplement their statistics coursework with other topics that may be helpful for their research and professional development. Some popular elective courses offered by other departments include the following:

Code	Title	Units
CSE 511A	Introduction to Artificial Intelligence	3
CSE 514A	Data Mining	3
CSE 517A	Machine Learning	3
CSE 519T	Advanced Machine Learning	3
CSE 541T	Advanced Algorithms	3
Econ 5145	Advanced Theoretical Econometrics	3
ESE 405	Reliability and Quality Control	3
ESE 407	Analysis and Simulation of Discrete Event Systems	3
ESE 415	Optimization	3
ESE 425	Random Processes and Kalman Filtering	3
ESE 428	Probability	3
ESE 520	Probability and Stochastic Processes	3
ESE 521	Random Variables and Stochastic Processes I	3
ESE 522	Random Variables and Stochastic Processes II	3
ESE 523	Information Theory	3
PHS 550	Randomized Controlled Trials	3
Math 5160	Complex Variables	3
Math 5051	Measure Theory and Functional Analysis I	3
Math 5052	Measure Theory and Functional Analysis II	3
Math 5501	Numerical Applied Mathematics	3
Math 5560	Topics in Financial Mathematics	3
MSB 623	Advanced Topics in Biostatistics	3

Language requirement: All students must demonstrate proficiency in English.

If English is not the student's native language, they must pass an oral English proficiency exam with a grade of 3 or better. If the student does not score a 3 the first time they take the exam, the director of English Language Programs for Arts & Sciences will recommend that the student take one or more classes to improve reading, writing, pronunciation, listening, or speaking skills. After the recommended classes have been completed, the student is required to retake the English proficiency exam. Once the student has demonstrated the ability to handle teaching a class (by scoring a 3 or better on the exam), they will qualify for Assistant to the Instructor or Course Instructor duties.

Qualifying examinations and candidacy requirements: The qualifying exam and candidacy requirements constitute two separate requirements. The qualifying exam is a series of two written tests that cover a range of topics; the candidacy requirement is an oral presentation and thesis proposal.

The written tests cover the material in the two basic statistics course sequences, SDS 5061 Theory of Statistics I–SDS 5062 Theory of Statistics II and SDS 5071 Advanced Linear Models I–SDS 5072 Advanced Linear Models II. Each spring, at the end of the SDS 5061 Theory of Statistics I–SDS 5062 Theory of Statistics II and SDS 5071 Advanced Linear Models I–SDS 5072 Advanced Linear Models II sequences, all students enrolled in these courses take a two-hour final exam; this exam usually covers the second half of the sequence. Doctoral candidates take an additional one-hour exam that covers the entire sequence. To pass the qualifying exam, the student must pass the three-hour combined exam.

Because each sequence varies somewhat in content from year to year, it is recommended that the student take each set of exams at the conclusion of the sequence in which they are enrolled. No advantage is gained by delaying the exam for a year. It is desirable to make every effort to finish all three exams by the end of the second year of study.

Some students will enter the PhD program with previously acquired expertise in one or more of the three basic sequences. This situation sometimes happens with students who transfer from other PhD programs or who come from certain foreign countries. Such students may formally petition the chair of the graduate committee to be exempted from the appropriate course and its qualifying exam. The petition must be accompanied by hard evidence (e.g., published research, written testimony from experts, records of equivalent courses, examinations and the grades achieved on them). The graduate committee will make the final judgment on all exemption requests.

Once the written phase of the qualifying process is complete, the student is ready to begin specialized study. By the third year of study, the student must complete the candidacy requirement. The student must form a preliminary thesis committee called a *Research Advisory Committee* that includes their advisor and at least two other faculty members. In discussion with the advisor and the preliminary thesis committee, the student will select a topic and a body of literature related to this topic. The student will prepare a one-hour oral presentation related to the topic and a two-page thesis proposal that

demonstrates mastery of the selected topic. The oral presentation is designed to expedite specialized study and to provide guidance toward the thesis. The preparatory work for the thesis proposal often becomes the foundation on which the thesis is constructed.

After the student completes the oral presentation, work on the thesis begins.

The dissertation and thesis defense: The student's dissertation is the single most important requirement for the PhD degree; it must be an original contribution to the knowledge of statistics, probability, and/or applied probability and is the student's opportunity to conduct significant independent research.

It is the student's responsibility to find a thesis advisor who is willing to guide their research. Since the advisor should be part of the oral presentation committee, the student should have engaged an advisor by the beginning of the third year of study.

Once the department has accepted the dissertation (on the recommendation of the thesis advisor), the student is required to defend their thesis through a presentation accompanied by a question-and-answer period.

For information about preparing the thesis and its abstract as well as the deadlines involved, including the creation of the Research Advisory Committee and the Dissertation Defense Committee, please consult the Office of Graduate Studies, Arts & Sciences. Please use these additional relevant resources: the Doctoral Dissertation Guide, the Forms page, and the Policies and Procedures page.

Qualifying Examinations

Progress toward the PhD is contingent upon the student passing examinations that are variously called *preliminary, qualifying, general, comprehensive,* or *major field exams.* The qualifying process varies according to the program. In some programs, it consists of a series of incremental, sequential, and cumulative exams over a considerable time. In others, the exams are held during a relatively short period of time. Exams may be replaced by one or more papers. The program, which determines the structure and schedule of the required examinations, is responsible for notifying the Office of Graduate Studies, Arts & Sciences, of the student's outcome, whether successful or unsuccessful.

Mentored Experience Requirements

Doctoral students at Washington University must complete a department-defined Mentored Experience. The Mentored Experience Requirement is a doctoral degree milestone that is notated on the student's transcript when complete. Each department has an established Mentored Experience Implementation Plan in which the number of units that a student must earn through Mentored Teaching Experience(s) and/or Mentored Professional Experience(s) is defined. The Mentored Experience Implementation Plans outline how doctoral students within the discipline will be mentored to achieve competencies in teaching at basic and advanced levels. Some departments may elect to include Mentored Professional Experiences as an avenue for completing some units of the Mentored Experience Requirement. Doctoral students will enroll in LGS 6XXX Mentored Teaching Experience or LGS 7020 Mentored Professional Experience to signify their progression toward completing the overall Mentored Experience Requirement for the degree.

The Doctoral Dissertation

A Research Advisory Committee (RAC) must be created no later than the end of the student's third year; departments may set shorter timelines (e.g., by the end of the student's second year) for this requirement. As evidence of the mastery of a specific field of knowledge and of the capacity for original scholarly work, each candidate must complete a dissertation that is approved by their RAC.

A Title, Scope & Procedure Form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Office of Graduate Studies, Arts & Sciences, at least 6 months before the degree is expected to be conferred or before beginning the fifth year of full-time enrollment, whichever is earlier.

A Doctoral Dissertation Guide & Template that give instructions regarding the format of the dissertation are available on the website of the Office of Graduate Studies, Arts & Sciences. Both should be read carefully at every stage of dissertation preparation.

The Office of Graduate Studies, Arts & Sciences, requires each student to make the full text of the dissertation available to the committee members for their review at least 1 week before the defense. Most degree programs require 2 or more weeks for the review period; students should check with their faculty.

The Dissertation Defense

Approval of the written dissertation by the RAC is necessary before the student can orally defend their dissertation. The Dissertation Defense Committee that observes and examines the student's defense consists of at least five members, who normally meet these criteria:

- Three of the five must be full-time Washington University faculty members or, for programs offered by Washington University-affiliated partners, full-time members of a Washington University-affiliated partner institution who are authorized to supervise PhD students and who have appropriate expertise in the proposed field of study; one of these three must be the PhD student's primary thesis advisor, and one may be a member of the emeritus faculty. A fourth member may come from inside or outside the student's program. The fifth member must be from outside the student's program; this fifth member may be a Washington University research professor or lecturer, a professor from another university, or a scholar from the private sector or government who holds a doctorate and maintains an active research program.
- Three of the five normally come from the student's degree program; at least one of the five must not.

All committees must be approved by the Office of Graduate Studies, Arts & Sciences, regardless of whether they meet the normal criteria.

The committee is appointed by the Office of Graduate Studies, Arts & Sciences, upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to their committee members for their review in advance of the defense. Faculty and graduate students who are interested in the subject of the dissertation are normally welcome to attend all or part of the defense but may ask questions only at the discretion of the committee members. Although there is some variation among degree programs, the defense ordinarily focuses on the dissertation itself and its relation to the student's field of expertise.

Submission of the Dissertation

After the defense, the student must submit an electronic copy of the dissertation online to the Office of Graduate Studies, Arts & Sciences. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's ETD Administrator. The degree program is responsible for delivering the final approval form, signed by the committee members at the defense and then by the program chair or director, to the Office of Graduate Studies, Arts & Sciences. Students who defend their dissertations successfully have not yet completed their PhD requirements; they finish earning their degree only when their dissertation submission has been accepted by the Office of Graduate Studies, Arts & Sciences.

Master's Degree Along the Way/ In Lieu of a PhD

Students typically spend their first two years (four semesters) taking graduate courses. At the end of this time, they will have completed requirements for the master's degree.

Contact:	José E. Figueroa-López
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Website:	https://sds.wustl.edu/

Women, Gender, and Sexuality Studies

Joint Juris Doctor/Master of Arts in Women, Gender, and Sexuality Studies

The Juris Doctor/Master of Arts in Women, Gender, and Sexuality Studies (WGSS) is a truly joint program in which students, under close mentoring by advisors in both Law and WGSS, take a carefully selected set of courses in the Law School and in Arts & Sciences that are tailored to the students' interests. Course work in Arts & Sciences provides students with advanced training in issues of gender, sexuality, race/ethnicity, class, and disability. Whether they come from a gender and sexuality studies background already or they are looking to supplement their JD with a gender and sexuality studies perspective, this program is designed to prepare lawyers with a deep understanding of the cultural impacts of gender and sexuality in the workplace, in policy, and in law.

Graduate Certificate in Women, Gender, and Sexuality Studies

Our graduate certificate program allows students in PhD programs to enhance their disciplinary studies with a concentration in gender studies.

This program offers graduate certificate students an opportunity to meet and work with graduate students in other departments. Graduate certificate students are on the program's mailing lists and are invited to participate in a variety of events, including special guest lectures, conferences, faculty searches, and informal gatherings.

In WGSS, graduate certificate students may engage in a teaching pedagogy opportunity. The teaching pedagogy opportunity in WGSS takes place over two semesters. During the first semester, students undergo teaching preparation in which they observe the class that they will teach. They are mentored by the instructor, and they attend instructor meetings devoted to examining content and pedagogy. In addition, they develop a syllabus — often in consultation with their WGSS teaching mentor and their department advisor — that is reviewed carefully by WGSS faculty. These students may be undergoing mentored teaching experiences in their own departments during this first semester. During the next semester, students teach the WGSS course, and they are observed by WGSS faculty and, in some cases, by faculty in their own departments. These faculty use a rubric for the student's assessment that is made available to the student. Students receive a written assessment that they then discuss with the observing WGSS faculty member. Sometimes, students are observed and assessed more than once. Participation in this program broadens students' teaching experiences and their credentials for future job opportunities. The following departments/programs are involved in this certificate: Anthropology, Art History, Education, English, German, History, Philosophy, Political Science, and Romance Languages and Literatures.

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Faculty

Chair

Rebecca Wanzo
Professor, Women, Gender, and Sexuality Studies
PhD, Duke University
Women, Gender, and Sexuality Studies

Co-Directors of Graduate Studies

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Professor
PhD, University of California, Berkeley
African and African American Studies; Women, Gender, and Sexuality Studies

Heather Berg
Assistant Professor
PhD, University of California, Santa Barbara
Women, Gender, and Sexuality Studies; Feminist Studies

Co-Directors of Undergraduate Studies

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Teaching Professor
PhD, Washington University
Women, Gender, and Sexuality Studies; German

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PhD, University of Illinois Chicago
Women, Gender, and Sexuality Studies

Department Faculty

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Senior Lecturer
PhD, Indiana University Bloomington
Interdisciplinary Project in the Humanities; Women, Gender, and Sexuality Studies

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Assistant Professor
PhD, The Graduate Center, City University of New York
Women, Gender, and Sexuality Studies; Political Science

Shefali Chandra
Associate Professor
PhD, University of Pennsylvania
Women, Gender, and Sexuality Studies; History

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PhD, University of Minnesota, Twin Cities
Women, Gender, and Sexuality Studies; American Studies

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Women, Gender, and Sexuality Studies

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Lecturer
PhD, University of Missouri-St. Louis
Women, Gender, and Sexuality Studies; Criminology

Allison S. Reed
Postdoctoral Fellow
PhD, University of Chicago
Women, Gender, and Sexuality Studies

Trevor Sangrey
Lecturer
PhD, University of California, Santa Cruz
Women, Gender, and Sexuality Studies; History of Consciousness

Elisabeth Windle
Lecturer
PhD, Washington University in St. Louis
Women, Gender, and Sexuality Studies; English

Professors Emeritas

Mary Ann Dzuback
Professor Emeritas
PhD, Columbia University
Women, Gender, and Sexuality Studies; Education; History

Linda Nicholson
Profesor Emeritas
PhD, Brandeis University
Women, Gender, and Sexuality Studies; History

Affiliate Faculty

Jean Allman
J.H. Hexter Professor in the Humanities
PhD, Northwestern University
History

Susan Frelich Appleton
Lemma Barkeloo and Phoebe Couzins Professor of Law
JD, University of California, Berkeley
Law

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PhD, University of Pennsylvania
Modern Hebrew Languages and Literatures

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PhD, Johns Hopkins University
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Romance Languages and Literatures

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Anthropology; African and African-American Studies

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PhD, Stanford University
History

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English

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PhD, Duke University
Romance Languages and Literatures

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JD, Yale University
Law

Gaylyn Studlar
David May Distinguished University Professor in the Humanities
PhD, University of Southern California
Film and Media Studies

Lynne Tatlock
Hortense and Tobias Lewin Distinguished Professor in the Humanities
PhD, Indiana University
Germanic Languages and Literatures

Karen Tokarz
Charles Nagel Professor of Public Interest and Public Service Law
JD, Saint Louis University
LLM, University of California, Berkeley
Law

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Associate Professor
PhD, Harvard University
History

Akiko Tsuchiya
Professor
PhD, Cornell University
Romance Languages and Literatures

Anika Walke
Associate Professor
PhD, University of California
History

Gerhild Scholz Williams
Barbara Schaps Thomas and David M. Thomas Professor in the Humanities
PhD, University of Washington
Germanic Languages and Literatures

Adia Harvey Wingfield
Professor
PhD, Johns Hopkins University
Sociology

Colette Winn
Professor
PhD, University of Missouri-Columbia
Romance Languages and Literatures

Degree Requirements

- Women, Gender, and Sexuality Studies, Graduate Certificate (p. 429)
- Women, Gender, and Sexuality Studies, JD/AM (p. 430)

Courses

Visit online course listings to view semester offerings for L77 WGSS.

L77 WGSS 500 Independent Study
Directed readings and research in women and gender studies.
Prerequisite: permission of instructor.
Credit variable, maximum 4 units.

L77 WGSS 5006 Advanced Topics in Trans Theories: Femme
In the current moment, "femme" is used to index a variety of gender and sexual expressions. This course explores the aesthetics and politics of femme through the lens of trans theories. A quick search for "femme" in relation to gender and sexuality will show that one of its origin stories is within lesbian communities often in relation to the butch/femme relationship. The lipstick lesbian is the figure who emerges here as exemplifying a kind of adherence to "traditional" forms of femininity even while being queer. Trans women are often criticized for attachments to similar forms of gender expression. Femininity is often derided as unserious or, worse, hopelessly entangled in the dynamics of heteropatriarchy. To be feminine, then, is often taken as a sign of a retrograde politics or submission to normative ideals of gender. This course will take up this problem as a way of beginning to think through what interventions femme might make into our ordinary ways of understanding gender and sexuality.
Same as L77 WGSS 4006
Credit 3 units. A&S IQ: HUM, SC EN: H

L77 WGSS 501 Advanced Feminist Theory
The purpose of this course is to engage students with some of the most important debates within feminist theory over the past sixty years. These debates will include those that have emerged among scholars in arts and sciences as well as those that have emerged among legal scholars. In the case of all of these debates, we will examine the ideas justifying each of the contributory positions and challenge students to develop their own positions.Prerequisites: Prior coursework in feminist theory or permission of instructor.
Credit 3 units.

L77 WGSS 5012 Seminar: Medieval Gender and Sexuality

Same as L14 E Lit 512
Credit 3 units.

L77 WGSS 5013 Queer of Color Critique
That sensation produces surplus, often uncontainable knowledge, is something that is beginning to be explored in various arenas of queer theory as an important component of queer of color critique. This seminar will explore different sensational arenas, the different possible critiques that they produce, and what this means for thinking about sexuality, gender, and queer theory. Throughout the course of the semester, we will explore sensation in multiple ways 1) as a diagnostic tool for understanding some of the different ways that race, gender, and sexuality intersect 2) as a way to trouble the dichotomy between interiority and exteriority to understand the ways in which orders of knowledge become imprinted on the body 3) as a mode of producing alternate forms of knowledge about gender, race, and sexuality. In addition to reading about different sensations and their relationships to politics and sexuality, this course will require students to think creatively as they attempt to write about sensation, sexuality, and politics. Ultimately, the purpose of this class is to examine sexuality and sensation as collections of embodied and politicized experiences. Prerequisite: Introduction to Women, Gender, and Sexuality Studies (L77 100B) or permission of instructor.
Same as L77 WGSS 4013
Credit 3 units. A&S IQ: HUM, SC, SD Arch: HUM Art: HUM EN: H

L77 WGSS 5045 Queering Theory: Collaborating, Solidarity, and Working together
This class aims to use theory to destabilize the concepts of race, sexuality, gender, disability, and academic methodology. This class will submerge you in some of the most influential texts in queer theory. The selected readings range across many disciplines, including biology, philosophy, anthropology, sociology, history, and cultural studies. The core premise of this class is that to queer something is to destabilize it. Therefore, not all of the readings will specifically be about gay, lesbian, bisexual, or transgender people. However, these readings will help any scholar in their future work in queer theory. Prerequsitie: Any 300 level WGSS class or equivalent or permission from instructor.
Same as L77 WGSS 406
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L77 WGSS 5051 Gender and Sexuality
This course will provide the conceptual and analytical frame for critically examining literary and cultural production in the Hispanic world from the perspective of gender and intersections with race, ethnicity, class, religion, nationality, and (dis)ability. The course will engage readings in theory, criticism, and historiography crucial to the scholarly investigation of gender and sexuality in the field of Hispanic studies. We will address how the consideration of gender has transformed literary and cultural analysis; in particular, the ways in which scholars of feminist and gender studies have challenged traditional assumptions about how knowledge and subjectivities are produced. The students will come out of the course having acquired: 1) a knowledge of fundamental concepts in feminist and gender studies; 2) an understanding of how feminist/gender studies scholars identify and frame research questions; 3) an introduction to the critical debates related to gender and sexuality; 4) a knowledge of feminist cultural history; 5) the ability to apply relevant concepts in feminist and gender studies to your own research in a historically-grounded fashion.
Same as L38 Span 5051
Credit 3 units.

L77 WGSS 507 Body, Gender, and Power in Colonial Latin America
This class will study representations of the body in Colonial Latin American texts through the lens of sex and gender and the discourses of power that are scripted upon it. Throughout the semester we will look at how gender is a primary field within which our power is articulated, studying the complexity of gendered cultural, literary, social, and religious constructions. We will study institutional ideologies and rules (both religious and secular) in their relation to constructions of the body, examining the impact of the discourses of Conquest, Counter-Reformation teachings, confessional practice, medical discourse, Inquisition processes, as well as religious genre conventions. We will read the works of more canonical authors (Colón, Pané, Cabeza de Vaca, Las Casas, Rodríguez Freyle, Catalina de Erauso, Sor Juana Inés de la Cruz, Sigüenza y Góngora, Juan Valle Caviedes) as well as writers of religious, didactic and legal texts of the period (e.g. Madre María de San José, Antonio Núñez de Miranda). We will also read critical and theoretical works that take up the concerns of the construction of sexual and gendered identities in society including Butler, Foucault, de Certeau, Jonathan Sawday, Margo Glantz and others. In Spanish.
Same as L38 Span 507
Credit 3 units.

L77 WGSS 5085 Everyday Unruliness: Feminist and Queer Resistance
This course is interested in the ways ordinary people break rules, flout norms, and make trouble. We know that resistance manifests in social movements, militant activism, and direct confrontation, but it also comes through quieter acts of unruliness and noncompliance. Looking at power "from below," readings focus on everyday interventions in systems of control. Garment workers threaten "good pay or bum work," queers "fail" at reproductive heterosexuality, and shiftless people steal moments of leisure from a system that wants us either productive or dead. These acts may not be obviously political, but because people at the margins have so often been left outside (and also opt out) of formal politics, subtle resistance is particularly interesting for feminist and queer scholars. Everyday acts do threaten the status quo -- otherwise, why would they be so rigidly policed? But questions remain. Throughout the semester, we will ask the following: What counts as resistance? What are its ethics? When is a bad attitude an act of rebellion, and does it matter if that rebellion is conscious? Does survival constitute resistance for those not meant to survive? On the other hand, for those subjects whose active engagement sustains the status quo, is withdrawal the more radical choice? Does the refusal of sociality constitute a form of resistance? Or are there ways to forge communities of mutual care that erode the status quo rather than reproduce it? Prerequisite: L77 110B (Intro to Women, Gender, and Sexuality Studies) or permission of instructor.
Same as L77 WGSS 4102
Credit 3 units. A&S IQ: SSC, SC Arch: SSC Art: SSC BU: BA EN: S

L77 WGSS 5115 Gender, Religion, Medicine and Science
Have you ever wondered why some topics are argued using religion as a guide, while others may approach the topic from what is perceived as a strictly scientific point of view? This course explores how and why gender and sexuality tend to be at the center of debates that pit Medicine and Science against Religion. Using feminist and queer scholarship, this course explores five hundred years of rhetorical strategies related to defining, or regulating, gender and sexuality. We will consider how much debates have changed from sixteenth-century Europe to 21st century United States by asking when, why and how either Medicine & Science or Religion influenced social thought and laws. Finally, we will consider how, and if, contemporary debates on vaccines are either part of the long history of debating bodily autonomy (as is the case with the other topics addressed in class), or if the conflict between religion, medicine and science in the modern era is new and distinctly different from past rhetorical strategies. Prerequisite: Introduction to Women, Gender and Sexuality Studies
Same as L77 WGSS 414
Credit 3 units. A&S IQ: HUM, SC, SD Arch: HUM Art: HUM BU: IS EN: H

L77 WGSS 5135 The Politics of Pleasure
This 400 level seminar interrogates the concept of pleasure. Pleasure occupies a fraught space in feminist and queer theory. This course examines several ways that people have theorized pleasure as a space for politics, a space for conservatism, or a way to think about racialized difference. This course is not interested in defining what pleasure is, but it interrogates what the stakes of talking about pleasure have been within contemporary theory and culture. Beginning with an examination of pleasure in the context of early twentieth century sexology, this course looks at the sex wars of the 1970s, the turn toward pleasure as a space of protest, and ends by thinking of ways to imagine pleasure outside of current paradigms of sexuality. The course takes gender, race, and sexuality as central analytic components to understand how pleasure is defined and who has access to it. Either Introduction to Sexuality Studies or Introduction to Women, Gender, and Sexuality Studies are prerequisites.
Same as L77 WGSS 416
Credit 3 units. A&S IQ: HUM, SC, SD EN: H

L77 WGSS 5140 Feminist Research Methodologies
What does it mean to do research through the lens of feminist and queer politics? This course surveys key methodological approaches to feminist and queer research. Interdisciplinary at its core, it draws from methodological traditions across the humanities and social sciences while focusing on forms of inquiry that resist these boundaries. We explore how feminist and queer politics inform the work of knowledge production. We ask how scholars, organizers and artists engage and repurpose various research methodologies and how they reflect on the politics of power, experience, domination, and resistance in the research encounter. We ask who research is for, parsing the political stakes of scholarship that archives the stories of collective resistance, survival, collaboration, and domination, at the same time as it authorizes hierarchies of expertise, builds institutional power, and (too often) extracts from those studied. What might a redistributive approach to feminist and queer research look like? Prerequisite: At least 2 courses in WGSS, including Introduction to WGSS or Sexuality Studies at the 100 or 200-levels and one 300-level WGSS course, preferably in feminist or queer theory. This class is a writing intensive course. Waitlists controlled by Department; priority given to WGSS majors.
Same as L77 WGSS 417W
Credit 3 units. A&S IQ: SC, SD, WI

L77 WGSS 5150 Feminist Literary and Cultural Theory
This course provides a historical overview of feminist literary and cultural theories since the 1960s and 70s, acquainting students with a diversity of voices within contemporary feminism and gender studies. Readings will include works of French feminism, Foucault's History of Sexuality, feminist responses to Foucault, queer (LGBTQ+) theory, postcolonial and decolonial feminism, feminist disability theory, and writings by US feminists of color (African-American, Asian-American, Latina, Native-American). The reading list will be updated each year to reflect new developments in the discipline. We will approach these readings from an intersectional and interdisciplinary perspective, considering their dialogue with broader sociopolitical, cultural, and philosophical currents. By the end of the course, students are expected to have gained a basic knowledge of the major debates in feminist literary and cultural studies in the last 50 years, as well as the ability to draw on the repertoire of readings to identify and frame research questions in their areas of specialization. The class will be largely interactive, requiring active participation and collaborative effort on the part of the students. Students will be encouraged to make relevant connections between the class readings, everyday social and political

issues, and their own research interests. NOTE: This course is in the core curriculum for the Women, Gender, and Sexuality Studies graduate certificate. Prerequisite: advanced course work in WGSS or in literary theory (300 level and above) or permission of the instructor.
Same as L77 WGSS 419
Credit 3 units. A&S IQ: HUM, SC, SD Arch: HUM Art: HUM EN: H

L77 WGSS 5165 From Mammy to the Welfare Queen: African American Women theorize Identity
How do representations of identity affect how we see ourselves and the world sees us? African American women have been particularly concerned with this question, as the stories and pictures circulated about black female identity have had a profound impact on their understandings of themselves and political discourse. In this course we will look at how black feminist theorists from a variety of intellectual traditions have explored the impact of theories of identity on our world. We will look at their discussions of slavery, colonialism, sexuality, motherhood, citizenship, and what it means to be human.
Same as L77 WGSS 421
Credit 3 units. A&S IQ: HUM, SC, SD EN: H

L77 WGSS 5191 Urban Spaces Gendered Places: Women, the City, & Modernity in Late 19th & Turn-of-the-Century Spain
This course will examine the representations of the city in the literature of late nineteenth- and turn-of-the-century Spain, focusing on the ways in which the cultural history of the city is linked to the production of gendered spaces in moment of uneven and uneasy transition to modernity. Through a close analysis of texts by authors from Galdós and Pardo Bazán, to Baroja and Carmen de Burgos, we will explore women's shifting and unstable place in the emergent consumer society of urban Spain, and their impact on the construction of a modern urban identity and national consciousness. The significance of these gendered spaces will be considered from the viewpoints of diverse groups of women who inhabited the city: the bourgeois "angel of the house," working-class women, prostitutes, the bohemian flaneuse, among others. From these viewpoints, we will attempt to construct a "feminist counter-discourse" that vies to undermine the dominant tropes of a masculinized urban modernity.
Same as L38 Span 5191
Credit 3 units.

L77 WGSS 520 Graduate Seminar

Same as L34 French 531
Credit 3 units.

L77 WGSS 5200 Feminist Political Theory
This course asks how feminist thinkers from various political and intellectual traditions critique,adopt and transform political theories of justice, citizenship, property and the state. To uncover how different feminist theories have been adopted in the struggle for political transformation and social justice, we will pursue two main lines of inquiry. The first asks how feminist thinkers from various traditions critique and engage the history of political thought within the social contract tradition. We will ask, in particular, how gender, race, slavery, colonialism and empire shape conceptions of citizenship and property. We will also examine transnational feminist critiques of the public/private division in the Western political theory canon as it impacts the role of women and the social construction of women's bodies. During the second half of the semester, we will ask how various transnational social movements have engaged and adopted feminist theories in efforts to resist state violence, colonialism, labor exploitation and resource extraction. In following these lines of inquiry we will draw from postcolonial, decolonial, liberal, Black, radical, Marxist and Chicana feminist perspectives. Part of our goal will be to uncover how various feminist theories treat the relationship between politics and embodied experience, how gendered conceptions of family life affect notions of political power and how ideas about sexuality and sexual conquest intersect with empire-building. Majors and minors in WGSS receive first priority. Other students will be admitted as course enrollment allows.
Same as L77 WGSS 429
Credit 3 units. A&S IQ: HUM, SC, SD Arch: HUM Art: HUM BU: BA EN: H

L77 WGSS 5241 Seminar: Feminist Modernist Studies
Seminar topics vary according to semester offerings.
Same as L14 E Lit 5241
Credit 3 units.

L77 WGSS 526A Seminar Lit. 19th C: Access, Genre, Market, Inclusion: German and Austrian Women Writers (1860-1932)

Same as L21 German 526
Credit 3 units.

L77 WGSS 5340 Gender in Early Modern Europe
This course will examine the major scholarly developments in the study of women's history, masculinity, and gender(ed) representations in early modern Europe. Topics covered will include: gender and politics; gender and work; marriage and family life; honor and social control; sodomy; witchcraft; religious experience and Reformation; and masculinity and science.
Same as L22 History 5340
Credit 4 units.

L77 WGSS 5350 Queer and Feminist Geographies
There is a tendency to see space and place as backdrops, mere stages where human social interactions simply play out. Yet when we fail to interrogate the processes behind the social production of space, we run the risk of naturalizing space as heteronormative and obfuscating its inherent exclusions. This upper-level seminar seeks to challenge such assumptions by treating space and place as dynamic formations that actively influence our identities, behaviors, and politics. Using queer and feminist perspectives within the realm of geography, we will explore how spaces, places, and boundaries are shaped, experienced, and contested through diverse gender identities and sexual formations. Questions driving our inquiry include: How do queer and feminist geographies intersect to shape landscapes- both urban and rural in the United States and abroad? What role do geographic spaces play in the construction of LGBTQ identities across different social milieus? And in what ways can queer and feminist perspectives contribute to decolonial and environmental justice movements? In addition to queer and feminist spatial theories, topics will include sexuality and place-making, transnational queer migrations, queer ecologies and environmental justice, and the queering of the "public" and "private" divide at the heart of spatial taxonomies in the West. By mobilizing queer and feminist forms of spatial analysis, this seminar will equip you with tools to identify the ways in which spaces, places, and boundaries can further social inequalities and the opportunity to theorize alternative geographies that promote inclusion and more just worlds.
Same as L77 WGSS 4350
Credit 3 units. A&S IQ: HUM, SC Arch: HUM Art: HUM EN: H

L77 WGSS 5432 Core Seminar In Comparative and World History
The Core Seminar in Comparative and World History examines a historical institution, idea, phenomenon, or process across range of cultures and regions. Although the specific case studies will vary from year to year, topics might include: empires, urbanization, revolutions, famines, or evangelism. The seminar will be of interest to students of all historical fields seeking to develop comparative historical models to their own areas of research.

Same as L22 History 5431
Credit 4 units.

L77 WGSS 554 Seminar on East Asian Print Culture and Society: Women in Print.
This team-led seminar examines developments in the history of publishing and reading in Japan, Korea, and to some extent China from the 17th to the 20th centuries, with particular attention to material that focuses on women as readers or as objects of discourse. Specific topics include periodicals and books written for, about, and by women; the role of print and publishing in early modern and modern construction of gender roles; literacy, education, and habits of reading; the role of women readers and female-targeted publications in the development of literary culture. The course will consider both commonalities and divergences in the construction of women as readers in each country in light of their interrelated but distinct historical and cultural conditions. The course will also include an introduction to digital humanities scholarship. Common readings will be in English, but seminar participants who are able to use Japanese or Korean sources will be expected to do so. Prerequisite: graduate standing or permission of instructors.
Same as L81 EALC 554
Credit 3 units.

L77 WGSS 5631 Modeling Interdisciplinary Inquiry

Same as L14 E Lit 5631
Credit 4 units.

L77 WGSS 5700 Ancient Greek and Roman Gynecology
This course examines gynecological theory and practice in ancient Greece and Rome, from about the 5th century BCE to the 3rd century CE. The task is complicated by the nature of our evidence. Our surviving textual sources are authored exclusively by men, mainly physicians. They have a pronounced tendency to conceptualize the health and disease in terms of a single body, which was male by default. They distinguished female bodies from male primarily in reproductive aspects. How exactly did these physicians understand diseases of women and, as far as can be recovered, to what extent were their views represented among laypeople? What form did treatment take and what was the social status of practitioners, both that of our extant sources and female practitioners whose voices have largely been silenced by the textual tradition? We will approach the study of Greek and Roman gynecology, first from the perspective of Greco-Roman medical views, then from the point of view of contemporary Western biomedicine. The limited nature of our sources will allow students to read the majority of surviving material. These primary readings will be accompanied by current secondary scholarship that explores these fascinating and often frustrating questions about the female body in ancient medical thought. All primary materials will be available in English translation. There will be an option for students with a background in Greek or Latin to form a satellite reading group. The course does not assume familiarity with Greek and Roman medicine more broadly.
Same as L08 Classics 4700
Credit 3 units. A&S IQ: HUM, LCD Arch: HUM Art: HUM EN: H

L77 WGSS 5720 Race, Reproduction, and Justice
Reproduction is biological, economic, political, and social. Of course, individuals reproduce, but when, how, why, and with whom we do (or do not) is also a matter of public policy and social concern. Drawing on readings from sociology, law and other fields that engage continually with these key questions: Why is reproduction an important site through which to understand sociology? How do statuses such as race, class, gender, sexuality, and ability influence people's reproductive possibilities? How have communities supported or resisted efforts at reproductive control? Why is reproductive justice central to these answers? Students will review theoretical pieces, empirical research, media and more to explore the answers. This course primarily focuses on the US but will expose students to global reproductive concerns. Class sessions include lecture, in-class discussion and online discussion, media analysis and other activities. This upper-level seminar presumes an understanding of the basic concepts in sociology such as sociological imagination and social construction. Prerequisite: successful completion of an introductory-level Sociology course or consent of the instructor. Graduate students should enroll in this 500-level offering.
Same as L40 SOC 4720
Credit 3 units. A&S IQ: SSC, SC EN: S

L77 WGSS 5919 Gender and Power in Comparative Perspective
This course provides a thematic overview of the intellectual question, methodoligical challenges, and historiographical innovations that arise when gender as a category of historical analysis is used to interrogate the ideologies and institutions of public and private power in comparative perspective.
Same as L22 History 5919
Credit 4 units.

L77 WGSS 598 Master's Thesis
An independent research and writing project under the direction of a member of the faculty in the Department of Women, Gender, and Sexuality Studies. Open only to students admitted to the JD/MA dual degree program.
Credit 2 units.

L77 WGSS 5990 Advanced Seminar: History of the Body
Do bodies have a history? Recent research suggests that they do. Historians have tapped a wide variety of sources - including vital statistics, paintings and photographs, hospital records, and sex manuals - to reconstruct changes in how humans have conceptualized and experienced their own bodies. We will pay particular attention to the intersection of European cultural history and history of medicine since 1500. This course fulfills the History major capstone requirement as an Advanced Seminar.
Same as L22 History 4990
Credit 3 units. A&S IQ: HUM, LCD, SD Arch: HUM Art: HUM EN: H

Women, Gender, and Sexuality Studies, Graduate Certificate

Certificate Candidacy

To earn a graduate certificate at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. Graduate certificates are not standalone programs and are only available to current students in applicable graduate programs. Thus, graduate certificates are conferred at the same time as the student's primary graduate program.

Program Requirements

- **Total Units Required: 15**
- **Certificate Length:** Since the certificate requires three courses beyond those required for a student's home degree, participation in the certificate program may require an extra semester of graduate courses.
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Graduate students interested in the graduate certificate in WGSS should first apply for admission to the Washington University department in which they wish to obtain an advanced degree. After being admitted, each student should notify their department advisor and the WGSS program director of their plans to obtain the WGSS certificate. In addition, each student should submit an "Application for Admission to Certificate Program" form to the Office of Graduate Studies, Arts & Sciences, with a copy also given to the WGSS office. The earlier that the WGSS department knows who these students are, the earlier these students can be included in mailings about program activities, lectures, conferences, and other events. Certificate application forms are available from the Office of Graduate Studies, Arts & Sciences.

Required Courses

The graduate certificate in WGSS requires the completion of five courses, at least two of which must be drawn from 500-level home-based WGSS courses. The additional three required courses must be drawn from 500-level home-based or cross-listed WGSS courses or from other, department-approved, gender-based courses. Up to 6 units can be double-counted between the program and the certificate; students should consult the director for approval. Since a certificate requires three courses beyond those required for a student's home degree, participation in the certificate may require an extra semester of graduate classes. The minimum grade for course work to count toward the certificate is a B.

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Women, Gender, and Sexuality Studies, JD/AM

Master's Candidacy

To earn a master's degree at Washington University, a student must complete all courses required by their department; maintain satisfactory academic progress; fulfill all academic and residence requirements; and file an Intent to Graduate. For a general layout of master's degree general requirements in Arts & Sciences, including an explanation of Satisfactory Academic Progress, students should review the Master's Degree Academic Information page (p. 41) of the Arts & Sciences *Bulletin.*

The Juris Doctor/Master of Arts in Women, Gender, and Sexuality Studies (JD/AM in WGSS) is a joint program in which students, under close mentoring by advisors in both Law and WGSS, take a carefully selected set of courses in the Law School and in the Office of Graduate Studies, Arts & Sciences, that have been tailored to the student's interests. Course work in Arts & Sciences provides students with advanced training in issues of gender, sexuality, race/ethnicity, class, and more. Whether students come from a gender and sexuality studies background already or are looking to supplement their JD with a gender and sexuality studies perspective, this program is designed to prepare lawyers with a deep understanding of the cultural impacts of gender and sexuality in the workplace, in policy, and in law.

Students entering this four-year program spend their first year taking the required 1L courses in the School of Law. Applications for the JD/AM are accepted from students who are applying to the Law School and those who are in their first year at the Law School. Students will only be admitted to the joint program after they have been accepted into the Law School.

Note: The AM in WGSS is conferred only on students in this joint program. WGSS does not offer a stand-alone AM.

JD/AM Program Requirements

- **Total Units Required: 32**
- **Degree Length: 4 Years**
  - **Note:** Students must be enrolled in 9 graduate credits each semester to retain full-time status. As students complete their course work, if enrolled in fewer than 9 graduate credits, they must enroll in a specific Arts & Sciences graduate course that will show 0 units but does count as full-time status. Students should connect with their department to ensure proper enrollment prior to Add/Drop.

Students in the program fulfill the usual JD requirements, including one ethics course, one upperclass writing course (seminar), 6 units of experiential credits in designated courses, and 67 units of law classroom credits. Because the upperclass JD curriculum may vary from year to year, students should choose their electives in consultation with their Law School advisors.

The AM requires 32 credit units, including at least 21 units from specific categories, with the remainder satisfied through elective courses in the student's area of interest. A 2-credit master's thesis is optional, in which case the student would complete 30 units of course work as well as the thesis. Electives may be drawn from 500-level courses in WGSS or from specific courses in the upperclass JD curriculum. To count toward the 32 credits required for the AM in WGSS, courses *must* be taken for a grade, with the exception of Law School externships approved by the WGSS JD/AM program director and Supervised Instruction: Law, Gender & Justice.

Students in the joint JD/AM program may take Arts & Sciences courses during their second through fourth years. They must earn grades of B or higher in those courses in order to count them towards the JD/AM program. Students who do not complete the AM portion of the joint degree program are not eligible for the graduate certificate in WGSS.

For students pursuing the master's thesis option: Students who choose to write a thesis should determine a subfield of focus early in the program, preferably during the first year of study in Arts & Sciences. The following year, in collaboration with their advisors, students will develop a thesis project or a practicum with a substantial writing component.

Thesis Requirements/Details

Students who choose to write a thesis will determine a subfield of focus during the first year of study. During the second year, in collaboration with their advisors, students will develop a thesis project or a practicum with a substantial writing component. Students who complete the AM portion of the joint degree program are not eligible for the graduate certificate in WGSS. Students must earn grades of B or higher in graduate Arts & Sciences courses for those courses to count toward the AM in WGSS.

Required Courses

Note that any particular course can count only toward one required category.

Advanced Theory and Research (9 units):

Code	Title	Units
WGSS 5000	Advanced Feminist Theory	3
WGSS 5150	Feminist Literary and Cultural Theory	3
WGSS 5140	Feminist Research Methodologies	3
WGSS 5200	Feminist Political Theory	3

Advanced Seminars in Race/Ethnicity (3 units):

Code	Title	Units
WGSS 5013	Queer of Color Critique	3
WGSS 5401	Intersectionality	3
WGSS 5165	From Mammy to the Welfare Queen: African American Women theorize Identity	3

Advanced Seminars in Gender/Sexuality (3 units):

Code	Title	Units
WGSS 5150	Feminist Literary and Cultural Theory	3
WGSS 5370	Reformers and Radicals: Feminist Thinking Through History	3
WGSS 5135	The Politics of Pleasure	3
WGSS 5085	Everyday Unruliness: Feminist and Queer Resistance	3

Advanced Seminars in Transnational Feminist and Gender Analysis (6 units):

Code	Title	Units
WGSS 5090	Gender, Sexuality and Change in Africa	3
WGSS 5245	Transnational Feminisms	3
WGSS 5370	Reformers and Radicals: Feminist Thinking Through History	3
WGSS 5200	Feminist Political Theory	3

Electives in the Student's Area(s) of Interest (9-12 units):

These electives can be chosen from any 500-level WGSS courses and/or from the following Law School courses that *must* be taken for a grade (with the exception of LAW 802B/802C or an externship approved by the WGSS advisor).

Code	Title	Units
LAW 604D	Adoption and Assisted Reproduction	3
LAW 812A	Critical Race Theory	2
LAW 868S	Feminist Legal Theory Seminar	3
LAW 590F	Employment Discrimination	3
LAW 609T	The Law of the Fourteenth Amendment	3
LAW 827S	Implicit Bias, Law & the Legal Profession Seminar	3
LAW 784	Regulating Sex: Historical and Cultural Encounters	2
LAW 802B	Supervised Instruction: Law, Gender & Justice (Tokarz)	3
LAW 602D	Sexuality and the Law: Theory and Practice	3
LAW 802C	Supervised Instruction: Law, Gender and Justice	3
LAW 668K	Semester In Practice Externship	-12

Phone: 314-935-5102
Email: wgss@wustl.edu
Website: http://wgss.artsci.wustl.edu

Degrees Offered

- ## A

- American Culture Studies, Graduate Certificate (p. 51)
- Anthropology, PhD, Archaeology Concentration (p. 59)
- Anthropology, PhD, Biological Anthropology Concentration (p. 63)
- Anthropology, PhD, Sociocultural Anthropology Concentration (p. 67)
- Art History and Archaeology, AM (p. 78)
- Art History and Archaeology, PhD (p. 79)

- ## B

- Biochemistry, Biophysics, & Structural Biology, PhD (p. 117)
- Biology, AM (Part-Time) (p. 98)

- Statistics, AM (p. 418)
- Statistics, PhD (p. 419)

T

- Theater and Performance Studies, Accelerated AM (p. 324)
- Theater and Performance Studies, AM (p. 325)
- Translation Studies, Graduate Certificate (p. 183)

W

- Women, Gender, and Sexuality Studies, Graduate Certificate (p. 429)
- Women, Gender, and Sexuality Studies, JD/AM (p. 430)
- Writing, MFA (p. 253)

Admissions

Eligibility

Washington University encourages and gives full consideration to all applicants for admission and financial support without regard to race, color, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability, or genetic information.

Evidence considered by each admissions committee includes not only the quality of previous course study but also its relevance to the applicant's prospective program. Research experience in the discipline is always viewed favorably.

The School of Arts & Sciences is strongly interested in recruiting, enrolling, retaining, and graduating students from diverse backgrounds. Applications for admission by students from diverse backgrounds to any of the Arts & Sciences degree programs are encouraged and welcomed. To the greatest extent possible, students with disabilities are integrated into the student population as equal members.

To be considered for admission into a graduate degree program, applicants must hold a bachelor's degree from an accredited institution prior to starting the graduate program.

Students may be admitted to study for a PhD degree directly from baccalaureate study or after undertaking other graduate or professional education, whether at Washington University or at another accredited institution.

Application Process

Degree programs set their own application deadlines, which generally fall in early December each year. Applicants should confirm the deadlines with their prospective programs. It is generally advantageous to the applicant to complete the application well in advance of the deadline.

Admissions and financial aid awards are for a specific academic year. Admitted students can request a deferral of admission for up to one year, but such special requests require approval of the admitting program and of the Office of Graduate Studies, Arts & Sciences. Applicants to whom admission is not offered may reapply after gaining additional evidence of qualification.

Degree programs in Arts & Sciences rarely admit applicants for the spring semester. Students interested in beginning graduate study in the spring should consult their prospective program's faculty and staff prior to completing an application.

The application is available online through the website of the Office of Graduate Studies, Arts & Sciences.

Applications are ready for final consideration after the following items have been submitted:

1. The application
2. Unofficial transcripts of all undergraduate and graduate courses taken by the applicant: The application review process will be greatly expedited by uploading unofficial copies of transcripts. **Note:** An official transcript stating the baccalaureate degree earned and the date it was conferred will be required before a student can enroll.
3. Official Test of English as a Foreign Language (TOEFL) scores, International English Language Testing System (IELTS) scores, or DuoLingo scores (for international applicants whose native language is not English and/or those who do not meet the waiver requirements)
4. Three letters of recommendation completed by persons closely acquainted with the applicant
5. Application fee or fee waiver
6. Any additional material or the interview required by the degree program

Admissions recommendations are made by the faculty of each degree-granting program. Disciplines naturally require different preparation and various aptitudes in their applicants, so the admissions process is necessarily decentralized.

Admission of International Students

International students considering application to Washington University for graduate study should have a general familiarity with academic practices and university customs in the United States. All international students are required to present evidence of their ability to support themselves financially during graduate study. International students whose native language is not English must submit their TOEFL, IELTS, or DuoLingo scores. The selected test should be taken in time for the results to reach Washington University directly from the testing agency before the application deadline.

To be eligible for an English proficiency testing waiver, the applicant must have completed at least three years of study toward their degree from a regionally accredited university located in an English-speaking country. In addition, English proficiency testing may be waived for an

application if the applicant has completed a full-time bachelor's or master's degree from a regionally accredited university located in the United States. Please also note that the entire length of study must have been completed at the institution.

Categories of Admission

Most students are admitted to a graduate program in Arts & Sciences as full-time candidates for a specific degree program. However, Arts & Sciences does offer a limited number of part-time master's programs to which applicants may be admitted as part-time candidates. There are also two ways to take graduate courses without admission to candidacy for a degree: as a Student Not Candidate for a Degree (SNCD) or as an Unclassified Graduate Student.

Student Not Candidate for a Degree (SNCD)

SNCD admission may be granted to qualified students who hold a bachelor's degree or its equivalent, who wish to enroll in graduate courses on a non-degree basis, and who receive approval from the degree program of interest. Examples include international exchange students who are studying at the university for a limited duration, students in good standing at other graduate schools, and students who wish to test their capabilities in a graduate setting. Students in this category are assigned faculty advisors and are accorded the same privileges as degree candidates. Applicants for SNCD should follow all application procedures outlined in the section titled "Application Process." Continuation as an SNCD is subject to the same academic and other standards that apply to degree candidates. In special cases, SNCDs may be eligible for financial aid.

Unclassified Graduate Student

A student who wishes to enroll for selected graduate-level courses without admission to an Arts & Sciences program is generally permitted to do so by registering as an Unclassified Graduate Student with the registrar of the Office of Graduate Studies, Arts & Sciences. Application for admission is not required for such registration, and permission to register as an Unclassified Graduate Student does not constitute admission. Permission to take more than 6 units of graduate credit in any one program requires the approval of that program's director of graduate studies. Unclassified students are not eligible for student services, including financial aid.

Acceptance of Admission and Award Offers

Washington University, along with most other graduate schools in the United States, subscribes to the following resolution of the Council of Graduate Schools:

> Acceptance of an offer of financial support (such as a graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by a prospective or enrolled graduate student completes an agreement that both student and graduate school expect to honor. In that context, the conditions affecting such offers and their acceptance must be defined carefully and understood by all parties.
>
> Students are under no obligation to respond to offers of financial support prior to April 15; earlier deadlines for acceptance of such offers violate the intent of this Resolution. In those instances in which a student accepts an offer before April 15 and subsequently desires to withdraw that acceptance, the student may submit in writing a resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer. It is further agreed by the institutions and organizations subscribing to the above Resolution that a copy of this Resolution or a link to the URL should accompany every scholarship, fellowship, traineeship, and assistantship offer.

Students to whom admission and financial awards are offered during January through March are requested to give notice in writing of the acceptance or rejection of their offers no later than April 15. Students to whom offers are made after April 1 are asked to reply within two weeks of receipt of the notice. Offers can be withdrawn if the deadline passes without any response from the student. Requests to extend deadlines or to reinstate withdrawn offers should be addressed to the degree program, which must endorse them before forwarding them to the Office of Graduate Studies, Arts & Sciences, for final approval.

Policies

Graduate students are governed by policies established by the university; by the Office of Graduate Studies, Arts & Sciences; and by the student's department, division, or program. Therefore, the policies identified here and elsewhere in this *Bulletin* are not to be considered a complete list. However, every attempt has been made to identify the location of those policies that affect most or all students in the Office of Graduate Studies, Arts & Sciences.

In this *Bulletin*, the University Policies (p. 16) page covers many of the policies that apply to both graduate and undergraduate students, specifically in the areas of nondiscrimination, student health, student conduct, academic integrity, intent to graduate, and academic records and transcripts. In addition, it refers to the university's Compliance and Policies page. Graduate students should follow that page's links to the Information Technology, Computers and Internet Policies, Intellectual Property Policies, and Research Policies; most of the former and many of the latter will apply to all graduate students.

The website of the Office of Graduate Studies, Arts & Sciences, has a Policies & Procedures page that includes links to the full text of several of its policies, including those related to the following:

- Academic and Professional Integrity for Graduate Students
- Access to Student Academic Records
- Alcohol Service (at events sponsored by graduate students and organizations)
- Bias-Related University Policies
- Change of Student Status
- Confidentiality
- Consensual Relationships (between Faculty, Staff or Students)
- Courses & Grades
- Dissenting Votes (at a dissertation defense)
- Enrollment & Registration
- Grade Appeals
- Interdisciplinary Opportunities
- International Travel
- Leaves (Leave of Absence, Medical Leave of Absence, Involuntary Leave, New Child Leave)
- Part-Time Employment
- Probation & Dismissal for Academic Reasons
- Reinstatement
- Residency Requirement
- Retake a Course
- Student Grievance Procedures
- Time Off
- Transfer of Credit
- Tuition and Fees
- Withdrawal

Please note that the majority of these policies cover the same topics as quite different versions found elsewhere in the *Bulletin* or on the university's website that are applicable only to undergraduate students. Reviewing these documents through the website of the Office of Graduate Studies, Arts & Sciences, is the best way to guarantee access to the relevant policy for Arts & Sciences graduate students.

The minimum grade point average requirements needed to maintain eligibility for satisfactory academic progress are dictated by the specific program of study. In each case, per the requirements of 34 C.F.R. 668.34(a)(4(ii), the federal student aid program requires a minimum of a C average to maintain eligibility for aid, but an individual degree or certificate program may have a higher minimum GPA for federal Satisfactory Academic Progress. The minimum GPA for good standing in graduate programs in Arts & Sciences is 3.0.

Interdisciplinary Opportunities

Washington University offers courses through interdisciplinary programs that include studies in a variety of disciplines that cross traditional academic boundaries and support academic areas outside of the schools.

- Interdisciplinary Courses
  Graduate students can speak with their advisors with regard to enrolling in individual courses available outside of their school that may advance their research or professional goals. An internal tuition agreement valid across the university's graduate and professional schools enables interdisciplinary study by allowing enrollment in classes outside of the student's home school. Many undergraduate and graduate courses are available for graduate student enrollment, subject to the following eligibility guidelines:
  - The student must be enrolled full-time in a graduate degree program and have the approval of their faculty advisor or administrative officer to take a course outside of their home school.
  - Courses will be open to students outside of the discipline only if those students have met the required prerequisites and have the approval of both their department/advisor and the course instructor.
  - Finally, courses in the evening divisions, including the School of Continuing & Professional Studies, are not part of this agreement. Courses that require individualized instruction and/or additional fees (e.g., independent studies, individual music lessons) are also excluded.
- Teaching Citation — Center for Teaching and Learning
  The Teaching Citation is a professional-development program open to Washington University graduate students. The purpose of the program is to provide formalized pedagogical training to help graduate students prepare for careers that involve teaching. Graduate students who complete the program will participate in a learning community in which they will 1) develop knowledge of effective pedagogy, including evidence-based teaching methods, by completing one (1) Foundations in Teaching and five (5) advanced-level CTL workshops, 2) gain expertise with varied teaching methods by documenting three qualifying teaching experiences, and 3) develop, reflect on, and refine on their teaching approach by writing an engaging teaching philosophy statement. Documenting one's teaching experience includes demonstrating that the required number of teaching hours have been met, attaining faculty or CTL observation and student feedback on one's teaching activities, and writing a self-reflection. The qualifying teaching experiences that can be counted toward the Teaching Citation include, for example, include leading a weekly discussion or recitation subsection, leading regular review- or help-sessions, presenting course lectures, teaching a course independently, and mentoring a student in a research project. Teaching experiences must be approved by CTL staff.
- A limited opportunity for some Washington University students to enroll in courses at Saint Louis University and the University of Missouri–St. Louis is available through the Inter-University Exchange Program (p. 436).
- The Skandalaris Center (p. 437) offers cocurricular programming and practical, hands-on training and funding opportunities to students and faculty in all disciplines and schools.
- The McDonnell International Scholars Academy (p. 438) is an endowed fellowship program that offers generous financial support toward graduate and professional degree studies at Washington University in St. Louis.

Inter-University Exchange Program

The Inter-University Exchange (IE) program between Washington University, Saint Louis University (SLU), and the University of Missouri–St. Louis (UMSL) began in 1976 as an exchange agreement encouraging greater inter-institutional cooperation at the graduate level. Over time, this program has evolved to include undergraduate education. The basic provisions of the original agreement are still in place today, and participation continues to be at the discretion of each academic department or unit.

At Washington University, there are several schools that *do not participate* in this program (i.e., degree-seeking students in these schools are not eligible to participate in the IE program, and courses offered in these schools are not open to SLU and UMSL students attending Washington University through the IE program). They are the School of Law, the School of Medicine, the McKelvey School of Engineering, and the School of Continuing & Professional Studies. The Washington University schools that are open to participation in the IE program may have specific limitations or requirements for participation; details are available in those offices.

The following provisions apply to all course work taken by Washington University students attending SLU or UMSL through the IE program:

- Such courses can be used for the fulfillment of degree or major requirements. (Students should consult with their dean's office for information about how IE course work will count toward their grade-point average, units and major requirements.)
- Such courses are not regularly offered at Washington University.
- Registration for such courses requires preliminary approval of the student's major/department advisor, the student's division office or dean, and the academic department of the host university.
- Students at the host institution have first claim on course enrollment (i.e., a desired course at SLU or UMSL may be fully subscribed and unable to accept Washington University students).
- Academic credit earned in such courses will be considered as resident credit, not transfer credit.

- Tuition for such courses will be paid to Washington University at the prevailing Washington University rates; there is no additional tuition cost to the student who enrolls in IE course work on another campus. However, students are responsible for any and all fees charged by the host school.
- Library privileges attendant on enrolling in a course on a host campus will be made available in the manner prescribed by the host campus.

Instructions

Washington University students must be enrolled full-time to participate in the IE program and have no holds, financial or otherwise, on their academic record at Washington University or at the host institution.

1. The student must complete the IE program application form. Forms are available from the Office of the University Registrar website.
2. The student must provide all information requested in the top portion of the form and indicate the course in which they wish to enroll.
3. The student must obtain the approval signature of the professor teaching the class or the department chair at SLU or UMSL, preferably in person.
4. The student also must obtain the approval signatures of their major advisor at Washington University and the appropriate individual in their dean's office.
5. Completed forms must be submitted to the Office of the University Registrar in the Women's Building a minimum of one week before the start of the term.

Course enrollment is handled administratively by the registrars of the home and host institutions. Washington University students registered for IE course work will see these courses on their class schedule and academic record at WebSTAC under departments I97 (SLU) and I98 (UMSL). Final grades are recorded when received from the host institution. The student does not need to obtain an official transcript from SLU or UMSL to receive academic credit for IE course work at Washington University.

Contact:	Office of the University Registrar
Phone:	314-935-5959
Email:	registrar@wustl.edu
Website:	http://registrar.wustl.edu/student-records/registration/the-inter-university-exchange-program

Skandalaris Center for Interdisciplinary Innovation and Entrepreneurship

The Skandalaris Center for Interdisciplinary Innovation and Entrepreneurship is the hub of creativity, innovation, and entrepreneurship at Washington University. We believe everyone can be entrepreneurial. Skandalaris provides programming where anyone can explore their creative and entrepreneurial interests, develop an entrepreneurial mindset, and go from ideation to launch.

Mission

The Skandalaris Center fosters and empowers an inclusive community that finds opportunities in problems and transforms ideas into action. We build an ecosystem of education, research, and resources that engages all WashU students, faculty, alumni, and staff as entrepreneurial leaders and collaborators.

Who We Serve

We work with the best and brightest at WashU — the change-makers, thought leaders, and visionaries — to solve the world's problems and meet local needs through innovation and entrepreneurship. As an interdisciplinary center, our initiatives serve students, faculty, staff, and alumni from all levels and disciplines.

Our Initiatives

We develop programs for WashU entrepreneurs, creatives, innovators, and scholars. Our commitment to interdisciplinary innovation and entrepreneurship is motivated by the following beliefs:

- *Everyone can be creative.* We provide hands-on experiences and the creative means to solve problems.
- *Innovation is the backbone of entrepreneurship.* Our opportunities are designed to develop and share new ideas while connecting with other WashU entrepreneurs and innovators.
- *Good ideas are one opportunity away from success.* Our programs are created to help WashU entrepreneurs and innovators access the resources they need to take their ideas to the next level.
- *Knowledge and skills are key to innovation and entrepreneurship.* Our Center offers events and opportunities to help our community of WashU entrepreneurs, creatives, and innovators learn the ins and outs of innovation and entrepreneurship.

Programs and Resources

- **Experts on Call**
  This program provides an opportunity for the WashU community to connect with experts in the Skandalaris Center or remotely, free of charge.

- **Honors in Innovation & Entrepreneurship**
  Students who have shown exemplary involvement in innovation and entrepreneurship during their time at Washington University are recognized through this program. Honors are earned by accumulating points through a combination of curricular and cocurricular activities.
- **In-Residence Program**
  This program provides WashU students, faculty, staff, and alumni with the opportunity to learn from and work with professionals with extensive industry experience.
- **PhD Citation in Entrepreneurship**
  This program provides opportunities for PhD students who are interested in developing skills and experiences in the areas of entrepreneurship and innovation.
- **Pivot 314 Fellowship**
  The Pivot 314 Fellowship is a year-long program presented by the Office of the Provost and the Skandalaris Center for Interdisciplinary Innovation and Entrepreneurship. Pivot 314 offers graduate students curated programming focused on professional development and on strengthening leadership and communications skills, as well as internship opportunities.
- **Resources**
  The Skandalaris Center, Washington University, and external services and resources are available to support innovators and entrepreneurs.
- **Skandalaris Spaces**
  Our collaboration space is available for hosting meetings or events. Requests should be made a week in advance.
- **Skandalaris Startup Webinars, Panel Discussions, and Workshops**
  These webinars provide an exciting way for alumni to reconnect and share their experiences with entrepreneurship. We also offer free, noncredit workshops designed to encourage creativity, innovation, and entrepreneurship.
- **Startup Venture Promotion**
  The Skandalaris Center is happy to help Washington University in St. Louis students, faculty, staff, and alumni with promoting their startup ventures.
- **Student Entrepreneurial Program (StEP)**
  StEP provides a unique opportunity for students to own and operate a business on campus that serves the WashU community. Student owners can supplement the valuable business and entrepreneurial skills they learn in the classroom while gaining real-world experience as they manage and lead their own businesses.
- **Student Groups**
  There are many organizations that allow students to gain experience and make valuable interdisciplinary connections in the areas of creativity, innovation, and entrepreneurship.
- **Venture Development**
  The WashU community is invited to set an appointment with a member of our team for help with ideas and businesses at any stage. We will work with these individuals to brainstorm ideas, strengthen financial models, draft business plans, perfect pitches, and more.
- **Washington University Entrepreneurship Courses**
  Courses in entrepreneurship offered across the university are available to students at all levels and in all disciplines.

Competitions

- **IdeaBounce®**
  IdeaBounce® is both an online platform and an event for sharing venture ideas and making connections. This is an opportunity for participants to pitch their ideas (no matter how "fresh"), get feedback on them, and make connections. In-person events happen frequently throughout the fall and spring semesters.
- **Skandalaris Venture Competition (SVC)**
  The SVC provides expert mentorship to new ventures and startups to ready them for commercializing their ideas, launching, and pitching to investors. Teams will develop materials focused on explaining the ideas that they are working on to a broad audience.
  - *Who Can Apply:* Current Washington University students and alumni (within one year of graduation) with an early-stage venture or idea
  - *Award:* Up to $22,500
- **Global Impact Award (GIA)**
  The GIA awards WashU–affiliated ventures with inventions, products, ideas, and business models that will have a broad and lasting impact on society.
  - *Who Can Apply:* WashU students, postdocs, residents, and alumni who have graduated within the last 10 years
  - *Award:* Up to $50,000

Learn More

Please contact the Skandalaris Center to sign up for our newsletter and for additional information about all programs.

Phone:	314-935-9134
Email:	sc@wustl.edu
Website:	http://skandalaris.wustl.edu

McDonnell International Scholars Academy

The McDonnell International Scholars Academy incubates new ideas and mentors future leaders. In collaboration with its partners, the Academy leads groundbreaking research projects and prepares Scholars to be effective leaders in a global community. Scholars are selected on the basis of their promise to become future leaders in academia, government, the professions, or the corporate world.

Applications to the McDonnell Academy are accepted from graduates of universities across the world, with a special interest in those students from its network of partner universities. In creating an international network of research universities, Washington University is developing a cohort of future leaders in a global university system to promote global awareness and social responsibility.

The McDonnell Academy has a dual mission. First, it recruits top scholars from partner universities and mentors them as they pursue doctoral and professional master's degrees in any of the 120+ academic programs offered at Washington University. Second, it leverages an international partnership network to incubate new ideas and foster collaborative research across countries and disciplines. There are more than 30 academic partners associated with the Academy, with at least one partner university on every populated continent. McDonnell Scholars receive full tuition and a generous living stipend for up to five years to support their degree experience.

About the Program

The McDonnell International Scholars Academy fellowship program cultivates a community of culturally and academically diverse leaders who will address the world's most complex challenges by driving positive and lasting change. Through its longstanding international partnerships, the program is an incubator of groundbreaking ideas that advance collaborative interdisciplinary research. A transformational experience, the Academy enhances leadership capacity through mentorship, professional development, and unique engagement opportunities. It is this foundation that builds the character and conviction to lead with a global mindset and social responsibility. McDonnell Scholars are selected based on their ability to emerge as leaders who are experts in their fields with perspectives that reflect cultural competence. Scholars are given a generous financial package to support their graduate and professional degree studies at Washington University in St. Louis.

Characteristics of McDonnell Scholars

In selecting its Scholars, the Academy considers the following:

- **Academic distinction:** Scholars are selected on the basis of their academic talent, promise, and ambition to become future leaders in academia, government, the professions, or the corporate world.
- **Global mindset:** Scholars share a global outlook, embrace differences, and express interest in broader social and cultural issues. They are committed to engaging in dialogue across disciplines and cultures.
- **Leadership:** Scholars demonstrate a desire and potential to generate positive change in their communities and around the world. They are committed to engaging in the Academy's platform for leadership development and communication acumen.
- **Community:** Scholars become part of a diverse, close-knit community. They share a commitment to engaging in the Academy's academic, professional, and social activities and to strengthening ties across the Academy's global network of partners.

Learn More

For more information about eligibility, programming, and financial support, please visit the Admissions page of the McDonnell International Scholars Academy website.

Phone:	314-935-6779
Website:	https://mcdonnell.wustl.edu/

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