

# 2018-19 Bulletin

The Graduate School



Washington University in St. Louis



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## About This Bulletin

The graduate and professional bulletins are the catalogs of programs, degree requirements and policies of the following schools of Washington University in St. Louis: Architecture & Urban Design; Art; Arts & Sciences; Engineering & Applied Science; Law; Medicine; and Social Work & Public Health.

The *University College Bulletin* is the catalog of University College, the professional and continuing education division of Arts & Sciences at Washington University in St. Louis. The catalog includes programs, degree requirements, course descriptions, and pertinent university policies for students earning a degree through University College.

The 2018-19 bulletins are entirely online but may be downloaded in PDF format for printing. Individual pages may be downloaded in PDF format using the "Download This Page as a PDF" option on each page. To download a full PDF, please choose from the following:

- Architecture & Urban Design (PDF) ([http://bulletin.wustl.edu/grad/Bulletin\\_2018-19\\_grad\\_architecture.pdf](http://bulletin.wustl.edu/grad/Bulletin_2018-19_grad_architecture.pdf))
- Art (PDF) ([http://bulletin.wustl.edu/grad/Bulletin\\_2018-19\\_grad\\_art.pdf](http://bulletin.wustl.edu/grad/Bulletin_2018-19_grad_art.pdf))
- Arts & Sciences (PDF) ([http://bulletin.wustl.edu/grad/Bulletin\\_2018-19\\_graduate\\_school.pdf](http://bulletin.wustl.edu/grad/Bulletin_2018-19_graduate_school.pdf))
- Engineering & Applied Science (PDF) ([http://bulletin.wustl.edu/grad/Bulletin\\_2018-19\\_grad\\_engineering.pdf](http://bulletin.wustl.edu/grad/Bulletin_2018-19_grad_engineering.pdf))
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- Medicine (PDF) ([http://bulletin.wustl.edu/grad/Bulletin\\_2018-19\\_medicine.pdf](http://bulletin.wustl.edu/grad/Bulletin_2018-19_medicine.pdf))
- Social Work & Public Health (PDF) ([http://bulletin.wustl.edu/grad/Bulletin\\_2018-19\\_brownschool.pdf](http://bulletin.wustl.edu/grad/Bulletin_2018-19_brownschool.pdf))
- University College (undergraduate and graduate) (PDF) ([http://bulletin.wustl.edu/grad/Bulletin\\_2018-19\\_university\\_college.pdf](http://bulletin.wustl.edu/grad/Bulletin_2018-19_university_college.pdf))

The degree requirements and policies in the *2018-19 Bulletin* apply to students entering Washington University during the 2018-19 academic year.

Every effort is made to ensure that the information, applicable policies and other materials presented in the *Bulletin* are accurate and correct as of the date of publication (October 16, 2018). Washington University reserves the right to make changes at any time without prior notice. Therefore, the electronic version of the *Bulletin* 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*.

For the most current information about available courses and class scheduling, visit WebSTAC (<https://acadinfo.wustl.edu>). Please email questions concerning the *Bulletin* to the Bulletin editor ([bulletin\\_editor@wustl.edu](mailto:bulletin_editor@wustl.edu)).

### For more graduate and professional programs, please visit the following website:

- Olin Business School (<http://olin.wustl.edu>)

# 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 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 90 programs and almost 1,500 courses leading to 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 (<http://wustl.edu/about/facts>) page of our website.

## Enrollment by School

For enrollment information (<https://wustl.edu/about/university-facts/#students>), please visit the University Facts page of our website.

## Committed to Our Students: Mission Statement

Washington University's mission is to discover and disseminate knowledge, and protect the freedom of inquiry through research, teaching and learning. Washington University creates an environment to encourage and support an ethos of wide-ranging exploration. Washington University's faculty and staff strive to enhance the lives and livelihoods of students, the people of the greater St. Louis community, the country and the world.

Our goals are:

- to welcome students, faculty and staff from all backgrounds to create an inclusive community that is welcoming, nurturing and intellectually rigorous;
- to foster excellence in our teaching, research, scholarship and service;
- to prepare students with attitudes, skills and habits of lifelong learning and leadership thereby enabling them to be productive members of a global society; and
- to be an institution that excels by its accomplishments in our home community, St. Louis, as well as in the nation and the world.

To this end we intend:

- to judge ourselves by the most exacting standards;
- to attract people of great ability from diverse backgrounds;
- to encourage faculty and students to be bold, independent and creative thinkers;
- to provide an exemplary, respectful and responsive environment for living, teaching, learning and working for present and future generations; and
- to focus on meaningful measurable results for all of our endeavors.

## Trustees & Administration

### Board of Trustees

Please visit the Board of Trustees website (<http://boardoftrustees.wustl.edu>) for more information.

### University Administration

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

Led by the chancellor, the officers of the university administration (<http://wustl.edu/about/leadership>) are detailed on the 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 2018

Date	Day	Description
August 27	Monday	Classes begin
September 3	Monday	Labor Day holiday
October 13-16	Saturday-Tuesday	Fall Break
November 21-25	Wednesday-Sunday	Thanksgiving Break
December 7	Friday	Last day of classes
December 10-19	Monday-Wednesday	Reading and Exams

## Spring Semester 2019

Date	Day	Description
January 14	Monday	Classes begin
January 21	Monday	Martin Luther King Jr. holiday
March 10-16	Sunday-Saturday	Spring Break
April 26	Friday	Last day of classes
April 29 - May 8	Monday-Wednesday	Reading and Exams
May 17	Friday	Commencement

## Summer Semester 2019

Date	Day	Description
May 20	Monday	First Summer Session begins
May 27	Monday	Memorial Day holiday
July 4	Thursday	Independence Day holiday
August 15	Thursday	Last Summer Session ends

Washington University recognizes the individual student's choice in observing religious holidays that occur during periods when classes are scheduled. Students are encouraged to arrange with their instructors to make up work missed as a result of religious observance, and instructors are asked to make every reasonable effort to accommodate such requests.

## Campus Resources

### Student Support Services

**Cornerstone: The Learning Center** is located on the ground floor of Gregg House on the South 40, 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 Cornerstone website (<http://cornerstone.wustl.edu>) or call 314-935-5970. The three teams housed within Cornerstone:

- **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; course-specific weekly walk-in sessions facilitated by academic mentors in locations, at times and in formats convenient for the students. Cornerstone also offers individual consulting/coaching for

academic skills such as time management, study skills, note taking, accessing resources, etc. 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 (<http://cornerstone.wustl.edu/disability-resources>) or contact Cornerstone: 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, the first in their family to go to college, and/or 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 entering their first semester. Eligible students are encouraged to apply when notified, as space in this program is limited.

**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 its orientation programs, by issuing certificates of eligibility (visa documents), and by offering special services for non-native English speakers in the English Language Programs. 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 in the Stix International House at 6470 Forsyth Boulevard and on the Medical School campus in the Mid Campus Center (MCC Building), 4590 Children's Place, Room 2043. For more information, visit the Office for International Students and Scholars website (<http://oiss.wustl.edu>) or call 314-935-5910.

**Medical Student Support Services.** For information about Medical Student Support Services, please visit the School of Medicine website (<https://medicine.wustl.edu>).

**Relationship and Sexual Violence Prevention (RSVP) Center.** The Relationship and Sexual Violence Prevention (RSVP) Center offers free and confidential services including 24/7 crisis intervention, counseling services, resources, support, and prevention education for all Danforth students. The RSVP Center operates from a public health model, utilizing trauma-informed practices to address the prevalent issues of relationship and sexual violence. Our goal in supporting impacted students is

to foster post-traumatic growth and resilience to better ensure academic retention and success. Our prevention efforts call for community engagement to engender an intolerance of violence and an active stance to challenge issues that perpetuate such a culture. Learn more at the RSVP Center website (<https://rsvpcenter.wustl.edu>).

**WashU Cares.** WashU Cares assists the university in handling situations involving the safety and well-being of Danforth Campus students. As such, WashU Cares is committed to fostering student success and campus safety through a proactive, collaborative, and systematic approach to the identification, intervention, and support of students of concern while empowering all university community members to create a culture of caring. If you are concerned about the physical or mental well-being of a student, please file a WashU Cares (<https://washucares.wustl.edu>) report.

**The Writing Center.** The Writing Center, a free service, offers writing advice 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. Appointments (<http://writingcenter.wustl.edu>) are preferred and can be made online.

The Writing Center is located in Olin Library on level one.

## Student Health Services, Danforth Campus

The Habif Health and Wellness Center, formerly known as Student Health Services, provides medical and mental health care for undergraduate and graduate students. Habif staff members include licensed professionals in Medical Services, Mental Health Services, and Health Promotion Services. Please visit us in Dardick House on the South 40, or visit the Habif Health and Wellness Center website (<http://shs.wustl.edu>) for more information about each of our services and staff members.

### Hours:

Monday, Tuesday and Thursday 8 a.m.-6 p.m.

Wednesday 10 a.m.-6 p.m.

Friday 8 a.m.-5 p.m.

Saturday 9 a.m.-1 p.m.

A nurse answer line is available to answer any medical questions a student may have when Habif is closed. For after-hours care, please call: 314-935-6666.

**Medical Services** staff members provide care for the evaluation and treatment of an illness or injury, preventive health care and health education, and nutrition, physical therapy, travel medicine

and women's health services. Habif Health and Wellness Center providers are considered in-network and 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 community specialist. Habif accepts most health insurance plans and will be able to bill the plan according to plan benefits when care is accessed at Habif. The student health insurance plan requires a referral any time care is not provided at Habif. Call 314-935-6666 or visit our website to schedule an appointment (<http://shs.wustl.edu>) for medical care, including allergy injections prescribed by your allergist, health consultations, for HIV or other STD testing, or for immunizations.

Appointments also are available for assessment, treatment and referral for students who are struggling with substance abuse.

The Habif Health and Wellness Center pharmacy is available to all Washington University students and their dependents who participate in the student health insurance plan. The pharmacy accepts most prescription insurance plans; please check with the pharmacist to see if your prescription plan is accepted at the pharmacy.

The Habif Health and Wellness Center lab provides full laboratory services. Approximately 20 tests can be performed in the lab. The remainder of all testing that is ordered by Habif is completed by LabCorp. LabCorp serves as our reference lab and is on the student health insurance plan as a preferred provider. This lab can collect any test ordered by our providers or by outside providers.

All incoming students must provide proof of immunization for two measles, mumps, rubella vaccines after the age of one year old. (A titer may be provided in lieu of the immunizations.) Meningococcal vaccine proof is required for all incoming undergraduate students. A PPD skin test in the past six months is required for students entering the university from certain countries. This list of countries may be found on our website. We suggest all students also have Tetanus Diphtheria immunization within the past five years, Hepatitis A vaccine series, Hepatitis B vaccine series and Varicella vaccine. Medical History Forms (<http://shs.wustl.edu>) are available online. Failure to complete the required forms will delay registration and will prevent entrance into housing assignment. Please visit our website for complete information about requirements and deadlines (<http://shs.wustl.edu>).

**Mental Health Services** staff members work with students to resolve personal and interpersonal difficulties, including conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety and depression. Although some concerns are more frequent than others, students' experiences are as varied as the students themselves. Staff members help each person figure out their own situation. Services include individual, group and couples counseling; crisis counseling; psychiatric consultation; and referral for off-campus

counseling. Call 314-935-6666 or visit our website to schedule an appointment (<http://shs.wustl.edu>).

**Health Promotion Services** staff members provide information and resources on issues of interest to Washington University students including alcohol and other drugs, weight and body image, sexual health, sleep and stress; customize professional health education programs for groups; and work with groups of students dedicated to educating their peers about healthy decision making. Call 314-935-7139 for more information.

## Important Information About Health Insurance, Danforth Campus

Washington University has a student health fee designed to improve the health and wellness of the entire Washington University community. This fee supports health and wellness services and programs on campus. In addition, 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 if there is proof of existing comprehensive insurance coverage. Information concerning opting out of the student health insurance plan (<http://shs.wustl.edu>) can be found online after June 1 of each year. Habif does provide billing services to many of the major insurance companies in the United States. Specific fees and co-pays apply to students using Medical Services and Mental Health Services; these fees may be billable to your insurance plan. More information is available on the Habif Health and Wellness Center website (<http://shs.wustl.edu>).

## Student Health Services, Medical Campus

For information about student health services on the Medical Campus, please visit the Student Health Services page (<http://bulletin.wustl.edu/medicine/resources/student-health>) of the medical school *Bulletin*.

## Campus Security

The Washington University campus is among the most attractive in the nation and enjoys a safe, relaxed atmosphere. Your personal safety and the security of your 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, use of closed circuit television, card access, good lighting, 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, alert campus community. Washington University has developed several programs to help make your experience here a safe and secure one. 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 your exact location. In addition to the regular shuttle service, an evening walking escort service or mobile Campus Circulator is 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 6:00 p.m. to 4:00 a.m. seven days a week. The shuttle leaves from the Mallinckrodt Center and takes passengers directly to the front doors of their buildings. Shuttle drivers then will wait and watch to make sure passengers get into their buildings safely. Community members can track the shuttle using the WUSTL Mobile App. The app can be downloaded free of charge from the iOS App 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 Police 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 for women and men, property inventory services and security surveys. Community members are encouraged to download the personal safety app SafeTrek which allows users to call for help during emergencies. The SafeTrek app (<https://www.safetrekapp.com/affiliate/WUSTL>) can be downloaded online. For more information on these programs, check out the Washington University Police Department website (<http://police.wustl.edu>).

In compliance with the Campus Crime Awareness and Security Act of 1990, Washington University publishes online an annual report (<http://police.wustl.edu/clerylogsandreports/Pages/default.aspx>), *Safety & Security: Guide for Students, Faculty, and Staff, Annual Campus Security and Fire Safety Reports*, which is available to all current and prospective students on the Danforth Campus and 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 Security page (<https://facilities.med.wustl.edu/security>) of the Washington University Operations & Facilities Management Department.

## University 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 (<http://registrar.wustl.edu>) and on the university's Compliance and Policies page (<http://wustl.edu/policies>). 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.

## 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, or treatment 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 and 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 (<http://hr.wustl.edu/policies/Pages/DiscriminationAndHarassment.aspx>) 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:

#### Discrimination and Harassment Response Coordinators

Apryle Cotton, Asst. Vice Chancellor for Human Resources  
Section 504 Coordinator  
Phone: 314-362-6774  
Email ([apryle.cotton@wustl.edu](mailto:apryle.cotton@wustl.edu))

Leanne Stewart, Employee Relations Manager  
Phone: 314-362-8278  
Email ([leannerstewart@wustl.edu](mailto:leannerstewart@wustl.edu))

#### Title IX Coordinator

Jessica Kennedy, Director of Title IX Office

Title IX Coordinator  
Phone: 314-935-3118  
Email ([jwkennedy@wustl.edu](mailto:jwkennedy@wustl.edu))

You may also submit inquiries or a complaint regarding civil rights to the United States Department of Education's Office of Civil Rights at 400 Maryland Avenue, SW, Washington, DC 20202-1100 or by visiting the U.S. Department of Education website (<http://ed.gov>) or calling 800-421-3481.

## Student Health

### Drug and Alcohol Policy

Washington University is committed to maintaining a safe and healthful 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 (<http://hr.wustl.edu/policies/Pages/DrugandAlcoholPolicy.aspx>) or Alcohol Service Policy (<http://pages.wustl.edu/prograds/alcohol-service-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 (<http://hr.wustl.edu/policies/Pages/tobaccofreepolicy.aspx>) is available on the Human Resources website.

### Medical Examinations

Entering students must provide medical information to the Habif Health and Wellness Center. This will include completion of a health history and a record of all current immunizations. The university strongly recommends appropriate vaccination for meningococcal disease.

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. They will be assessed the cost of the vaccinations. Students will be unable to complete registration for classes until all health requirements have been satisfied.

If students are unimmunized, they 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 Habif Health and Wellness Center (<http://shs.wustl.edu>) website. All students who have completed the registration process should access the website and create a student profile by using their WUSTL key. Creating a student profile enables a student to securely access the medical history form. 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.

## Student Conduct

The Student Conduct Code sets forth community standards and expectations for Washington University students. These community standards and expectations are intended to foster an environment conducive to learning and inquiry. Freedom of thought and expression is essential to the university's academic mission.

Disciplinary proceedings are meant to be informal, fair and expeditious. Charges of non-serious misconduct are generally heard by the student conduct officer. With limited exceptions, serious or repeated allegations are heard by the campuswide Student Conduct Board or the University Sexual Assault Investigation Board where applicable.

Complaints against students that include allegations of sexual assault or certain complaints that include allegations of sexual harassment in violation of the Student Conduct Code are governed by the procedures found in the University Sexual Assault Investigation Board Policy (<https://wustl.edu/about/compliance-policies/governance/usaib-procedures-complaints-sexual-assault-filed-students>), which is available online or in hard copy from the Title IX coordinator or the director 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 (<https://wustl.edu/about/compliance-policies/academic-policies/university-student-judicial-code>), visit the university website.

## 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 work 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.

## Scope and Purpose

This statement on academic integrity applies to all undergraduate students at Washington University. Graduate students are governed by policies in each graduate school or division. All students are expected to adhere to the highest standards of behavior. The purpose of the statement is twofold:

- To clarify the university's expectations with regard to undergraduate students' academic behavior, and
- To provide specific examples of dishonest conduct. The examples are only illustrative, *not* exhaustive.

## Violations of This Policy Include, but Are Not Limited To:

### 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 acknowledgment. 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 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 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 and represent that work as one's 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 permit another student to copy one's 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 or 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 one's 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 one's own. This includes but is not limited to sitting for another person's exam; both parties will be held responsible.
- 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 the assistant in instruction for guidance.

## Reporting Misconduct

### Faculty Responsibility

Faculty and instructors are strongly encouraged to report incidents of student academic misconduct to the academic integrity officer in their school or college in a timely manner so that the incident may be handled fairly and consistently across schools and departments. Assistants in instruction are expected to report instances of student misconduct to their supervising instructors. Faculty members are expected to respond to student concerns about academic dishonesty in their courses.

### Student Responsibility

If a student observes others violating this policy, the student is strongly encouraged to report the misconduct to the instructor, to seek advice from the academic integrity officer of the school or college that offers the course in question, 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 Resource Center, if applicable.

## Procedure

### Jurisdiction

This policy covers all undergraduate students, regardless of their college of enrollment. Cases will be heard by school-specific committees according to the school in which the class is listed, not the school in which the student is enrolled. All violations and sanctions will be reported to the student's college of enrollment.

### Administrative Procedures

Individual undergraduate colleges and schools may design specific procedures to resolve allegations of academic misconduct by students in courses offered by that school, so long as the procedures are consistent with this policy and with the Student Conduct Code.

## Student Rights and Responsibilities in a Hearing

A student accused of an academic integrity violation, whether by a professor, assistant in instruction, academic integrity officer or student, is entitled to:

- Review the written evidence in support of the charge.
- Ask any questions.
- Offer an explanation as to what occurred.
- Present any material that would cast doubt on the correctness of the charge.
- Determination of the validity of the charge without reference to any past record of misconduct.

When responding to a charge of academic misconduct, a student may:

- Deny the charges and request a hearing in front of the appropriate academic integrity officer or committee.
- Admit the charges and request a hearing to determine sanction(s).
- Admit the charges and accept the imposition of sanctions without a hearing.
- Request a leave of absence from the university. The academic integrity matter must be resolved prior to re-enrollment.
- 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 Conduct 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 transcript.

### If Found in Violation of the Academic Integrity Policy

If, after a hearing, a student is found to have acted dishonestly, or if a student has admitted to the charges prior to a hearing, the school's academic integrity officer or committee 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.
- In cases serious enough to warrant suspension or expulsion from the university, refer the matter to the Student Conduct Board for consideration.

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

Withdrawing from the course will not prevent the academic integrity officer 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.

## Appeals

If a student believes the academic integrity officer or the committee did not conduct a fair hearing, or if a student believes the sanction imposed for misconduct is excessive, they may appeal to the Student Conduct Board within 14 days of the original decision. Appeals are governed by Section VII C of the Student Conduct Code.

## Records

### Administrative Record-Keeping Responsibilities

It is the responsibility of the academic integrity officer in each school to keep accurate, confidential records concerning academic integrity violations. When a student has been found to have acted dishonestly, a letter summarizing the allegation, the outcome and the sanction shall be placed in the student's official file in the office of the school or college in which the student is enrolled.

Additionally, each school's academic integrity officer shall make a report of the outcome of every formal accusation of student academic misconduct to the director of Student Conduct and Community Standards, 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 by an academic integrity officer, a committee, or the Office of Student Conduct and Community Standards, the person in charge of administering the hearing shall query the Office of Student Conduct and Community Standards about the student(s) accused of misconduct. The director shall provide any information in the records concerning that student to the integrity officer. Such information will be used in determining sanctions *only* if the student is found to have acted dishonestly in the present case. Evidence of past misconduct may not be used to resolve the issue of whether a student has acted dishonestly in a subsequent case.

## Reports to Faculty and Student Body

School and college academic integrity officers are encouraged to make periodic (at least annual) reports 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.

## Graduate Student Academic Integrity Policies

For graduate student academic integrity policies, please refer to each individual graduate school.

## Statement of Intent to Graduate

Students are required to file an Intent to Graduate at WebSTAC (<https://acadinfo.wustl.edu>) prior to the semester in which they intend to graduate. Additional information is available in the dean's offices of each school and in the Office of the University Registrar (<http://registrar.wustl.edu>).

## Student Academic Records and Transcripts

The Family Educational Rights and Privacy Act of 1974 (FERPA) — Title 20 of the United States Code, Section 1232g, as amended — provides current and former students of the university with specific rights of access to and control over their student record information. In compliance with the statute, appropriate federal regulations and guidelines recommended by the American Association of Collegiate Registrars and Admissions Officers, the university has adopted procedures that implement these rights.

A copy of the university policies regarding educational records and the release of student record information is available from the Office of the University Registrar (<http://registrar.wustl.edu>) and the university website (<https://wustl.edu>).

Transcript requests for Danforth Campus students may be submitted to the Office of the University Registrar through WebSTAC. The School of Medicine registrar ([\[registrar.med.wustl.edu/services/transcripts-and-certification\]\(http://registrar.med.wustl.edu/services/transcripts-and-certification\)\) accepts requests for transcripts and certification records for students and alumni of: Audiology and Communication Sciences, Clinical Investigation, Genetic Epidemiology, Health Administration, Nurse Anesthesia, Occupational Therapy, Pediatric Nurse Practitioner, Physical Therapy, Psychiatric Epidemiology, School of Dentistry and School of Medicine. Instructions and additional information are available on the University Registrar website \(<http://registrar.wustl.edu>\).](http://</a></p></div><div data-bbox=)

## University Affiliations

Washington University is accredited by the Higher Learning Commission (<https://www.hlcommission.org>) (800-621-7440). Washington University is a member of the Association of American Universities, the American Council on Education, the College Board, and the Independent Colleges and Universities of Missouri.

The College of Arts & Sciences is a member of the American Association of Collegiate Registrars and Admissions Officers (AACRAO) and the International Center for Academic Integrity (ICAI).

The College of Architecture was one of the eight founding members of the Association of Collegiate Schools of Architecture (ACSA) in 1912.

The Graduate School is a founding member of both the Association of Graduate Schools and the Council of Graduate Schools.

The Graduate School of Architecture & Urban Design's Master of Architecture degree is accredited by the National Architectural Accreditation Board (NAAB).

The Sam Fox School of Visual Arts & Design (Art) is a founding member of, and is accredited by, the National Association of Schools of Art and Design (NASAD).

The Olin Business School is a charter member of the Association to Advance Collegiate Schools of Business International (AACSB).

In the School of Engineering & Applied Science, many of the professional degrees are accredited by the Engineering Accreditation Commission of ABET (<http://abet.org>).

University College is a member of the University Professional and Continuing Education Association, the North American Association of Summer Sessions, the Association of University Summer Sessions and the Center for Academic Integrity. Business-related programs in University College are not accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

The School of Law is accredited by the American Bar Association. The School of Law is a member of the Association of American Law Schools, the American Society of Comparative Law, the Clinical Legal Education Association, the Southeastern

Association of Law Schools, the Central Law Schools Association, the Mid-America Law Library Consortium, the American Association of Law Libraries, and the American Society of International Law.

The School of Medicine is a member of the Liaison Committee on Medical Education.

The Brown School at Washington University is accredited by the Council on Social Work Education and the Council on Education for Public Health.

The University Libraries are a member of the Association of Research Libraries.

The Mildred Lane Kemper Art Museum is nationally accredited by the American Alliance of Museums.

## Arts & Sciences

The Graduate School confers all Master of Arts (AM) and Doctor of Philosophy (PhD) degrees at Washington University. Every AM program and 29 PhD programs are housed in Arts & Sciences departments. In addition, the Graduate School cooperates with the schools of Business, Engineering & Applied Science, Medicine, and Social Work on the administration of 27 PhD programs housed in those schools.

### Governance

The Graduate Council serves as the legislative branch of the Graduate School. The Council consists of one faculty representative and one graduate student representative from each degree-granting program; it is chaired by the dean of the Graduate School and vice provost for graduate education. Much of the work of the Council occurs in committees, on which students serve alongside faculty members. This model of shared governance — equal representation and equal responsibility for faculty and graduate students — is believed to be unique among U.S. universities.

### Contact Information

The Graduate School  
Cupples II, Suite 204  
Washington University in St. Louis  
CB 1187  
One Brookings Drive  
St. Louis, MO 63130-4899  
Fax: 314-935-4887

**Phone:** 314-935-6880  
**Email:** GraduateArtSci@wustl.edu  
**Website:** <http://graduateschool.wustl.edu/>

### Doctoral Degrees

The PhD is not only an exploration of the knowledge in a given discipline but also an original contribution to it. 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 a colleague of the faculty. It is for this reason that the PhD is the highest degree offered by a university.

The core mission of PhD programs at research universities is to educate the future faculty of other research universities and institutions of higher education. Graduates of Washington University participate in research and teaching; they also make valuable contributions to society by applying the analytical and creative skills required for scholarship to careers in business, government, and nonprofit sectors. The Graduate School 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 needed for research. In these regards Washington University compares favorably to the finest graduate institutions in the world. But 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. Motivation and perseverance are prerequisites for success in PhD programs.

### Academic Information

#### General Requirements

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 teaching requirements, write, defend, and submit a dissertation, and file an Intent to Graduate form on WebSTAC (<https://acadinfo.wustl.edu>).

#### Enrollment and Registration

Students newly admitted to the Graduate School receive from the university registrar information on creating a WUSTL Key that is used to register for courses online via WebSTAC during open registration periods. All registrations require online approval by the student's faculty adviser and are monitored by the Graduate School.

#### Regular Enrollment

Students admitted to a PhD program in the Graduate School 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 are:

- registered for 9 or more course units or
- 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.

Students will be administratively registered in LGS 9000 based on recommendations from their advisers stating the students are making satisfactory progress toward their degrees.

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 Graduate School on a case-by-case basis. If approved by the Graduate School, these 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.

Full-time students registered within their program length and making satisfactory academic progress will receive full funding, tuition remission, and the 90 percent health insurance and wellness fee subsidies. Tuition each semester will be calculated based on the number of registered course units.

### **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 Graduate School, these students will be registered in a zero-unit course LGS 9002 Full-time Graduate Study Extension which confers full-time enrollment status. Students registered for LGS 9002 will not receive Graduate School stipend support, but will receive other benefits available to full-time PhD students in the Graduate School including health insurance and wellness fee subsidies.

Students may be registered for LGS 9002 for a maximum of two semesters. There will be no exceptions to this limit. 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 Graduate School, students who do not complete their PhD degrees after the one-year enrollment extension may remain doctoral candidates for up to five years. Departmental recommendations and Graduate School approval are required for each year of extended degree candidacy. 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. International students are not eligible for Degree Candidacy Extended status.

### **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 registration and will be permitted only in extraordinary circumstances.

### **Courses and Tuition Remission**

The Graduate School will approve tuition remission for up to 72 course units. The 72-unit calculation includes courses transferred from other graduate programs.

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

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 adviser and program as necessary for the student's degree. Depending on the program, graduate-level courses begin with courses numbered in the 400s or 500s. Audited courses and courses taken pass/fail are not eligible for tuition remission. Students should consult their advisers regarding course selection.

When certain conditions apply, graduate students may be permitted to register for Arts & Sciences courses numbered below 400, but they may not ordinarily be covered by tuition remission unless approved by the dean of the Graduate School or their designee. Full-time students in the Graduate School who wish to take graduate courses in University College or Summer School must obtain the approval both of their academic adviser and of the dean of the Graduate School. Tuition remission may be available for such approved courses.

### **Grades**

Credit-conferring grades for students in the Graduate School are these: A, outstanding; B, good; C, conditional (an A, B or C grade may be modified by a plus or minus); S, satisfactory; and U, unsatisfactory (used almost exclusively for credit hours earned by doing research). Other grades are F, failing; N, not submitted yet; X, final examination missed; and I, incomplete. The mark of I becomes a permanent part of the student's record after the lapse of one calendar year unless the program in which the mark was assigned requests an extension of time.

The Graduate School uses a 4-point scale for calculating grade point averages, with A = 4, B = 3, and C = 2. A plus adds .3 to the value of a grade, whereas a minus subtracts .3 from the value of the grade.

Zero-unit LGS 9xxx courses will have only the satisfactory/unsatisfactory grade option. A successful grade (S) will be assigned to these courses when a student is approved for subsequent registration or completes the degree, or when the Graduate School dean approves a special grade report submitted by the student's adviser.

### **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 replaced by the symbol R. 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 GPA. 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

Credit for previous courses will be transferred to a student's Washington University record only to fulfill departmental course/credit requirements. Departments may request transfer credit from official transcripts after a student's admission to a PhD program.

## Satisfactory Academic Progress

Satisfactory academic progress for students in PhD programs is monitored by the Graduate School as well as the degree program. Failure to maintain satisfactory academic progress may result in immediate dismissal or in placement on academic probation for the ensuing year. 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 Graduate School. The following are minimal standards of satisfactory academic progress for PhD 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 discussed below. No later than the end of the fourth year of full-time graduate study, students are expected to have completed all PhD requirements except for the dissertation.
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 hours for which the grades of I (incomplete), X (final examination missed), or N (not yet submitted) are recorded. The Graduate School 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 are not considered to be making satisfactory academic progress. The Title, Scope and Procedure form (<http://graduateschool.wustl.edu/forms-0>) must be filed before the fifth year in order to identify membership of the student's Research Advisory Committee.
5. Students may take five or six years to complete the PhD depending upon the program. A one-year extension is available if circumstances warrant. Extensions are obtained by application by the student to the degree program, endorsement by the degree program to the Graduate School, and approval by the Graduate School.

## Qualifying Examinations

Progress toward the PhD is contingent upon passing examinations 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 in a relatively short period. Exams may be taken orally or in writing; they may be replaced by one or more papers. The program, which determines the form these required examinations take, is responsible for notifying the Graduate School of the student's successful completion of them.

## Residence Requirement

Each student must spend at least one academic year enrolled full-time at Washington University. Any exceptions must be approved by the dean of the Graduate School.

## Teaching Requirement

Graduate students must meet department and Graduate School-wide teaching requirements. PhD students must demonstrate competency in teaching at the basic level and at the advanced level. For more information, students should consult their director of graduate studies for discipline-specific guidelines on fulfilling the requirements.

## The Dissertation

Each candidate, as evidence of mastery of a specific field of knowledge and capacity for original, scholarly work, must complete a dissertation. The subject 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 adviser and must be approved by the Graduate School.

A Title, Scope and Procedure form for the dissertation must be signed by the committee members and by the program chair. It must be submitted to the Graduate School 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 and a Template (<http://graduateschool.wustl.edu/guides-0>), which give instructions regarding the format of the dissertation, are available on the Graduate School's website; both should be read carefully at every stage of thesis preparation.

The Graduate School 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 dissertation by the Research Advisory Committee is necessary to bring it to the defense. The committee before which the student is examined consists of at least five members, who normally meet two independent criteria:

1. Four of the five 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.
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 dean of the Graduate School or by their designee, regardless of whether they meet the normal criteria.

The committee is appointed by the dean of the Graduate School 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. Though 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.

## Dissertation Submission

After the defense, the student must submit an electronic copy of the dissertation online to the Graduate School. The submission website requires students to choose among publishing and copyrighting services offered by ProQuest's 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 program chair or director, to the Graduate School. Students who defend their dissertations successfully have not completed their PhD requirements; they finish earning the degree only when their dissertation submission has been accepted by the Graduate School.

## 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 (<https://acadinfo.wustl.edu>). Deadlines for filing an Intent to Graduate are listed on the Graduate School's website. 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 the Graduate School to study toward specific degrees. Therefore, a change in the degree objective (e.g., from AM to PhD) is subject to the approval of the student's program and of the Graduate School. 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 Graduate School. 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 Grievance Procedures

From time to time, students may feel that they have legitimate complaints regarding academic matters or an interaction with a faculty member. 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 should initially seek resolution from their faculty adviser, then from their director of graduate studies, and finally the chair of their degree program. Complaints which remain unresolved may be addressed to any of the deans in their school. The final court of appeal for all students in the Graduate School is the dean of the Graduate School.

All complaints regarding academic and professional integrity should be addressed to an associate dean of the Graduate School.

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. Visit the Discrimination and Harassment (<http://hr.wustl.edu/policies/pages/sexualharassment.aspx>) webpage for more information.

### Leaves of Absence

Students may request and be approved for a leave of absence during their regular registration period if they are not registered in absentia. Leaves of absence must be endorsed by the degree program and approved by the Graduate School 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 leave of absence, students are not registered and have 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 authorization from 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 Graduate School under the conditions prevailing at the time the leave was granted. Being on leave suspends student status and financial support from the university. Taking a leave therefore may adversely affect loan deferment, visa status, the right to rent university-owned housing, etc. Most visa types would prevent international students from remaining in the United States while taking a leave of absence; such students should consult the Office for International Students and Scholars (<http://oiss.wustl.edu>) as well as their faculty adviser, their program's director of graduate studies, and perhaps a dean.

## Withdrawals

Students wishing to withdraw from their program must give notice in writing by filling out the Graduate School's Withdrawal form (<http://graduateschool.wustl.edu/forms-0>). This form must include the date when the withdrawal should be considered effective. Without such information, there may be serious financial repercussions for the student and/or the university.

## Dismissals

A program may wish to dismiss a student for a number of reasons: willful misrepresentation to gain admission to graduate study, breaches of academic integrity, academic failure, or behavior destructive of the welfare of the academic community. Dismissals are recommended by the degree program and are not final until approved by the Graduate School. Any student who believes their dismissal was undeserved may appeal to the dean of the Graduate School, who may accept or decline the program's recommendation to dismiss the student.

## Interdisciplinarity

### Interdisciplinary Courses

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

- Students must be enrolled full time in graduate degree programs and have the approval of their faculty adviser or

administrative officer to take a course outside their home school.

- Courses will be open to students outside the discipline only if the students have met the required prerequisites and have the approval both of their department and of the course instructor.
- Finally, courses in the evening divisions, including University College and its Summer School, are not part of this agreement, and courses requiring individualized instruction and/or additional fees (such as independent studies or individual music lessons) are also excluded.

## Joint and Dual Degree Programs

The university has set up numerous programs permitting 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 Graduate School uses the term "joint degree" to refer to programs in which one or more credit hours are counted toward both degrees. The Graduate School uses the term "dual degree" to refer to programs in which no credit hours are counted toward both degrees. 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. Joint and dual degrees are ordinarily conferred simultaneously, after all the requirements for both degrees have been met.

Students wishing to pursue joint or dual degrees other than these may be permitted to do so, but such requests are considered on a case-by-case basis.

Admission to an individualized joint degree program between two Graduate School disciplines on the Danforth Campus must be recommended by the directors of graduate studies for both disciplines and approved by the dean of the Graduate School. Admission to an individualized joint 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 completion of both degrees and responsibility for funding the student and remitting the tuition. Students should not undertake study toward an individualized joint degree program until it has been fully approved.

## Graduate Certificates

The certificates offered to full-time students in the Graduate School are all interdisciplinary in nature:

- American Culture Studies (p. 26)
- Data Science in the Humanities (p. 52)
- Film and Media Studies (p. 84)

- Language Instruction (p. 132)
- Latin American Studies (p. 102)
- Quantitative Data Analysis (p. 124)
- Translation Studies (p. 47)
- Urban Studies (p. 141)
- Women, Gender, and Sexuality Studies (p. 143)

Graduate certificates are open to students in PhD programs at Washington University. They require 15-18 credit hours. Interested students must fill out an application for admission to a certificate program (<http://graduateschool.wustl.edu/forms-0>) and receive the approval of their degree program's chair, the certificate program's director, and the dean of the Graduate School. The application form is posted on the Graduate School's website. Tuition remission may be available for the credit hours required to complete a certificate program if the student's total units do not exceed 72. Earning a certificate does not increase a student's expected time to degree or amount of Graduate School support. 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 4-6 years, depending on the time needed to complete their particular program. Funding typically consists of full tuition remission and 10-12 months of a stipend to defray living expenses. Monetary support may come from the university or from outside sources, and it may be administered by an individual faculty member or by the staff of the program or the school.

## Financial Support

### Tuition Scholarships

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

### Research Assistantships

Except in unusual cases, research assistantships are available only to doctoral students who have completed at least one full year of graduate study. They are generally, but not exclusively, found in the natural and social sciences, and are offered through 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.

They may be awarded on an annual basis or may be renewable for periods up to three years, subject to satisfactory academic progress. Traineeships frequently emphasize research, but in the applied social sciences they might combine theory, research, and clinical experience in the field.

## Fellowships

Fellowships, which provide a living stipend, may be awarded to a student by the Graduate School, the student's degree program, or the student's adviser. In addition, a student may apply for and win certain fellowships that are awarded directly to the student. These require administration by the Graduate School, which also administers two unique universitywide fellowships: the Chancellor's Graduate Fellowships (<http://pages.wustl.edu/cgfp>) and the Spencer T. and Ann W. Olin Fellowships (<http://pages.wustl.edu/olinfellowship>). These awards provide year-round funding for four to five years. Prospective students must apply for them at the time of their application for admission, not after they have enrolled here 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 Graduate School determines eligibility and processes loan applications for all PhD students at Washington University. For more information about applying for loans, please visit the Graduate School's Loans (<http://graduateschool.wustl.edu/stafford-unsubsidized-loan>) webpage.

## Financial Costs

### Tuition Charges and Refunds

The maximum tuition fee is the equivalent of 9 semester hours. Students who enroll for 9 or more hours per semester are automatically regarded as full-time students and are charged a flat full-time rate. Students enrolled for 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 (<http://graduateschool.wustl.edu/forms-0>) to the Graduate School office. Requests for refund of tuition paid by a student who is withdrawing from a specific course should be submitted in writing to the Graduate School registrar. 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 withdrawing before the end of the fourth week pay 20 percent; those withdrawing before the end of the eighth week pay 40 percent. There is no refund after the eighth week of the semester except for reasons of health. Such reasons must

be certified or verified by 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 on the Danforth Campus are charged a mandatory health fee. This fee gives access to Habif Health and Wellness Center. In addition, full-time students on the Danforth Campus must either enroll in the student health insurance plan or present proof of comparable coverage. Both the health fee and the health insurance premium are subject to annual change. The Graduate School subsidizes both costs for most full-time fully supported students.

There is also a health fee for full-time students in degree programs based on the Medical Campus. It includes coverage equivalent to a health insurance plan. Details can be found on the Student & Occupational Health Services (<http://wusmhealth.wustl.edu>) 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 Master of Arts (AM) 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 an AM 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 terminal master's degree. Half of these are daytime programs for full-time students; these are described by their departments in other sections (p. 25) of this *Bulletin*. The other half of these terminal master's programs are designed primarily for part-time students and offer their classes in the evening; these are described by University College (p. 147) in its 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/AM (p. 21) section of this *Bulletin*.

## Academic Information

### General Requirements for Master of Arts (AM) Degrees

The minimum requirement of the Master of Arts degree (AM) is 30 credits. If the AM is awarded in a program of study in which Washington University awards a PhD with an identical disciplinary title, the minimum requirement is 36 credits.

Any master's degree program can require a master's thesis, make the thesis optional, or decline to offer a thesis. No more than 6 credits toward the AM can be awarded for master's thesis research. A master's thesis must be defended before a committee of no fewer than three faculty members. A master's without thesis must include an examination which tests competence in the field of study. Degree programs are free to add additional requirements. In addition, master's students must maintain satisfactory academic progress and fulfill residence requirements.

### Registration

Students newly admitted to the Graduate School receive from the university registrar information on creating a WUSTL Key that is used to register for courses online via WebSTAC during open registration periods. All registrations require online approval by the student's faculty adviser and are monitored by the Graduate School.

### Credit Hours

Full-time students register for 9-12 hours 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 adviser and program as eligible to count toward the student's degree. Depending on the program, graduate-level courses begin with courses numbered in the 400s or 500s. Audited courses and courses taken pass/fail (or credit/no credit) cannot be counted toward the degree and may not be eligible for tuition remission. Students should consult their advisers regarding these options.

### Grades

Credit-conferring grades for students in the Graduate School are these: A, outstanding; B, good; C, conditional (an A, B or C grade may be modified by a plus or minus); S, satisfactory; and U, unsatisfactory (used almost exclusively for credit hours earned by doing research). Other grades are F, failing; N, not submitted yet; X, final examination missed; and I, incomplete. The mark of I becomes a permanent part of the student's record

after the lapse of one calendar year unless the program in which the mark was assigned requests an extension of time.

The Graduate School uses a 4-point scale for calculating grade point averages, with A = 4, B = 3, and C = 2. A plus adds .3 to the value of a grade, whereas a minus subtracts .3 from the value of a grade.

## 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 replaced by the symbol R. 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 GPA. 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

A maximum of 6 credit hours may ordinarily be transferred from an institution of recognized graduate standing toward fulfillment of requirements for the master's degree from Washington University, except that a maximum of 15 credit hours may be transferred toward fulfillment of the requirements for the degree Master of Arts in Education (MAEd) from institutions that have entered into special cooperative agreements with Washington University for this purpose.

Applications to transfer credits for a master's degree are not ordinarily approved until one full semester of study (12 credit hours) has been completed at Washington University. Academic credits applied to complete requirements for the bachelor's degree are ordinarily not transferable toward the fulfillment of advanced degree requirements at Washington University. Likewise, academic credits counted toward requirements for any completed graduate degree are ordinarily not transferable toward a subsequent degree of equivalent or lower level.

## Satisfactory Academic Progress

Satisfactory academic progress is monitored by the Graduate School as well as the degree program. Failure to maintain satisfactory academic progress may result in immediate dismissal or in placement on academic probation for the ensuing year. 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 Graduate School. 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 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 hours. Thus, among courses of equal weight, each grade of C must be balanced by at least one A. (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 hours for which the grades of I (incomplete), X (final examination missed) or N (not yet submitted) are recorded. The Graduate School may deny a student with more than 9 unfinished credits permission to register.

## Residence Requirement

The residence requirement for master's degree students is that each student must spend at least one academic year registered for full-time credits (9-12 in the fall followed by 9-12 in the spring) at Washington University. Any exceptions to this requirement must be approved by the dean of the Graduate School. All daytime programs 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 student's faculty adviser 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 (<http://graduateschool.wustl.edu/forms-0>) to the Graduate School. It must be signed by the three-member committee before whom the student will defend the thesis, and 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 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 dean of the Graduate School or their designee.

A Master's Thesis Guide and a Template (<http://graduateschool.wustl.edu/guides-0>), which give instructions regarding the format of the thesis, are available on the Graduate School's website; both should be read carefully at every stage of thesis preparation.

The Graduate School 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 Graduate School. The degree program is responsible for delivering the Master's Approval form, signed by the committee members at the defense and then by the program chair, to the Graduate School. Students who defend their theses successfully have not completed their master's requirements; they finish earning the degree only when their thesis submission has been accepted by the Graduate School.

## Graduation Information

Students are responsible for filing an Intent to Graduate form in order to have their earned degree conferred. The Intent to Graduate is available online through WebSTAC (<https://acadinfo.wustl.edu>). Deadlines for filing an Intent to Graduate are listed on the Graduate School's website. 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 the Graduate School to study toward specific degrees. Therefore, a change in the degree objective (e.g., from AM to PhD) is subject to the approval of the student's program and of the Graduate School. 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 Graduate School. 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 Grievance Procedures

From time to time, students may feel that they have legitimate complaints regarding academic matters or an interaction with a faculty member. 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 should initially seek resolution from their faculty adviser, then from their director of graduate studies, and finally the chair of their degree program. Complaints which remain unresolved may be addressed to any of the deans in their school. The final court of appeal for all students in the Graduate School is the dean of the Graduate School.

All complaints regarding academic and professional integrity should be addressed to an associate dean of the Graduate School.

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. Visit the Discrimination and Harassment (<http://hr.wustl.edu/policies/pages/sexualharassment.aspx>) webpage 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 Graduate School.

Such a leave may be personal or medical. In the case of a medical leave the student must present authorization from Habif Health and Wellness Center at the beginning and again at the end of the leave. At the end of a leave of absence, a student is reinstated into the Graduate School under the conditions prevailing at the time the leave was granted. Being on leave suspends full-time student status and financial support from the university. Taking a leave therefore may adversely affect loan deferment, visa status, the right to rent university-owned housing, etc. Most visa types would prevent international students from remaining in the United States while taking a leave of absence; such students should consult the Office for International Students and Scholars (<http://oiss.wustl.edu>) as well as their faculty adviser, their program's director of graduate studies, and perhaps a dean.

Prior to taking a leave of absence, students should consider their need for health insurance coverage. The continuation of student health insurance and access to 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 (<http://shs.wustl.edu>) 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 program must give notice in writing by filling out the Graduate School's Withdrawal form (<http://graduateschool.wustl.edu/forms-0>). This form must include the date when the withdrawal should be considered effective. Without such information, there may be serious financial repercussions for the student and/or the university.

## Dismissals

A program may wish to dismiss a student for a number of reasons: willful misrepresentation to gain admission to graduate study, breaches of academic integrity, academic failure, or behavior destructive of the welfare of the academic community.

Dismissals are recommended by the degree program and are not final until approved by the Graduate School. Any student who believes their dismissal was undeserved may appeal to the dean of the Graduate School, who may accept or decline the program's recommendation to dismiss the student.

## Interdisciplinarity

### Joint and Dual Degree Programs

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

- Joint Master of Social Work / Master of Arts in Jewish Studies
- Joint Master of Social Work / Master of Arts in Education
- Joint Master of Business Administration / Master of Arts in East Asian Studies
- Joint Juris Doctoris / Master of Arts in East Asian Studies
- Master's Program for Medical Students (MD/AM in Biology & Biomedical Sciences)

The Graduate School uses the term "joint degree" to refer to programs in which one or more credit hours are counted toward both degrees. The Graduate School uses the term "dual degree" to refer to programs in which no credit hours are counted toward both degrees. 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. Joint and dual degrees are ordinarily conferred simultaneously, after all the 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/AM Program

This program allows qualified Washington University undergraduates to complete a Master of Arts (AM) 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. The application deadline is August 1; applications may be submitted any time during the senior year up to the deadline. The GRE is 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 an AM in one year, students may apply five courses taken at the 400 level or above as an undergraduate (with a maximum of 16 units) toward master's degree programs which require 36 or more units for completion. For master's programs which require fewer than 36 units, three courses at the 400 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. Some departments may not participate in this program, and some departments that do not otherwise offer a master's degree may provide this opportunity to Washington University undergraduates. Please consult the home department and the Information for Accelerated AB/AM Applicants (PDF) (<http://graduateschool.wustl.edu/sites/graduateschool.wustl.edu/files/Acelerated%20AB%20AM%20Program.pdf>) for more detailed information.

Actual award of each degree is contingent on 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 the Graduate School. 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 the Graduate School and should familiarize themselves with the relevant sections of this *Bulletin*.

## Financial Information

Master's degree programs vary considerably in the extent to which they are eligible for financial support from the Graduate School or degree program. Typical awards for day students include scholarships for part or all of their tuition charges. Part-time employment and student loans are possible sources of support.

### Financial Support

#### Tuition Scholarships

Scholarships to cover part or all the costs of tuition are available to both new and continuing students. Since perception of academic merit is the sole criterion for the award of tuition scholarships, they 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 Graduate School determines eligibility and processes loan applications for all full-time master's students in daytime programs. For more information about applying for loans, please visit the Graduate School's Loans (<http://graduateschool.wustl.edu/stafford-unsubsidized-loan>) webpage.

## Financial Costs

### Tuition Charges and Refunds

The maximum tuition fee is the equivalent of 9 semester hours. Students who enroll for 9 or more hours per semester are automatically regarded as full-time students and are charged a flat full-time rate. Students enrolled for 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 (<http://graduateschool.wustl.edu/forms-0>) to the Graduate School office. Requests for refund of tuition paid by a student who is withdrawing from a specific course should be submitted in writing to the Graduate School registrar. 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 withdrawing before the end of the fourth week pay 20 percent; those withdrawing before the end of the eighth week pay 40 percent. There is no refund after the eighth week of the semester except for reasons of health. Such reasons must be certified or verified by 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 Arts & Sciences are charged a mandatory health fee. This fee gives access to Habif Health and Wellness Center. In addition, they must either enroll in the student health insurance plan or present proof of comparable coverage. Both the health fee and the health insurance premium are subject to annual change.

## Fields of Study

### A

American Culture Studies (p. 26)

American Culture Studies (University College) (p. 148)

Anthropology (p. 27)

Art History and Archaeology (p. 30)

### B

Biology (University College) (p. 149)

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### C

Chemistry (p. 43)

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### D

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### E

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Engineering & Applied Science (p. 63)

- Biomedical Engineering (p. 63)
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### F

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### G

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### I

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### J

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## R

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## T

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## U

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## W

Women, Gender, and Sexuality Studies (p. 143)

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## 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 the PhD. This is one of several interdisciplinary certificates offered by the Graduate School, intended as credentials of special competency. The certificate helps its holders build academic careers, including careers involving interdisciplinary teaching, and it helps them develop distinctive research profiles.

**Contact:** Jennifer Gallinat  
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**Website:** [http://amcs.wustl.edu/academics/graduate\\_certificate.php](http://amcs.wustl.edu/academics/graduate_certificate.php)

## Faculty

The American Culture Studies program is enriched by its diverse community of faculty, lecturers, students and staff. Please visit our AMCS Directory webpage (<http://amcs.wustl.edu/directory>) for a description and list of our teaching and affiliated faculty and other important members of our community.

## Degree Requirements

### Graduate Certificate in American Culture Studies

The Graduate Certificate in American Culture Studies is awarded to students who complete the PhD in a department of the Graduate School and who satisfy the following requirements:

- Complete 15 total credits as outlined below:
  - The core seminar (3 credits), Introduction to American Culture Studies (AMCS 645).
  - Multidisciplinary courses (6 credits): two graduate courses on American topics (400-level or above) specifically designed in explicitly multidisciplinary terms. These may be from within the student's home field of study. These are sometimes team-taught by faculty representing two different departments. Courses satisfying this requirement will be determined in consultation with the graduate director.
  - Extradepartmental courses (6 credits): two graduate courses on American topics (400-level or above) based in fields that complement studies in the home

department, to be determined in consultation with the graduate director.

- Routine consultation with an AMCS faculty adviser outside the home department, in addition to the student's principal PhD adviser.
- Completion of a PhD dissertation in the home department, with the AMCS faculty adviser serving as one of the "outside" readers on the oral-defense committee.

The PhD Certificate program features and requires the AMCS 645 Graduate Core Course, offered every other year; two Multi-Disciplinary (MD) courses, which foreground explicit conversation between field-specific discourses; and two Extra-Disciplinary (ED) courses, which are methodologically substantive courses outside the student's home department.

The PhD Certificate program also gives students the opportunity to participate in Professionalization Projects, which are AMCS-mentored and funded projects in which students interact with scholars in their fields outside Washington University (for example, an on-campus symposium in which outside scholars participate or a panel at the annual meeting of a major scholarly professional association), as well as AMCS mentored teaching experiences and AMCS teaching (where appropriate and with the approval of the AMCS director of graduate studies, the dissertation adviser, the home department director of graduate studies, and, in the case of the AMCS mentored teaching experience, the course instructor).

Finally, PhD Certificate students are expected to regularly attend and participate in the monthly Americanist Dinner Forum, a flagship AMCS event which stages cross-disciplinary conversations among Americanist faculty to probe productive nodes of shared concern.

For more information about program activities and requirements, please visit our Graduate Studies ([http://amcs.wustl.edu/academics/graduate\\_certificate.php](http://amcs.wustl.edu/academics/graduate_certificate.php)) webpage.

## Anthropology

The graduate program in 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 non-governmental jobs and careers. While candidates may receive an AM degree during the course of their study, the department does not admit students seeking a terminal master's degree. The anthropology department has a strong tradition of graduate student satisfaction and close mentoring by faculty advisers. In addition, graduates of the Washington University Anthropology PhD program have a solid history of placement in highly desirable academic and non-academic positions.

The department has a strong three-field approach with active programs in Archaeology, Sociocultural Anthropology,

and Biological Anthropology. 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; quantitative studies of morphology and genetics; and human life history.

## Contact Information

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**Phone:** 314-935-5870 or 314-935-7770 or 314-935-5252

**Website:** <http://anthropology.artsci.wustl.edu/graduate>

## Faculty

### Chair

**T.R. Kidder** ([http://anthropology.artsci.wustl.edu/kidder\\_tr](http://anthropology.artsci.wustl.edu/kidder_tr))  
Edward S. and Tedi Macias Professor in Arts & Sciences  
PhD, Harvard University

### Endowed Professors

**John Baugh** ([http://anthropology.artsci.wustl.edu/baugh\\_john](http://anthropology.artsci.wustl.edu/baugh_john))  
Margaret Bush Wilson Professor in Arts & Sciences  
PhD, University of Pennsylvania

**John R. Bowen** ([http://anthropology.artsci.wustl.edu/bowen\\_john](http://anthropology.artsci.wustl.edu/bowen_john))  
Dunbar-Van Cleve Professor in Arts & Sciences  
PhD, University of Chicago

**Pascal R. Boyer** ([http://anthropology.artsci.wustl.edu/boyer\\_pascal](http://anthropology.artsci.wustl.edu/boyer_pascal))  
Henry Luce Professor of Collective and Individual Memory  
PhD, University of Paris-Nanterre

**Fiona Marshall** ([http://anthropology.artsci.wustl.edu/marshall\\_fiona](http://anthropology.artsci.wustl.edu/marshall_fiona))  
James W. and Jean L. Davis Professor in Arts & Sciences  
PhD, University of California, Berkeley

**Richard J. Smith** ([http://anthropology.artsci.wustl.edu/smith\\_richard](http://anthropology.artsci.wustl.edu/smith_richard))  
Ralph E. Morrow Distinguished University Professor  
PhD, Yale University

**Erik Trinkaus** ([http://anthropology.artsci.wustl.edu/trinkaus\\_erik](http://anthropology.artsci.wustl.edu/trinkaus_erik))  
Mary Tileston Hemenway Professor in Arts & Sciences  
PhD, University of Pennsylvania

**Lewis Wall** ([http://anthropology.artsci.wustl.edu/wall\\_lewis](http://anthropology.artsci.wustl.edu/wall_lewis))  
Selina Okin Kim Conner Professor in Arts & Sciences  
MD, University of Kansas  
DPhil, Oxford University

**James V. Wertsch** ([http://anthropology.artsci.wustl.edu/wertsch\\_james](http://anthropology.artsci.wustl.edu/wertsch_james))  
Marshall S. Snow Professor in Arts & Sciences  
PhD, University of Chicago

## Professors

**Lois Beck** ([http://anthropology.artsci.wustl.edu/beck\\_lois](http://anthropology.artsci.wustl.edu/beck_lois))  
PhD, University of Chicago

**Geoff Childs** ([http://anthropology.artsci.wustl.edu/childs\\_geoff](http://anthropology.artsci.wustl.edu/childs_geoff))  
PhD, Indiana University

**David Freidel** ([http://anthropology.artsci.wustl.edu/freidel\\_david](http://anthropology.artsci.wustl.edu/freidel_david))  
PhD, Harvard University

**Gayle J. Fritz** ([http://anthropology.artsci.wustl.edu/fritz\\_gayle](http://anthropology.artsci.wustl.edu/fritz_gayle))  
PhD, University of North Carolina at Chapel Hill

**Carolyn Sargent** ([http://anthropology.artsci.wustl.edu/sargent\\_carolyn](http://anthropology.artsci.wustl.edu/sargent_carolyn))  
PhD, Michigan State University

**Glenn D. Stone** ([http://anthropology.artsci.wustl.edu/stone\\_glenn](http://anthropology.artsci.wustl.edu/stone_glenn))  
PhD, University of Arizona

**David Strait** ([http://anthropology.artsci.wustl.edu/strait\\_david](http://anthropology.artsci.wustl.edu/strait_david))  
PhD, State University of New York–Stony Brook

## Associate Professors

**Peter Benson** ([http://anthropology.artsci.wustl.edu/benson\\_peter](http://anthropology.artsci.wustl.edu/benson_peter))  
PhD, Harvard University

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PhD, University of Pennsylvania

**Bret D. Gustafson** ([http://anthropology.artsci.wustl.edu/gustafson\\_bret](http://anthropology.artsci.wustl.edu/gustafson_bret))  
PhD, Harvard University

**Rebecca J. Lester** ([http://anthropology.artsci.wustl.edu/lester\\_rebecca](http://anthropology.artsci.wustl.edu/lester_rebecca))  
PhD, University of California, San Diego

**Shanti A. Parikh** ([http://anthropology.artsci.wustl.edu/parikh\\_shanti](http://anthropology.artsci.wustl.edu/parikh_shanti))  
PhD, Yale University

**Elizabeth A. Quinn** ([http://anthropology.artsci.wustl.edu/quinn\\_ea](http://anthropology.artsci.wustl.edu/quinn_ea))  
PhD, Northwestern University

**Crickette Sanz** ([http://anthropology.artsci.wustl.edu/sanz\\_crickette](http://anthropology.artsci.wustl.edu/sanz_crickette))  
PhD, Washington University

**Bradley P. Stoner** ([http://anthropology.artsci.wustl.edu/stoner\\_bradley](http://anthropology.artsci.wustl.edu/stoner_bradley))  
MD, PhD, Indiana University

## Assistant Professors

**Sarah Baitzel** ([http://anthropology.artsci.wustl.edu/baitzel\\_sarah](http://anthropology.artsci.wustl.edu/baitzel_sarah))  
PhD, University of California, San Diego

**Talia Dan-Cohen** ([http://anthropology.artsci.wustl.edu/dan-cohen\\_talia](http://anthropology.artsci.wustl.edu/dan-cohen_talia))  
PhD, Princeton University

**Xinyi Liu** ([http://anthropology.artsci.wustl.edu/liu\\_xinyi](http://anthropology.artsci.wustl.edu/liu_xinyi))  
PhD, University of Cambridge

**Krista Milich** ([http://anthropology.artsci.wustl.edu/milich\\_krista-0](http://anthropology.artsci.wustl.edu/milich_krista-0))  
PhD, University of Illinois at Urbana-Champaign

**Kedron Thomas** ([http://anthropology.artsci.wustl.edu/thomas\\_kedron](http://anthropology.artsci.wustl.edu/thomas_kedron))  
PhD, Harvard University

**Helina Woldekiros** ([http://anthropology.artsci.wustl.edu/woldekiros\\_helina-0](http://anthropology.artsci.wustl.edu/woldekiros_helina-0))  
PhD, Washington University

**Emily Wroblewski** ([http://anthropology.artsci.wustl.edu/wroblewski\\_emily](http://anthropology.artsci.wustl.edu/wroblewski_emily))  
PhD, University of Minnesota

## Senior Lecturer

**John Kelly** ([http://anthropology.artsci.wustl.edu/kelly\\_john](http://anthropology.artsci.wustl.edu/kelly_john))  
PhD, University of Wisconsin-Madison

## Lecturers

**Anna Jacobsen** ([http://anthropology.artsci.wustl.edu/jacobsen\\_anna](http://anthropology.artsci.wustl.edu/jacobsen_anna))  
PhD, Washington University in St. Louis

**Jhonnelle Lamarque** ([http://anthropology.artsci.wustl.edu/lamarque\\_jhonnelle](http://anthropology.artsci.wustl.edu/lamarque_jhonnelle))  
PhD, Rutgers University

## Adjunct Associate Professors

**Carolyn Lesorogol** (<http://brownschool.wustl.edu/Faculty/FullTime/Pages/CarolynLesorogol.aspx>)  
PhD, Washington University

**M. Priscilla Stone** (<http://studyabroad.sit.edu/sn/sit-faculty-staff/faculty-bios/m-priscilla-stone>)  
PhD, University of Arizona

## Professors Emeriti

**David L. Browman** ([http://anthropology.artsci.wustl.edu/browman\\_david](http://anthropology.artsci.wustl.edu/browman_david))  
PhD, Harvard University

**Robert L. Canfield** ([http://anthropology.artsci.wustl.edu/canfield\\_robert](http://anthropology.artsci.wustl.edu/canfield_robert))  
PhD, University of Michigan

**Pedro C. Cavalcanti**  
PhD, University of Warsaw

**James M. Cheverud** ([http://anthropology.artsci.wustl.edu/cheverud\\_james](http://anthropology.artsci.wustl.edu/cheverud_james))  
PhD, University of Wisconsin-Madison

**Glenn C. Conroy** ([http://anthropology.artsci.wustl.edu/conroy\\_glenn](http://anthropology.artsci.wustl.edu/conroy_glenn))  
PhD, Yale University

**G. Edward Montgomery**  
PhD, Columbia University

**Jane Phillips-Conroy** ([http://anthropology.artsci.wustl.edu/philips-conroy\\_jane](http://anthropology.artsci.wustl.edu/philips-conroy_jane))  
PhD, New York University

**Patty Jo Watson** ([http://anthropology.artsci.wustl.edu/watson\\_pattyjo](http://anthropology.artsci.wustl.edu/watson_pattyjo))  
Edward Mallinckrodt Distinguished University Professor Emerita  
PhD, University of Chicago

## Degree Requirements

### Departmental Requirements and Graduate Student Evaluation Procedures

These are the general requirements of the Department of Anthropology. Each subdiscipline also has its own additional guidelines and requirements. All students in the PhD program are expected to satisfy the academic performance requirements of the Graduate School, which can be found in the General Requirements (p. 15) section of this *Bulletin*. Similarly, all subdisciplinary requirements are in addition to those set out here for the department as a whole.

A student's progress is monitored by the entire faculty until they are formally admitted to the doctoral program (usually by the end of the fourth semester). Up until that point, the entire faculty vote upon decisions regarding the student's evaluation and fulfillment of requirements. From the point at which students are formally admitted to the doctoral program, progress is evaluated by their committee, which will always consist of a minimum of three full-time permanent members of the anthropology faculty. This committee has authority to set specific PhD candidacy requirements for the student. The committee also recommends to the chair that a student be advanced to PhD candidacy.

## Universal Departmental Requirements

### AM Degree

- 1. Theory Requirement** (Anthro 472 Social Theory and Anthropology). All students are required to take Anthropology 472 in their first year. Under special circumstances this requirement may be delayed or waived by petitioning the entire departmental faculty.
- 2. Two Subdisciplinary Course Requirements.** All students must complete at least one course taught by a faculty member of the anthropology department in each of the two subdisciplines other than their own; Anthropology 472 may satisfy the sociocultural requirement. Students with good cause to substitute prior extensive courses in the subdiscipline, especially in the context of a master's degree at another university, for one or both of the other subdisciplinary requirements, may petition the relevant subdisciplinary faculty to do so.
- 3. 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.
- 4. Credit Hours.** The anthropology department requires 36 credit hours for the award of an AM degree without thesis; 24 credit hours are required for an AM degree with thesis.
- 5. Petition for the Award of the Master's Degree.** Once a student has completed all requirements for the AM degree, the student and their adviser submit a petition to the chair; the chair circulates the petition to the entire faculty and forwards it to the Graduate School. This petition should include documentation of satisfactory completion of all the Graduate School requirements (including cumulative credits, thesis if one was done, and grade point average), the four requirements listed above (1-4), as well as any special requirements set by the student's subdiscipline (refer to the relevant subdisciplinary requirements: Archaeology (<http://anthropology.artsci.wustl.edu/graduate/archaeology>), Biological Anthropology (<http://anthropology.artsci.wustl.edu/graduate/biological>), Sociocultural Anthropology (<http://anthropology.artsci.wustl.edu/graduate/sociocultural>)). Sample petitions are available in the academic coordinator's office ([http://anthropology.artsci.wustl.edu/jacobsen\\_kirsten](http://anthropology.artsci.wustl.edu/jacobsen_kirsten)).

### PhD Degree

All AM degree requirements are also requirements for doctoral candidacy whether the student actually receives the AM degree or not. Continuation for the PhD involves being advanced to doctoral candidacy.

- 1. Student-Specific Requirements for Doctoral Candidacy.** Students may be asked by their committees to fulfill additional requirements, directly relevant to their doctoral

dissertation research, prior to admission to candidacy. These may include a foreign language or specialized preparation outside of the anthropology department in other areas such as statistics, computer programming, or laboratory techniques. Students will be formally notified by their committees of such additional requirements.

2. **Defense of the Doctoral Proposal.** All students must defend a doctoral proposal prior to admission to PhD candidacy. Proposals must be defended before a faculty committee consisting of an adviser and at least two other permanent members of the anthropology faculty.
3. **Petition for Admission to Doctoral Candidacy.** Once a student's doctoral proposal has been successfully defended, and all other requirements set by the Graduate School, anthropology department, subdiscipline, and the student's committee have been met, the student and adviser should submit a petition to the chair for advancement to candidacy; the chair will then inform the entire faculty and forward the petition to the Graduate School. Petitions should be in the form of a memorandum explaining how all of the requirements were satisfied. Sample petitions are available in the academic coordinator's office.
4. **Teaching Requirement.** As part of the professionalization of graduate students in Anthropology, the department requires all students to participate in a minimum of five Mentored Teaching Experiences. All students must also attend the Graduate School Teaching Orientation.
5. **Professionalization Requirement** Students in the fifth and sixth years are required to take the year-long department graduate professional seminar if they are in residence. This seminar is designed to support graduate students in their post-fieldwork period, to help them attain relevant professional experience and mentoring, and to allow them to enhance their ability to find employment following graduation.
6. **The Doctoral Dissertation.** The doctoral dissertation must constitute an integrated, coherent original work, whose parts are logically connected to each other. Normally, the doctoral dissertation consists of a sequence of integrated chapters that introduce the dissertation research, provide the background and the methods for the research, present and interpret the results, and then tie the various portions of the dissertation together in a concluding chapter, with appropriate citations.

In this context, it may be appropriate for the dissertation to consist in part of research articles that have been written, and may be published (refer to Criteria for Acceptance of Collected Articles for a Dissertation (PDF) ([http://bulletin.wustl.edu/grad/gsas/anthro/Article\\_Publish\\_Policy\\_Anthropology.pdf](http://bulletin.wustl.edu/grad/gsas/anthro/Article_Publish_Policy_Anthropology.pdf))), by the graduate student during the course of the doctoral research. Whether this dissertation format is appropriate for a given dissertation (within a subfield that accepts such a dissertation) needs to be determined a priori by the student and their doctoral

committee. Should it be deemed appropriate, it must have an introductory chapter that provides the theme and core questions of the dissertation research and that explains the relationship(s) between the constituent chapters and parts, and it must also have a concluding chapter that brings together the information and ideas expressed in the thesis, relates them to the introduction, and shows how they constitute a coherent whole. Refer to "Minimal Requirements for Dissertations" in the Graduate School Dissertation Guide (<http://graduateschool.wustl.edu/guides-0>) for the Graduate School requirements regarding a dissertation that includes previously written materials.

### Specific Subfield Requirements

Please visit the following websites for more information regarding specific subfield requirements:

- Archaeology (<http://anthropology.artsci.wustl.edu/graduate/archaeology>)
- Biological Anthropology (<http://anthropology.artsci.wustl.edu/graduate/biological>)
- Sociocultural Anthropology (<http://anthropology.artsci.wustl.edu/graduate/sociocultural>)

### Art History and Archaeology

The department 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 adviser; the research of PhD students is supervised by a Research Advisory Committee, a core group of three members of the faculty. PhD students gain teaching experience within the department or in other programs (as a mentored teaching experience or as instructors of record) as part of their professional preparation.

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 go on to teaching or administrative appointments in colleges and universities; positions as curators, registrars and educators in art museums; jobs with auction houses, arts publications, and art appraisers.

Students with the AM degree from the department have pursued doctoral studies at Washington University or in other PhD programs, as well as taken a variety of positions in arts journalism, art libraries, art advising, secondary school teaching, and commercial art galleries.

**Phone:** 314-935-5270  
**Website:** <http://arthistory.artsci.wustl.edu>

## Faculty

### Chair

**Elizabeth C. Childs** (<http://arthistory.artsci.wustl.edu/people/elizabeth-c-childs>)  
Etta and Mark Steinberg Professor of Art History  
PhD, Columbia University

### Endowed Professor

**William E. Wallace** (<http://arthistory.artsci.wustl.edu/people/william-wallace>)  
Barbara Murphy Bryant Distinguished Professor of Art History  
PhD, Columbia University

### Professors

**John Klein** (<http://arthistory.artsci.wustl.edu/people/john-klein>)  
PhD, Columbia University

**Angela Miller** (<http://arthistory.artsci.wustl.edu/people/angela-miller>)  
PhD, Yale University

### Associate Professor

**Kristina Kleutghen** (<http://arthistory.artsci.wustl.edu/people/kristina-kleutghen>)  
David W. Mesker Associate Professor  
PhD, Harvard University

### Assistant Professors

**Nicola Aravecchia** (<http://arthistory.artsci.wustl.edu/people/nicola-aravecchia>)  
PhD, University of Minnesota

**Nathaniel Jones** (<http://arthistory.artsci.wustl.edu/people/nathaniel-jones>)  
PhD, Yale University

**Ila Sheren** (<http://arthistory.artsci.wustl.edu/people/ila-sheren>)  
PhD, Massachusetts Institute of Technology

### Lecturer

**Esther Gabel** (<http://arthistory.artsci.wustl.edu/people/esther-gabel-0>)  
PhD, University of Cambridge

## Postdoctoral Fellows

**Sara Ryu**  
PhD, Yale University

**Deborah Spivak**  
PhD, University of California, Santa Barbara

## Affiliated Faculty

**David Freidel** ([http://anthropology.artsci.wustl.edu/freidel\\_david](http://anthropology.artsci.wustl.edu/freidel_david))  
Professor of Archaeology, Department of Anthropology  
PhD, Harvard University

**Rebecca Messbarger** (<http://rll.wustl.edu/people/messbarger>)  
Professor of Italian; History; and Women, Gender and Sexuality Studies  
PhD, University of Chicago

**Eric Mumford** ([http://samfoxschool.wustl.edu/portfolios/faculty/eric\\_mumford](http://samfoxschool.wustl.edu/portfolios/faculty/eric_mumford))  
Rebecca and John Voyles Professor of Architecture  
PhD, Princeton University

## Professors Emeriti

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

**Sarantis Symeonoglou**  
PhD, Columbia University

**Mark S. Weil**  
E. Desmond Lee Professor Emeritus  
PhD, Columbia University

## Affiliated Curators, Mildred Lane Kemper Art Museum, Washington University

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

**Meredith Malone**  
Associate Curator  
PhD, University of Pennsylvania

**Allison Unruh**  
Associate Curator  
PhD, Institute of Fine Arts, New York University

## Affiliated Curators and Directors, Saint Louis Art Museum

**Brent Benjamin**  
Director  
MA, Williams College

**Nichole Bridges**  
PhD, University of Wisconsin–Madison

**Lisa Çakmak**

PhD, University of Michigan

**David Conradsen**

MA, University of Delaware

**Phillip Hu**

MA, Institute of Fine Arts, New York University

**Simon Kelly**

PhD, Oxford University

**Hannah Klemm**

MA, Courtauld Institute of Art, PhD Candidate, University of Chicago

**Eric Lutz**

PhD, University of California, Santa Barbara

**Judith Mann**

PhD, Washington University

**Alexander Brier Marr**

PhD, University of Rochester

**Melissa Wolfe**

PhD, Ohio State University

**Elizabeth Wyckoff**

PhD, Columbia University

## Guest Scholars, Pulitzer Foundation

**Tamara Schenkenberg**

Curator

PhD, University of Wisconsin–Madison

**Cara Starke**

Director

MA, Williams College

## Degree Requirements

Applicants for admission to the graduate program are normally expected to have completed 18 hours 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.

## Master of Arts in Art History and Archaeology

### Requirements for the AM degree

Normally 12 courses over four semesters, including the required graduate seminar, Methods in Art History; and 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 pass a reading proficiency exam in a modern foreign language (or exempt this requirement through graded courses in the language). Students in ancient

art and Asian art may have additional language requirements. Students continuing for the PhD are strongly advised to demonstrate reading proficiency in a second modern foreign language before the start of their fifth semester in the graduate program.

## PhD in Art History and Archaeology

### Requirements for the PhD degree

If the student has completed their AM degree at Washington University and are continuing on to the PhD, they will take additional courses (normally six courses, of which three are seminars or independent study); demonstrate reading proficiency in a second modern foreign language; prepare for and pass a Comprehensive Exam (two courses); prepare and defend a Dissertation Prospectus (one course); and begin dissertation research. Students in ancient art and Asian art may have additional language requirements.

Thus, by the end of the sixth semester of graduate study overall, students will normally have:

- completed all required courses;
- determined a three-person Research Advisory Committee for the dissertation;
- passed the Comprehensive Exam in the Major Area and one Minor Area;
- defended the Dissertation Prospectus;
- demonstrated reading proficiency in not fewer than two modern foreign languages.

Students admitted to the PhD program who have an approved master's degree from another university will normally complete these requirements by the end of their fourth semester at Washington University.

## Biology & Biomedical Sciences

The 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 11 doctoral programs:

- Biochemistry, Biophysics and Structural Biology
- Computational and Systems Biology
- Developmental, Regenerative and Stem Cell Biology
- Evolution, Ecology and Population Biology
- Human and Statistical Genetics
- Immunology
- Molecular Cell Biology
- Molecular Genetics and Genomics
- Molecular Microbiology and Microbial Pathogenesis

- Neurosciences
- Plant and Microbial Biosciences

A collaborative, interdisciplinary approach to research and education is a hallmark of Washington University and the Division. As a universitywide 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 currently consists of 670 graduate students and over 500 faculty members from 37 departments.

Washington University in St. Louis provides unique opportunities in translating basic science to practical application. The university's BioMed 21 initiative provides \$300 million to support research that bridges the gap from bench to bedside; the project included construction of a 215,000 square-foot building dedicated to such research. 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 (<http://www.missouribotanicalgarden.org>) and the Danforth Plant Science Center (<http://www.danforthcenter.org/default.asp>).

To help prepare graduates for a career in academia, government, industry or another field of their choice, educational opportunities are offered for skills development and career exploration. Through our Career Talks program, professionals from a variety of fields, such as biotech start-ups and 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 Balsa Group and ProSPER, students have additional opportunities to develop experiences relevant to future career goals.

**Phone:** 314-362-3365 or 800-852-9074  
**Email:** [DBBS-Info@email.wustl.edu](mailto:DBBS-Info@email.wustl.edu)  
**Website:** <http://dbbs.wustl.edu>

## Programs and Faculty

### Biochemistry, Biophysics and Structural Biology (<http://dbbs.wustl.edu/divprograms/biophysics/Pages/BBSB.aspx>)

*Areas of study:* DNA repair, replication and recombination, allosteric and enzymology, molecular signaling, cell cycle regulation, biochemistry of host-pathogen interactions, mechanisms of microbial immune invasion, mechanisms of neural degeneration, nucleic acid-protein interactions,

nanotechnology and chemical biology, cellular transport and trafficking, computational biophysics.

Visit our website for information about our Biochemistry, Biophysics and Structural Biology faculty (<http://dbbs.wustl.edu/divprograms/biophysics/Pages/Faculty.aspx>).

### Computational and Systems Biology (<http://dbbs.wustl.edu/programs/CompBio>)

*Areas of study:* systems biology, genomics, sequence analysis, regulatory networks, synthetic biology, metagenomics, metabolomics, proteomics, epigenomics, transcriptomics, lipidomics, single cell dynamics, high-throughput technology development, applied math and mathematical models of biological processes, computational biology, comparative genomics, personalized medicine, genome engineering, machine learning, big data science, next generation sequencing and its applications, bioinformatics.

Visit our website for information about our Computational and Systems Biology faculty (<http://dbbs.wustl.edu/divprograms/compbio/Pages/Faculty.aspx>).

### Developmental, Regenerative and Stem Cell Biology (<http://dbbs.wustl.edu/programs/DevBio>)

*Areas of study:* development, stem cell biology, regenerative biology, cell biology, genetics, cell signaling, the biology of cancer, epigenetics, circadian rhythms, systems biology.

Visit our website for information about our Developmental, Regenerative and Stem Cell Biology faculty (<http://dbbs.wustl.edu/divprograms/devbio/Pages/Faculty.aspx>).

### Evolution, Ecology and Population Biology (<http://dbbs.wustl.edu/programs/eepb>)

*Areas of study:* population ecology, community ecology, plant and animal evolution; microbial evolution, evolution of behavior, phylogenetics, systematics, theoretical and experimental population genetics.

Visit our website for information about our Evolution, Ecology and Population Biology faculty (<http://dbbs.wustl.edu/divprograms/eepb/Pages/Faculty.aspx>).

### Human and Statistical Genetics (<http://dbbs.wustl.edu/programs/hsg>)

*Areas of study:* human genetics, statistical genetics, functional genomics, molecular genetics, Mendelian disease, complex disease, human disease models, systems biology.

Visit our website for information about our Human and Statistical Genetics faculty (<http://dbbs.wustl.edu/divprograms/hsg/Pages/Faculty.aspx>).

### **Immunology (<http://dbbs.wustl.edu/programs/immunology>)**

*Areas of Study:* cellular immunology, molecular immunology, lineage development, autoimmunity, cancer immunotherapy, transcription factors, epigenomics, mucosal immunity, innate immunity, bacterial, viral, and parasite immunity, immune evasion, antigen processing and presentation, dendritic cells, T cell signaling, antigen receptor diversification.

Visit our website for information about our Immunology faculty (<http://dbbs.wustl.edu/divprograms/immunology/Pages/Faculty.aspx>).

### **Molecular Cell Biology (<http://dbbs.wustl.edu/programs/cellbio>)**

*Areas of study:* cell adhesion, protein trafficking and organelle biogenesis, cell cycle, receptors, signal transduction, gene expression, metabolism, cytoskeleton and motility, membrane excitability, molecular basis of diseases.

Visit our website for information about our Molecular Cell Biology faculty (<http://dbbs.wustl.edu/divprograms/cellbio/Pages/Faculty.aspx>).

### **Molecular Genetics and Genomics (<http://dbbs.wustl.edu/programs/mgg>)**

*Areas of study:* genetics, genetic basis of disease, genomics, epigenetics, genetic engineering, genome editing, model organism genetics, development, cell biology, molecular biology, complex traits, bioinformatics, systems biology.

Visit our website for information about our Molecular Genetics and Genomics faculty (<http://dbbs.wustl.edu/divprograms/genetics/Pages/Faculty.aspx>).

### **Molecular Microbiology and Microbial Pathogenesis (<http://dbbs.wustl.edu/programs/micro>)**

*Areas of study:* Host-pathogen interactions, cellular microbiology, molecular microbiology, microbial pathogenesis, pathogen discovery, emerging infectious diseases, microbial physiology and biochemistry, comparative genomics, gene expression and regulation, microbiome and host interactions, virology, bacteriology, mycology, parasitology.

Visit our website for information about our Molecular Microbiology and Microbial Pathogenesis faculty (<http://dbbs.wustl.edu/divprograms/micro/Pages/Faculty.aspx>).

### **Neurosciences (<http://dbbs.wustl.edu/programs/neuro>)**

*Areas of study:* neurobiology, neurology, functional imaging, behavior, cognition, computational neuroscience, electrophysiology, sensory systems, motor systems, neuroglia, neuronal development, learning, memory, language, synaptic plasticity, mind, consciousness, neurodegeneration, diseases of the nervous system, neuronal injury, clinical neuroscience, motor control, biological rhythms, connectivity mapping.

Visit our website for information about our Neurosciences faculty (<http://dbbs.wustl.edu/divprograms/neuro/Pages/Faculty.aspx>).

### **Plant and Microbial Biosciences (<http://dbbs.wustl.edu/programs/plantbio>)**

*Areas of study:* cell biology; development; physiology, signaling, development, metabolic regulation, photosynthesis, bioenergy, protein structure-function, synthetic biology, biogeochemistry, environmental microbiology, ecology, population genetics and molecular evolution.

Visit our website for information about our Plant and Microbial Biosciences faculty (<http://dbbs.wustl.edu/divprograms/PlantMicroBioSci/Pages/Faculty.aspx>).

## **Degree Requirements**

### **PhD Degrees**

Each program has its own steering committee, which provides students with guidance, addresses their needs, and monitors their progress. The committee also helps each student customize the course of study to match their individual needs. Each of the 11 programs establishes its own degree requirements.

Across all the programs, the course of study consists of five distinct parts:

### **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.

### **Laboratory Rotations**

Selecting a thesis adviser 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.

## Qualifying Examination

After required courses are completed, each student takes a preliminary, or qualifying, examination to assess mastery of the field and the ability to integrate information across fields. Upon successful completion of the qualifying exam, the student concentrates on thesis research.

## Thesis Research

Thesis research begins once the student has chosen a laboratory in which to work. With their mentor — the laboratory's principal investigator — the student devises a thesis project and chooses an advisory committee. Typically between the end of their second year and middle of their third year, students present their thesis proposals to the thesis committee. Upon successful approval of the thesis proposal, the student officially becomes a doctoral candidate. For the rest of the student's program of study, the thesis committee monitors progress and meets at least once a year to provide analysis and advice. It also serves as the thesis defense committee when the thesis is ready for presentation. Most students complete and defend their dissertations by the end of their sixth 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 Special Emphasis Pathways (<http://dbbs.wustl.edu/curstudents/SpecialEmphasisPathways/Pages/SpecialEmphasisPathways.aspx>) 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 to defray the costs of attending a national scientific meeting.

## Business Administration

Washington University's Olin Business School is one of the nation's leading research institutions, with a faculty whose research productivity consistently ranks among the highest in the business school community. Olin faculty members are recognized the world over for their important contributions to the creation of new knowledge. We also take great pride in our commitment to excellence in teaching.

Our PhD students are guided by highly productive researchers who are among the nation's top scholars. Faculty work closely with students to help them hone their research skills, often building one-on-one mentoring relationships that include co-authoring research papers.

Development of strong problem-solving skills equips our students to strategically address complex, unstructured business issues that result in innovative thinking and new ideas for research that have value to the academic community and application in the business world.

Olin's PhD program in business provides:

- A challenging core curriculum and a strong background in basic disciplines.
- Emphasis on collaborative relationships between faculty and students, which enhances the educational process and the search for the student's first faculty appointment.
- Personalized advising for successful completion of PhD program requirements and a customized course of study that fits the student's particular area of interest.
- A collegial network built on mutual respect and a shared school of thought. Olin faculty members promote one-on-one mentoring relationships, often partnering with students for research that leads to co-authoring papers.
- A competitive edge in the business education market.

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## Faculty

### Dean

**Mark Taylor** (<https://olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=mark.p.taylor>)  
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### Endowed Professors

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Vernon W. and Marion K. Piper Professor of Strategy  
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**William P. Bottom** (<https://olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=bottomb>)  
Joyce and Howard Wood Distinguished Professor of Organizational Behavior  
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**J. Stuart Bunderson** (<http://www.olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=bunderson>)  
George and Carol Bauer Professor of Organizational Ethics and Governance  
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**Siddhartha Chib** (<http://www.olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=chib>)  
Harry C. Hartkopf Professor of Econometrics and Statistics  
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**Kurt T. Dirks** (<http://www.olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=dirks>)  
Bank of America Professor of Managerial Leadership  
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Beverly and James Hance Professor of Accounting  
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Myron Northrop Professor of Accounting  
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**Panos Kouvelis** (<http://www.olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=kouvelis>)  
Emerson Professor of Operations and Manufacturing Management  
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## Adjunct and Other Faculty

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MBA, Washington University  
(Health Care Management)

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(Accounting)

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(Finance)

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MBA, Stanford University  
(Entrepreneurship)

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JD, Washington University  
(Labor and Employment Laws)

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MBA, University of Chicago  
(Finance)

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MBA, Washington University  
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PhD, MD, Duke University  
(Health Care Management)

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MBA, Saint Louis University  
(Marketing)

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BSBA, Tennessee Technical University  
(Accounting)

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JD, Saint Louis University  
(Management)

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(Accounting)

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JD, Saint Louis University  
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MS, Saint Louis University  
(Finance)

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(Human Resource Management)

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MBA, Washington University  
(Health Care Management)

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MBA, Boston University  
(Finance)

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MBA, Northwestern University  
(Management)

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PhD, Claremont Graduate University  
(Operations Manufacturing and Management)

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MBA, Harvard University  
(Marketing)

**Mark Sopher** (<https://olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=m.sopher>)  
JD, University of Texas School of Law  
(Management)

**Ted Stann** (<https://olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=teddstann>)  
(Finance)

**Michael Stohler** (<https://olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=michael.stohler>)  
BS, Bellarmine College  
(Economics)

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(Business and Medicine)

**Robert Zafft** (<http://www.olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=robertzafft>)  
JD, Harvard University  
(Law)

## Professors Emeriti

**Nicholas Baloff**  
(Business and Public Administration)

**Stuart I. Greenbaum** (<http://www.olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=greenbaum>)  
Former Dean and Bank of America Professor Emeritus of Managerial Leadership  
PhD, Johns Hopkins University

**James T. Little** (<https://olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=little>)  
Donald Danforth Jr. Distinguished Professor Emeritus of Business  
PhD, University of Minnesota

**Ambar Rao**  
Fossett Distinguished Professor Emeritus of Marketing

**J. George Robinson**  
Professor Emeritus of Marketing

**Robert L. Virgil Jr.**  
Dean Emeritus of the John M. Olin Business School and Professor Emeritus of Accounting

**John E. Walsh Jr.**  
(Management)

## Degree Requirements

### PhD in Business Administration

PhD students must complete 36 semester hours, maintain satisfactory academic progress, pass certain examinations, fulfill residence and teaching requirements, and write, defend and submit a dissertation.

Upon successful completion of business PhD study, the student is awarded a PhD from the Graduate School at Washington University.

## Core Foundation

- A strong foundation in microeconomics or psychology, probability & statistics, and quantitative methods
- Exposure to the student's area of specialization and the required research tools
- Successful completion of the core exam

## Specialization

- Courses in one or more areas of study
- In-depth knowledge in chosen field
- Active association with the research process through faculty mentoring
- Completion of the field exam

## Research

- Participation with faculty in research activities
- Research paper presentation
- Individual research pursuing a specialized topic of interest
- Preparation and defense of the student's dissertation

## 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 percent 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 Information

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**Phone:** 314-935-8534 or 314-935-6521 or 314-935-7316

**Website:** <http://www.chemistry.wustl.edu/graduate>

## Faculty

### Chair

**William E. Buhro** (<http://www.chemistry.wustl.edu/faculty/buhro>)  
George E. Pake Professor of Arts & Sciences  
PhD, University of California, Los Angeles

### Endowed Professors

**Robert E. Blankenship** (<http://www.chemistry.wustl.edu/people/primary-faculty/robert-blankenship>)  
Lucille P. Markey Distinguished Professor of Arts & Sciences  
PhD, University of California, Berkeley

**Regina F. Frey** (<http://www.chemistry.wustl.edu/faculty/frey>)  
Florence Moog Professor of STEM Education  
Associate Professor, Department of Chemistry  
PhD, University of Utah

**Gary J. Patti** (<https://www.chemistry.wustl.edu/faculty/patti>)  
Michael and Tana Powell Associate Professor of Chemistry  
PhD, Washington University

**Holden Thorp** (<http://provost.wustl.edu/about/provost-thorp>)  
Provost  
Rita Levi-Montalcini Distinguished University Professor  
PhD, California Institute of Technology

### Professors

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PhD, Cornell University

**Peter P. Gaspar** (<http://www.chemistry.wustl.edu/faculty/gaspar>)  
PhD, Yale University

**Michael L. Gross** (<http://www.chemistry.wustl.edu/faculty/mgross>)  
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**Sophia E. Hayes** (<http://www.chemistry.wustl.edu/people/primary-faculty/sophia-e-hayes>)  
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**J. Dewey Holten** (<http://www.chemistry.wustl.edu/faculty/holten>)  
PhD, University of Washington

**Ronald A. Lovett** (<http://www.chemistry.wustl.edu/faculty/lovett>)  
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**Liviu Mirica** (<http://www.chemistry.wustl.edu/faculty/mirica>)  
PhD, Stanford University

**Kevin D. Moeller** (<http://www.chemistry.wustl.edu/faculty/moeller>)  
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**Jay Ponder** (<http://www.chemistry.wustl.edu/faculty/ponder>)  
PhD, Harvard University

**Demetrios G. Sarantites** (<http://www.chemistry.wustl.edu/faculty/sarantites>)  
PhD, Massachusetts Institute of Technology

**Lee G. Sobotka** (<http://www.chemistry.wustl.edu/faculty/sobotka>)  
PhD, University of California, Berkeley

**John-Stephen Taylor** (<http://www.chemistry.wustl.edu/faculty/taylor>)  
PhD, Columbia University

**Mark S. Wrighton** (<http://www.chemistry.wustl.edu/people/executive-faculty/mark-s-wrighton>)  
Chancellor  
PhD, California Institute of Technology

## Associate Professors

**Vladimir B. Birman** (<http://www.chemistry.wustl.edu/people/primary-faculty/vladimir-birman>)  
PhD, University of Chicago

**Richard A. Loomis** (<http://www.chemistry.wustl.edu/faculty/loomis>)  
PhD, University of Pennsylvania

**Richard Mabbs** (<http://www.chemistry.wustl.edu/faculty/mabbs>)  
PhD, University of Nottingham (U.K.)

## Assistant Professors

**Alexander Barnes** (<http://www.chemistry.wustl.edu/faculty/barnes>)  
PhD, Massachusetts Institute of Technology

**Jonathan Barnes** (<http://www.chemistry.wustl.edu/people/primary-faculty/jonathan-barnes>)  
PhD, Northwestern University

**Julio D'Arcy** (<http://www.chemistry.wustl.edu/faculty/darcy>)  
PhD, University of California, Los Angeles

**Joseph Fournier** (<https://www.chemistry.wustl.edu/people/primary-faculty/joseph-fournier>)  
PhD, Yale University

**Meredith Jackrel** (<https://www.chemistry.wustl.edu/people/primary-faculty/meredith-jackrel>)  
PhD, Yale University

**Bryce Sadtler** (<http://www.chemistry.wustl.edu/faculty/sadtler>)  
PhD, University of California, Berkeley

**Timothy Wenczewicz** (<http://www.chemistry.wustl.edu/faculty/wenczewicz>)  
PhD, University of Notre Dame

## Joint Professor

**Richard W. Gross** (<http://www.chemistry.wustl.edu/faculty/rgross>)  
PhD, Washington University  
(Internal Medicine)

## Degree Requirements PhD in Chemistry

Requirements:

- 72 semester hours of graduate credit in courses and research
- Satisfactory performance on written cumulative examinations
- Satisfactory performance on 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 Thursday evening research presentations during the student's first fall semester, presenting and passing an oral examination within the first four semesters, and annual re-certification in laboratory safety.

Almost all students participate in mentored teaching experiences in 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.

## Classics

The Department of Classics is committed to the threefold study of Greco-Roman antiquity via the languages and literatures, the history, and the 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 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.

While 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, and Ancient Philosophy. Washington University also possesses several special collections of interest to the Classics researcher: the John Max Wulffing 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.

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## Faculty

### Endowed Professor

**Timothy Moore** (<https://classics.artsci.wustl.edu/moore>)  
John and Penelope Biggs Distinguished Professor of Classics  
Director of Undergraduate Studies  
PhD, University of North Carolina  
Professor Moore's work concentrates on several areas of classical antiquity, including the comic theater of Greece and Rome, Greek and Roman music, and Roman historiography. Current projects include a database and book on music in Greek and Roman theater and articles on music and poetic rhythm in ancient Rome. He also has interests in the history of theater, especially American musical theater and Japanese Kyogen comedy.

### Professor and Chair

**Catherine Keane** (<https://classics.artsci.wustl.edu/keane>)  
Department Chair  
PhD, University of Pennsylvania  
Professor Keane's interests range broadly over Greek and Roman literature and culture, but her research centers on the comic genres and their engagement with moral, social, and literary problems, particularly the Roman verse satirists Lucilius, Horace, Persius, and Juvenal and the epigrammatist Martial.

### Associate Professors

**William Bubelis** (<https://classics.artsci.wustl.edu/bubelis>)  
Curator of the Wulffing Coin Collection  
PhD, University of Chicago  
Professor Bubelis' research in Greek history focuses on the intersection of economy, religion, and public institutions. His work utilizes the evidence of inscriptions (epigraphy), coins (numismatics), and other material remains alongside the literary texts of ancient historians, poets, orators, and the like. While most of his scholarship has engaged with classical Athens, Bubelis avidly explores the societies of the eastern Mediterranean across antiquity, including Iron Age Cyprus and the Achaemenid Persian Empire to Hellenistic Egypt. He is currently working on several projects, including a multi-year project investigating and mapping how various Greek coinages circulated in the northern Aegean.

**Zoe Stamatopoulou** (<http://classics.artsci.wustl.edu/zoe-stamatopoulou>)  
Director of Graduate Studies  
PhD, University of Virginia  
Professor Stamatopoulou's research and teaching encompass several aspects of ancient Greek literature and culture, but her work focuses primarily on archaic and classical poetry (Homer, Hesiod, lyric poetry, drama). She is also interested in the symposium, in ancient biographies of poets, and in the reception of archaic Greece in Imperial Greek literature (esp. Plutarch).

### Assistant Professors

**Nicola Aravecchia** (<https://classics.artsci.wustl.edu/nicola-aravecchia>)  
PhD, University of Minnesota  
Professor Aravecchia's research interests encompass the art and archaeology of Graeco-Roman and Late Antique Egypt. He has taught courses in classical languages, ancient history, art and archaeology in the United States, Egypt and Australia. His current work focuses on the origins and development of Early Christian architecture in rural Egypt. Since 2005, he has been involved in archaeological projects in the Dakhla Oasis, located in the Western Desert of Upper Egypt.

**Thomas Keeline** (<https://classics.artsci.wustl.edu/tom-keeline>)  
PhD, Harvard University  
Professor Keeline works primarily on Latin literature, the history of classical scholarship and education from antiquity to the present, rhetoric, textual criticism, lexicography and metrics.

**Luis Alejandro Salas** (<https://classics.artsci.wustl.edu/luis-salas>)

PhD, University of Texas

Professor Salas specializes in Greek and Roman medicine, philosophy, and intellectual history. He is also interested in Aristotelian psychology. His research focuses on medical and philosophical sectarianism, especially in the work of Galen of Pergamum.

## Lecturers

**Joan Carr**

PhD, Saint Louis University

**Lance Jenott** (<https://classics.artsci.wustl.edu/lance-jenott>)

PhD, Princeton University

Professor Jenott has taught courses on the New Testament, studies in Christian origins, and Coptic language and literature. His other interests include Second Temple Judaism, Greco-Roman philosophy, classical civilizations, and theories and methods in the study of religion. Dr. Jenott is the author of *The Gospel of Judas: Coptic Text, Translation, and Historical Interpretation of the 'Betrayal' Gospel*, and the co-author of *The Monastic Origins of the Nag Hammadi Codices*. He is currently working on a commentary on the Gospel of Judas for the Hermeneia Series by Fortress Press.

**Grizelda McClelland** (<https://classics.artsci.wustl.edu/grizelda-mcclelland>)

Assistant Dean, College of Arts & Sciences

PhD, Washington University

**Rebecca Sears** (<http://classics.artsci.wustl.edu/rebecca-sears>)

PhD, University of Michigan

Rebecca Sears' research interests include ancient music, papyrology, Latin poetry, particularly Ovid's *Metamorphoses*, and ancient magic. She is currently working on a textbook for the University of Michigan Press that will discuss important technical and cultural features of both Greek and Roman music, as well as the reception and reconstruction of ancient music. In addition to her love of Classical languages and cultures, she is a violinist who has performed in benefit concerts throughout New England.

**Kathryn Wilson** (<http://classics.artsci.wustl.edu/kathryn-wilson>)

PhD, University of Pennsylvania

Professor Wilson's research interests focus on the intersection of poetry and science. She is especially interested in Hellenistic literature, and the relationship between different intellectual enterprises occurring during that time. She is also interested in the evolution of the genre of didactic poetry.

## Professors Emeriti

**Carl W. Conrad** (<http://classics.artsci.wustl.edu/conrad>)

PhD, Harvard University

**Robert D. Lamberton** (<http://classics.artsci.wustl.edu/lamberton>)

PhD, Yale University

**George M. Pepe** (<http://classics.artsci.wustl.edu/pepe>)

PhD, Princeton University

**Susan I. Rotroff** (<http://classics.artsci.wustl.edu/rotroff>)

Jarvis Thurston & Mona Van Duyn Professor Emerita

PhD, Princeton University

## Degree Requirements

### 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: 36 units, including:

#### Specific required courses: 6 units

Classics 502 Research and Publication on the Greco-Roman World (3 units) - a proseminar on materials, methods, and professional issues in Classics (offered every two years)

Classics 510 Comparative Greek and Latin Grammar (3 units) (offered every two years, alternating with Classics 502)

#### Other course requirements: 24 units (for AM with thesis)

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)

Most remaining courses will be in Greek, Latin and Classics. All must be at the 400 level or above, and the majority, especially in the second year of study, should be at the 500 level. 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

German, French or Italian; the requirement may be fulfilled by courses or examination.

### Program Exams

Greek and Latin Sight Reading

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 400 level or above. The examination will require the student to

demonstrate competence in translation and interpretation, as well as knowledge of the relevant scholarship.

## Teaching

While there is no teaching requirement for the AM, most students in the program have the opportunity to pursue mentored teaching experiences in undergraduate courses and are encouraged to do so. They are also eligible, if their schedule allows, to take the department's course on Classics pedagogy for graduate students.

## PhD in Classics

The Classics PhD requires 72 *graduate units* of courses and research in combination. Up to 24 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 400 level or above, and the majority should be at the 500 level. With the guidance of the director of graduate studies, students may take up to 12 units outside the Classics department to enhance their graduate study. Students may choose to pursue one of four special interdisciplinary tracks: ancient performance, ancient music, ancient history, and ancient philosophy. Every PhD candidate also completes a teaching requirement through assignments as assistant in instruction and instructor of record.

### Courses: 54 units, including:

#### Specific required courses: 9 units

Classics 502 Research and Publication on the Greco-Roman World (3 units) - a proseminar on materials, methods, and professional issues in Classics (offered every two years)

Classics 505 Seminar in Classics Pedagogy for Graduate Students (3 units) (offered every two or three years)

Classics 510 Comparative Greek and Latin Grammar (3 units) (offered every two years, alternating with Classics 502)

#### 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: 18 units

Includes courses for individual tracks, optional independent studies in preparation for exams, and other courses, to be chosen after consultation with the director of graduate studies.

### Research Credits: 18 units

Master's thesis: 6 units

Dissertation credits: 12 units

### Program Exams

Greek and Latin Sight Reading

Greek Reading List

Latin Reading List

Comprehensive Exam

Special Field Exam

### Teaching

Eight semesters of mentored teaching experiences, including at least two courses as instructor of record.

### Modern Language Competence

German and French, or German and Italian; the requirement may be fulfilled by courses or examination in each case.

### Dissertation Requirements

Dissertation prospectus

Dissertation colloquium

Dissertation

Dissertation defense

## Comparative Literature

The Comparative Literature program at Washington University offers a Master of Arts (AM); a Doctor of Philosophy (PhD); a combined PhD with Chinese, English, French, German, Japanese or Spanish; and a graduate certificate in Translation Studies. Additionally, a track within the PhD program for international writers targets promising authors, translators, and public intellectuals from around the world who wish to enhance their career by coupling it with academic preparation in comparatist literary studies in the U.S. In close cooperation with other humanities programs, Comparative Literature enables students to tailor a course of study appropriate to their areas of interests, strengths, and long-term goals.

At its core, Comparative Literature aims to provide students with a grounding in contemporary and historically significant methodologies and approaches to comparative literature, including especially those pertinent to the following four areas: transcultural studies; translation studies; literature, politics and society; and new and old media. Students combine this core with thorough study of at least one primary literature, usually nationally or geographically defined, and two secondary fields. Depending on the focus of their degree and course of study, graduates typically apply for academic positions in comparative literature programs; language, literature, and culture departments; and such programs as gender studies, theater, performing arts, and area studies. Some graduates may choose

to pursue employment in publishing and arts-related fields outside of academia.

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## Faculty

### Director

**Lynne Tatlock** (<http://complit.artsci.wustl.edu/people/lynne-tatlock>)  
Hortense and Tobias Lewin Distinguished Professor in the Humanities  
PhD, Indiana University

### Endowed Professors

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Rosa May Distinguished University Professor in the Humanities  
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**Timothy Moore** (<http://classics.artsci.wustl.edu/moore>)  
John and Penelope Biggs Distinguished Professor of Classics  
PhD, University of North Carolina

**Gerhild Scholz Williams** (<http://complit.artsci.wustl.edu/people/gerhild-williams>)  
Barbara Schaps Thomas and David M. Thomas Professor in the Humanities; Associate Vice Chancellor for Academic Affairs; Vice Provost  
PhD, University of Washington

### Professors

**Nancy E. Berg** (<http://complit.artsci.wustl.edu/people/nancy-berg>)  
PhD, University of Pennsylvania

**Rebecca Copeland** (<http://ealc.wustl.edu/people/rebecca-copeland>)  
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**Tabea Linhard** (<http://complit.artsci.wustl.edu/people/tabea-linhard>)  
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**Marvin H. Marcus** (<http://ealc.wustl.edu/people/marvin-marcus>)  
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**Anca Parvulescu** (<http://complit.artsci.wustl.edu/people/anca-parvulescu>)  
PhD, University of Minnesota

**Dolores Pesce** (<http://music.wustl.edu/people/pesce>)  
PhD, University of Maryland

**Wolfram Schmidgen** (<http://complit.artsci.wustl.edu/people/wolfram-schmidgen>)  
PhD, University of Chicago

**Henry Schvey** (<http://pad.artsci.wustl.edu/henry-i-schvey>)  
Professor of Drama  
PhD, Indiana University

**Michael Sherberg** (<http://rll.wustl.edu/people/sherberg>)  
PhD, University of California, Los Angeles

**Harriet Stone** (<http://complit.artsci.wustl.edu/people/harriet-stone>)  
PhD, Brown University

### Associate Professors

**Miriam Bailin** (<http://complit.artsci.wustl.edu/people/miriam-bailin>)  
PhD, University of California, Berkeley

**Andrew Brown** (<http://rll.wustl.edu/people/brown>)  
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**J. Dillon Brown** (<http://complit.artsci.wustl.edu/people/j-dillon-brown>)  
PhD, University of Pennsylvania

**Lingchei Letty Chen** (<http://complit.artsci.wustl.edu/people/letty-chen>)  
PhD, Columbia University

**Tili Boon Cuillé** (<http://complit.artsci.wustl.edu/people/tili-boon-cuille>)  
PhD, University of Pennsylvania

**Ignacio Infante** (<http://complit.artsci.wustl.edu/people/ignacio-infante>)  
PhD, Rutgers University

**Jennifer Kapczynski** ([http://german.wustl.edu/people/kapczynski\\_jennifer](http://german.wustl.edu/people/kapczynski_jennifer))  
PhD, University of California, Berkeley

**Stephanie Kirk** (<http://complit.artsci.wustl.edu/people/stephanie-kirk>)  
PhD, New York University

**Ji-Eun Lee** ([http://ealc.wustl.edu/people/lee\\_ji-eun](http://ealc.wustl.edu/people/lee_ji-eun))  
PhD, New York University

**Erin McGlothlin** (<http://complit.artsci.wustl.edu/people/erin-mcglathlin>)  
PhD, University of Virginia

**Jamie Newhard** (<http://ealc.wustl.edu/people/jamie-newhard>)  
PhD, Columbia University

**Jessica Rosenfeld** ([http://english.artsci.wustl.edu/Jessica\\_Rosenfeld](http://english.artsci.wustl.edu/Jessica_Rosenfeld))  
PhD, University of Pennsylvania

**Robert Snarrenberg** (<http://music.wustl.edu/people/snarrenberg>)  
PhD, University of Michigan

## Assistant Professors

**Kurt Beals** (<http://german.wustl.edu/people/kurt-beals>)  
PhD, University of California, Berkeley

**Caroline Kita** (<http://german.wustl.edu/people/caroline-kita>)  
PhD, Duke University

**Long Le-Khac** (<http://english.artsci.wustl.edu/people/long-le-khac>)  
PhD, Stanford University

**Anne-Marie McManus** (<http://complit.artsci.wustl.edu/people/anne-marie-mcmanus>)  
PhD, Yale University

**Christian Schneider** (<http://german.wustl.edu/people/christian-schneider-0>)  
PhD, Heidelberg University

## Lecturer

**Philip Purchase** (<http://complit.artsci.wustl.edu/people/philip-purchase>)  
PhD, University of Southern California

## Professors Emeriti

**Milica Banjanin** (<http://complit.artsci.wustl.edu/people/milica-banjanin>)  
PhD, Washington University

**Robert E. Hegel** (<http://complit.artsci.wustl.edu/people/robert-hegel>)  
Liselotte Dieckmann Professor of Comparative Literature in Arts & Sciences; Professor of Chinese  
PhD, Columbia University

**Naomi Lebowitz** (<http://complit.artsci.wustl.edu/people/naomi-lebowitz>)  
Hortense and Tobias Lewin Distinguished Professor Emerita in the Humanities  
PhD, Washington University

**Stamos Metzidakis** (<http://complit.artsci.wustl.edu/people/stamos-metzidakis>)  
PhD, Columbia University

## Honorary Lecturer

**Emma Kafalenos** (<http://complit.artsci.wustl.edu/people/emma-kafalenos>)  
Honorary Senior Lecturer  
PhD, Washington University

## Degree Requirements

### PhD in Comparative Literature

The PhD in Comparative Literature program requires 60 units of course credit plus a dissertation. Course distribution normally entails the following: at least 12 core credits in comparative literature seminars, including Comp Lit 502; 12 credits in one nationally, ethnically, or geographically defined literature; and 6 credits in a second such literature. Drama may be substituted for either the primary or secondary literature. The program also requires the study of a third discipline relevant to the student's intellectual and critical concerns, e.g., a third literature, music, the plastic arts, philosophy, history, film. Students need to demonstrate (as a minimum), 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 three areas of concentration. Beyond taking courses, students will take three comprehensive examinations that have both a written and oral component and that will help guide the student toward the dissertation; the third examination is a dissertation proposal.

Students interested in pursuing one of the combined degrees should apply to the appropriate language and literature program (Chinese, English, French, German, Japanese or Spanish), indicating their interest in the joint degree. The application will be vetted by the respective program and by Comparative Literature. The joint degree requires students to complete all requirements in the home discipline plus four courses in core categories in Comparative Literature, including Comp Lit 502. Students in the joint-degree programs are expected to include a comparatist component in their dissertations.

### AM in Comparative Literature

The AM in Comparative Literature may be earned along the way to the PhD; Comparative Literature normally does not admit students who intend to pursue the AM only. It requires 36 units of course credit, including CompLit 502 and three additional courses in Comparative Literature on the graduate level. The remaining 24 units may be pursued in Comparative Literature or in affiliated departments or programs. All students earning an AM in Comparative Literature must demonstrate superior skills in English and, as a minimum, reading ability in one additional language pertinent to their areas of interest. These 36 units

count toward the PhD requirement. Students participating in a mentored teaching experience may teach in Comparative Literature and/or in one of our allied programs, including language instruction. In order 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.

## Graduate Certificate in Translation Studies

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 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. 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.

## Dance

The **Master of Fine Arts (MFA) program 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, 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) (<http://www.cocastl.org>), involving a sharing of facilities and faculty born 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 has a world-renowned faculty. We have a long history of engaging the talents of contemporary guest choreographers and répétiteurs from ballet, modern and performance art who bring a broad range of challenging new processes, concepts and choreography to our students.

**Contact:** Christine Knoblauch-O'Neal  
**Phone:** 314-935-4475  
**Email:** [ckoneal@wustl.edu](mailto:ckoneal@wustl.edu)  
**Website:** <http://pad.artsci.wustl.edu/MFA>

## Faculty

### Dance

**Joanna Dee Das** (<http://pad.artsci.wustl.edu/joanna-dee-das>)  
Assistant Professor  
PhD, Columbia University  
Global dance history & theory; modern dance; African diasporic dance; musical theater; politics of performance

**Christine Knoblauch-O'Neal** (<http://pad.artsci.wustl.edu/christine-knoblauch-oneal>)  
Professor of the Practice  
PhD, Texas Women's University  
Ballet; applied anatomy; musical theater; performance studies

**David Marchant** (<http://pad.artsci.wustl.edu/david-marchant>)  
Professor of the Practice  
MFA, University of Iowa  
Modern dance; composition; improvisation, Alexander Technique; somatic studies

**Cecil Slaughter** (<http://pad.artsci.wustl.edu/cecil-slaughter>)  
Professor of the Practice  
MFA, University of Iowa  
Horton modern dance technique

**Mary-Jean Cowell** (<https://artsci.wustl.edu/faculty-staff/mary-jean-cowell>)  
Professor Emerita  
PhD, Columbia University  
Modern dance technique; theory and composition; dance history and ethnology

### Theater Studies

**Pannill Camp** ([http://pad.artsci.wustl.edu/pannill\\_camp](http://pad.artsci.wustl.edu/pannill_camp))  
Associate Professor  
PhD, Brown University  
18th-century French theater; dramatic theory; theater architecture

**Robert Henke** ([http://pad.artsci.wustl.edu/robert\\_henke](http://pad.artsci.wustl.edu/robert_henke))  
Professor  
PhD, University of California, Berkeley  
Ancient and Renaissance theater and performance; comparative literature; dramatic theory

**Paige McGinley** (<http://pad.artsci.wustl.edu/paige-mcginley>)  
Associate Professor  
PhD, Brown University  
20th-century theater and performance; race, ethnicity and performance; American studies

**Henry I. Schvey** (<http://pad.artsci.wustl.edu/henry-i-schvey>)  
Professor  
PhD, Indiana University  
Modern American and European drama; Shakespeare in production; expressionism and the arts; Tennessee Williams

**Julia Walker** (<http://pad.artsci.wustl.edu/julia-walker>)  
Associate Professor  
PhD, Duke University  
Theatrical modernism; performance theory; history of acting

**Rhaisa Williams**  
PhD, Northwestern University  
Performance theory; African-American studies; gender; archival studies

## Acting and Directing

**Ron Himes** (<http://pad.artsci.wustl.edu/ron-himes>)  
Henry E. Hampton Jr. Artist-in-Residence  
BA, Washington University  
African-American theater

**Jeffery Matthews** (<http://pad.artsci.wustl.edu/jeffery-matthews>)  
Professor of Practice  
MFA, Virginia Commonwealth University  
Acting; directing; voice and speech

**Annamaria Pileggi** (<http://pad.artsci.wustl.edu/annamaria-pileggi>)  
Professor of Practice  
MFA, Brandeis University  
Acting; movement; musical theater; robotics and expressive simulation; theatre for social change

**Andrea Urice** (<http://pad.artsci.wustl.edu/andrea-urice>)  
Teaching Professor  
MFA, University of Virginia  
Directing; acting; creative studies

**William Whitaker** (<http://pad.artsci.wustl.edu/william-whitaker>)  
Professor of Practice  
MFA, Florida Atlantic University  
Acting; directing

## Design and Technical Theater

**Dominique Glaros**  
Lecturer  
MFA, University of Cincinnati-College Conservatory of Music  
Costume Design

**Robert Mark Morgan** (<http://pad.artsci.wustl.edu/robert-mark-morgan>)  
Teaching Professor  
MFA, San Diego State University  
Scenic design

**Sean Savoie** (<http://pad.artsci.wustl.edu/sean-savoie>)  
Senior Lecturer  
MFA, University of Cincinnati-College Conservatory of Music  
Lighting design; production management

## Playwriting

**Carter W. Lewis** (<http://pages.wustl.edu/lewis>)  
Senior Lecturer, Senior Playwright-in-Residence  
MA, University of Oklahoma  
Playwriting; dramaturgy, A.E. Hotchner Playwriting Festival

## Degree Requirements

### MFA in Dance

**Degree Requirements:** 60 units (15 units/semester) during two years to degree

At the end of their first year, students will propose a culminating project — typically a dance concert or other 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.

### I. Technical Development: 15 units

#### 10 units from the following:

Dance 401 Theory and Technique of Modern Dance V (3 units; may be repeated once)

Dance 4021 Theory and Technique of Modern Dance VI (3 units; may be repeated once)

Dance 415 High Intermediate Ballet I (2 units; may be repeated once)

Dance 416 High Intermediate Ballet II (2 units; may be repeated once)

Dance 4281 Classical Ballet III (2 units; may be repeated once)

Dance 4291 Classical Ballet IV (2 units; may be repeated once)

#### plus an additional 5 units from the above or from the following:

Dance 403 Jazz III (2 units; may be repeated)

Dance 407 Topics in Dance Techniques (variable credit; 3 units max)

Dance 418 Variations in the Ballet (1 unit)

Dance 423 Pointe Technique (1 unit)

## II. Choreography and Performance: 20 units

Dance 508 Dance Composition Laboratory I: Exploring Process and Format (3 units)

Dance 509 Dance Composition Laboratory II: Exploring Alternative Venues and Audience Connections (3 units)

Dance 510 Approaches to Improvisation and Spontaneous Composition (3 units)

Dance 511, 5112, 5113 Independent Choreography Project I, II, III (3 units/course; total 9 units)

Dance 512 Performance Artistry (1 unit; must be taken twice for a total of 2 units)

## III. Research and Integrated Learning: 12 units

### **Required:**

Dance 520 Research Methods Colloquium (3 units)

### **Plus 9 units from the following:**

Dance 413 Modern Dance and the African American Legacy II (2 units)

Dance 426 Performing the Political in American Dance (3 units)

Dance 506 Topics in Contemporary Arts Practice Research (3 units)

Dance 507 Topics in Contemporary Theoretical and Historical Research (3 units)

Dance 517 Workshop in Dance as Cultural Identity (3 units)

Dance 519 Guest Artist Residency Workshop (1 unit; may be repeated once)

Dance 530 Theories of the Body in Performance (3 units)

Dance 543 Critical Thinking in Western Theatrical Dance (3 units)

## IV. Electives: 7 units

7 units at the 400 level or above with at least one course at the 500 level. These 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 define an individual trajectory as an artist. These may include 400- or 500-level Performing Arts Department courses in costumes, stage lighting and design, or theater history. Students may also wish to pursue study in the departments of Women,

Gender, and Sexuality Studies; Music; Psychological & Brain Sciences; Anthropology; Art History and Archaeology; or other courses relevant to the student's particular development.

## V. Mentored Teaching Experience (MTE)

- LGS 600

Each MTE 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 (<http://pad.artsci.wustl.edu/mentored-teaching-experience>) webpage.

## VI. Final Project: 6 units

Dance 550 Final Project I (3 units); to be taken fall semester of the student's second year

Dance 551 Final Project II (3 units); to be taken spring semester of the student's second year

At the end of the first year, the MFA student will propose a plan for the final project and form a final project committee who will evaluate the final project. A concert is the typical format of the MFA final project. This concert or public presentation of the student's creative work must be largely expressed in dance. The concert or public presentation will be followed by submission of a written Production Book with analysis and critique. In some cases, the written documents may include research related to the production, or a complementary research paper may accompany the Production Book. The student will have an oral defense of the work in front of an invited audience and submit a final version of the written component, as well as a DVD of the concert or public presentation, for archival purposes within the department.

## Data Science in the Humanities

In response to increasing graduate involvement in the Humanities Digital Workshop (HDW) and its associated faculty-led projects, we offer a Graduate Certificate in Data Science in the Humanities (DASH), 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 HDW projects have been supervised by faculty in fields as diverse as history; music; German; Asian and Near Eastern languages and literature; 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 is distinguished by its emphasis on collaborative research and pedagogical development. Students will participate on a faculty project in the HDW, and most fulfill this requirement through the HDW summer workshop, an eight-week program that pairs faculty with a small group of graduate and undergraduate fellows. The collaborative environment, combined with weekly project meetings and skills workshops, makes these immersive summer programs an unusual counterpoint to traditional graduate education. The DASH certificate also requires 3 units of mentored teaching experience in a digital humanities course, ensuring that pedagogical development accompanies more traditional courses.

## Application

Students interested in pursuing the DASH graduate certificate should contact the program director ([jfloewen@wustl.edu](mailto:jfloewen@wustl.edu)? subject=DASH Grad Certificate). PhD students in good standing should apply before the end of their second year. Master's 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 (DGS) of the home doctoral program. Upon review, the DASH program director will make recommendations for admission to the dean of the Graduate School for final approval. 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 the PhD.

**Contact:** Joseph F. Loewenstein  
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**Website:** <https://dash.wustl.edu/>

## Faculty

### Participating Faculty

**Jami Ake** (<https://artsci.wustl.edu/faculty-staff/jami-ake>)  
Assistant Dean  
PhD, Indiana University

**Anupam Basu** (<https://english.artsci.wustl.edu/people/anupam-basu>)  
Assistant Professor  
PhD, University of Wisconsin–Madison

**Kurt Beals** (<https://german.wustl.edu/people/kurt-beals>)  
Assistant Professor  
PhD, University of California, Berkeley

**Matt Erlin** ([https://german.wustl.edu/people/erlin\\_matt](https://german.wustl.edu/people/erlin_matt))  
Professor; Chair, Department of Germanic Languages and Literatures  
PhD, University of California, Berkeley

**Peter Kastor** ([https://history.artsci.wustl.edu/peter\\_kastor](https://history.artsci.wustl.edu/peter_kastor))  
Professor; Chair, Department of History  
PhD, University of Virginia

**Doug Knox** (<https://computing.artsci.wustl.edu/staff/knox>)  
Assistant Director, Humanities Digital Workshop  
MA, University of Chicago

**Long Le-Khac** (<https://english.artsci.wustl.edu/people/long-le-khac>)  
Assistant Professor  
PhD, Stanford University

**Joe Loewenstein** ([https://english.artsci.wustl.edu/Joe\\_Loewenstein](https://english.artsci.wustl.edu/Joe_Loewenstein))  
Professor; Director, Humanities Digital Workshop  
PhD, Yale University

**Melanie Micir** (<https://english.artsci.wustl.edu/people/melanie-micir>)  
Assistant Professor  
PhD, University of Pennsylvania

**Steven B. Miles** ([https://history.artsci.wustl.edu/steve\\_miles](https://history.artsci.wustl.edu/steve_miles))  
Associate Professor  
PhD, University of Washington

**Stephen Pentecost** (<https://computing.artsci.wustl.edu/staff/pentecost>)  
Senior Digital Humanities Specialist  
MA, Washington University

**Lynne Tatlock** ([https://german.wustl.edu/people/tatlock\\_lynne](https://german.wustl.edu/people/tatlock_lynne))  
Hortense and Tobias Lewin Distinguished Professor in the Humanities  
PhD, Indiana University

**Cindy Traub** ([http://libguides.wustl.edu/prf.php?account\\_id=70928](http://libguides.wustl.edu/prf.php?account_id=70928))  
Data Specialist  
PhD, Washington University

**Abram Van Engen** ([https://english.artsci.wustl.edu/Abram\\_Van\\_Engen](https://english.artsci.wustl.edu/Abram_Van_Engen))  
Associate Professor  
PhD, Northwestern University

## Degree Requirements

### Graduate Certificate in Data Science in the Humanities

15 units are required to complete the Data Science in the Humanities (DASH) Graduate Certificate. Six of those units may

also count toward the PhD requirements, but the remaining 9 cannot.

**For 15 units total, students must take:**

- 6 units from the Core Curriculum (<https://dash.wustl.edu/graduate-certificate/core-curriculum>)
- 3 units from participating on a faculty project in the Humanities Digital Workshop (HDW), which most students will undertake during the HDW summer program (<https://hdw.artsci.wustl.edu/fellows/summer-fellows>)
- 3 units Teaching Practicum in either DASH 1, DASH 2, DAMS + PROTA, or IPH 312 (Intro to Digital Humanities)
- 3 units from the list of electives (<https://dash.wustl.edu/graduate-certificate/electives>)

## Earth and Planetary Sciences

The Department of Earth and Planetary Sciences offers **PhD and AM degrees**. This 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 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 new space missions are developed to explore the solar system. The relatively small size of the department engenders a friendly and personal place, offering 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 in 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 those 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 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 a terminal AM degree. 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 and planetary sciences.

**Phone:** 314-935-5610  
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**Website:** <http://eps.wustl.edu/graduate>

## Faculty

### Chair

**Viatcheslav S. Solomatov** ([http://eps.wustl.edu/people/slava\\_solomatov](http://eps.wustl.edu/people/slava_solomatov))  
PhD, Moscow Institute of Physics and Technology

### Endowed Professors

**Raymond E. Arvidson** ([http://eps.wustl.edu/people/Raymond\\_Arvidson](http://eps.wustl.edu/people/Raymond_Arvidson))  
James S. McDonnell Distinguished University Professor  
PhD, Brown University

**Bradley L. Jolliff** ([http://eps.wustl.edu/people/brad\\_jolliff](http://eps.wustl.edu/people/brad_jolliff))  
Scott Rudolph Professor of Earth and Planetary Sciences  
PhD, South Dakota School of Mines and Technology

**Douglas A. Wiens** ([http://eps.wustl.edu/people/douglas\\_wiens](http://eps.wustl.edu/people/douglas_wiens))  
Robert S. Brookings Distinguished Professor  
PhD, Northwestern University

### Professors

**Jeffrey G. Catalano** ([http://eps.wustl.edu/people/jeff\\_catalano](http://eps.wustl.edu/people/jeff_catalano))  
PhD, Stanford University

**Robert E. Criss** ([http://eps.wustl.edu/people/Bob\\_Criss](http://eps.wustl.edu/people/Bob_Criss))  
PhD, California Institute of Technology

**Robert F. Dymek** ([http://eps.wustl.edu/people/Bob\\_Dymek](http://eps.wustl.edu/people/Bob_Dymek))  
PhD, California Institute of Technology

**M. Bruce Fegley** ([http://eps.wustl.edu/people/Bruce\\_Fegley](http://eps.wustl.edu/people/Bruce_Fegley))  
PhD, Massachusetts Institute of Technology

**David A. Fike** ([http://eps.wustl.edu/people/Dave\\_Fike](http://eps.wustl.edu/people/Dave_Fike))  
PhD, Massachusetts Institute of Technology

**William B. McKinnon** ([http://eps.wustl.edu/people/Bill\\_McKinnon](http://eps.wustl.edu/people/Bill_McKinnon))  
PhD, California Institute of Technology

**Jill D. Pasteris** ([http://eps.wustl.edu/people/Jill\\_Pasteris](http://eps.wustl.edu/people/Jill_Pasteris))  
PhD, Yale University

**Jennifer Smith** ([http://eps.wustl.edu/people/Jen\\_Smith](http://eps.wustl.edu/people/Jen_Smith))  
Dean of the College of Arts & Sciences  
PhD, University of Pennsylvania

**William Hayden Smith** ([http://eps.wustl.edu/people/Bill\\_Smith](http://eps.wustl.edu/people/Bill_Smith))  
PhD, Princeton University

**Michael E. Wysession** (<http://eps.wustl.edu/people/michael-e-wysession>)  
PhD, Northwestern University

## Associate Professors

**Alexander S. Bradley** ([http://eps.wustl.edu/people/Alexander\\_Bradley](http://eps.wustl.edu/people/Alexander_Bradley))  
PhD, Massachusetts Institute of Technology

**Philip A. Skemer** ([http://eps.wustl.edu/people/phil\\_skemer](http://eps.wustl.edu/people/phil_skemer))  
PhD, Yale University

## Assistant Professors

**Bronwen L. Konecky** ([http://eps.wustl.edu/people/bronwen\\_konecky](http://eps.wustl.edu/people/bronwen_konecky))  
PhD, Brown University

**Michael Krawczynski** ([http://eps.wustl.edu/people/mike\\_krawczynski](http://eps.wustl.edu/people/mike_krawczynski))  
PhD, Massachusetts Institute of Technology

**Rita Parai** ([http://eps.wustl.edu/people/rita\\_parai](http://eps.wustl.edu/people/rita_parai))  
PhD, Harvard University

**Kun Wang** ([http://eps.wustl.edu/people/kun\\_wang](http://eps.wustl.edu/people/kun_wang))  
PhD, Washington University

## Professors Emeriti

**Ghislaine Crozaz** ([http://eps.wustl.edu/people/Ghislaine\\_Crozaz](http://eps.wustl.edu/people/Ghislaine_Crozaz))  
PhD, Université Libre de Bruxelles

**Harold L. Levin** (<http://eps.wustl.edu/people/harold-l-levin>)  
PhD, Washington University

**Roger J. Phillips** (<http://eps.wustl.edu/people/roger-j-phillips>)  
PhD, University of California, Berkeley

**Frank A. Podosek** ([http://eps.wustl.edu/people/Frank\\_Podosek](http://eps.wustl.edu/people/Frank_Podosek))  
PhD, University of California, Berkeley

## Degree Requirements

### PhD in Earth and Planetary Sciences

The degree requirements for a PhD in Earth and Planetary Sciences are intended to ensure that all students develop independence and originality of thought and acquire knowledge that has sufficient breadth and depth to be scientific leaders in their field. Students are required to complete eight courses, six of which must be taken in the Department of Earth 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 in their second semester. At this time each student selects a faculty member to serve as the major adviser as well as two additional faculty members to provide additional guidance; these three faculty members comprise each student's Research Advisory Committee. During their second year, students continue this research as they work toward the oral

examination at the end of their second year, which requires preparation of a research paper, an oral presentation of research results, and a question and answer session with the 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.

### AM in Earth and Planetary Sciences

The department offers two tracks for completion of the AM degree. Both tracks require completion of six courses, five of which must be taken in the Department of Earth and Planetary Sciences. One track toward the AM degree is a component of the PhD degree program, with students being awarded an AM upon successful completion of the oral examination in the second year of the program. The other track is for students seeking a terminal AM degree. This requires completion of a master's thesis and its defense in an oral presentation by the end of the second year of study.

### East Asian Languages and Cultures

The Department of East Asian Languages and Cultures (EALC) offers advanced degrees in the traditional and modern literatures and cultures of East Asia, based on substantial knowledge of at least one East Asian language. EALC offers the **Master of Arts (AM) in Chinese and Japanese**, and the **Doctor of Philosophy (PhD) in Chinese Language and Literature, Japanese Language and Literature, Chinese and Comparative Literature**, and **Japanese and Comparative Literature**.

The goal of these programs is to produce scholars well-trained in their chosen languages, firmly grounded in the relevant linguistic and literary traditions, and thoroughly conversant with critical discourses (indigenous and Western) relevant to their fields. With research strengths that cover premodern poetry and poetics, gender and sexuality, religious texts and traditions, narrative, memoir, dramatic literature, postmodernity and more, our internationally recognized faculty is poised to offer graduate students careful and consistent mentoring. Admitting only a select number of graduate students a year, our programs allow individualized guidance. In the completion of 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 classes.

**Phone:** 314-935-4448  
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**Website:** <http://ealc.wustl.edu>

## Faculty

### Chair

**Rebecca Copeland** (<http://ealc.wustl.edu/people/rebecca-copeland>)  
Professor  
PhD, Columbia University  
Japanese literature

### Professors

**Beata Grant** ([http://ealc.wustl.edu/people/grant\\_beata](http://ealc.wustl.edu/people/grant_beata))  
PhD, Stanford University  
Chinese literature; religious studies

**Marvin H. Marcus** (<http://ealc.wustl.edu/people/marvin-marcus>)  
PhD, University of Michigan  
Japanese literature

### Associate Professors

**Lingchei Letty Chen** ([http://ealc.wustl.edu/people/chen\\_lingchei-letty](http://ealc.wustl.edu/people/chen_lingchei-letty))  
PhD, Columbia University  
Chinese literature

**Ji-Eun Lee** ([http://ealc.wustl.edu/people/lee\\_ji-eun](http://ealc.wustl.edu/people/lee_ji-eun))  
PhD, Harvard University  
Korean literature

**Zhao Ma** ([http://ealc.wustl.edu/people/ma\\_zhao](http://ealc.wustl.edu/people/ma_zhao))  
PhD, Johns Hopkins University  
Chinese history

**Jamie Newhard** (<http://ealc.wustl.edu/people/jamie-newhard>)  
PhD, Columbia University  
Japanese literature

### Assistant Professor

**Nathan Vedal** (<http://ealc.wustl.edu/people/nathan-vedal>)  
PhD, Harvard University  
Chinese literature

### Professor of the Practice

**Virginia S. Marcus** (<http://ealc.wustl.edu/people/ginger-marcus>)  
MA, University of Michigan, New York University  
Japanese language

### Teaching Professors

**Mijeong Mimi Kim** ([http://ealc.wustl.edu/people/kim\\_mijeong-mimi](http://ealc.wustl.edu/people/kim_mijeong-mimi))  
EdD, University of San Francisco  
Korean language

**Xia Liang** ([http://ealc.wustl.edu/people/liang\\_xia](http://ealc.wustl.edu/people/liang_xia))  
MA, Beijing Normal University  
Chinese language

**Fengtao Wu** ([http://ealc.wustl.edu/people/wu\\_fengtao](http://ealc.wustl.edu/people/wu_fengtao))  
MA, Indiana University Bloomington  
Chinese language

### Senior Lecturers

**Shino Hayashi** (<http://ealc.wustl.edu/people/shino-hayashi>)  
MA, University of Wisconsin, University of Minnesota  
Japanese language

**Judy Zhijun Mu** ([http://ealc.wustl.edu/people/mu\\_judy-zhijun](http://ealc.wustl.edu/people/mu_judy-zhijun))  
PhD, University of Illinois at Urbana-Champaign  
Chinese language

**Wei Wang** ([http://ealc.wustl.edu/people/wang\\_wei](http://ealc.wustl.edu/people/wang_wei))  
MA, University of Minnesota, Beijing Language and Culture University  
Chinese language

### Lecturers

**Wenhui Chen** ([http://ealc.wustl.edu/people/chen\\_wenhui](http://ealc.wustl.edu/people/chen_wenhui))  
MA, National Taiwan Normal University  
Chinese language

**Ke Nie** ([http://ealc.wustl.edu/people/nie\\_ke](http://ealc.wustl.edu/people/nie_ke))  
MA, Capital Normal University  
Chinese language

**Zihan Qin** (<http://ealc.wustl.edu/people/zihan-qin>)  
MA, University of Iowa  
Chinese language

**Jingyi Wang** (<http://ealc.wustl.edu/people/jingyi-wang>)  
MA, Capital Normal University  
Chinese language

**Kanako Yao** (<http://ealc.wustl.edu/people/kanako-yao>)  
PhD, Ohio State University  
Japanese language

## Degree Requirements

### Master of Arts in Chinese or Japanese

The Master of Arts in Chinese or Japanese requires 36 units of graduate study in Chinese or Japanese, which may include courses from related fields such as East Asian Studies and Comparative Literature, including the following:

1. Language proficiency through the fourth level, and two semesters of classical Chinese or Japanese. No more than 12 units in language preparation may be applied.
2. At least two semesters of literary history courses.
3. At least one course in critical theory, methodology, or research methods.
4. Either a master's thesis or a master's essay, or successful completion of a comprehensive written exam.

The degree is completed in four semesters.

## PhD in Chinese Language and Literature or PhD in Japanese Language and Literature

The PhD in Chinese Language and Literature or Japanese Language and Literature combines the study of Chinese or Japanese literature with literary theory and critical methodology. Students are required to take courses in Chinese or Japanese literature, in another East Asian literature or culture, and in literary and cultural theory and critical methodology; some of these may focus on other literatures. Doctoral students must demonstrate native or near-native competence both in English and in either Chinese or Japanese. If needed for research in the chosen area of specialization, sufficient proficiency in one or more additional languages may be required.

Students must pass a qualifying examination at the end of their first year and three comprehensive examinations at the end of their third year. In addition, before the beginning of the fourth year, students must submit a dissertation prospectus for committee approval. Mastery of the relevant research language(s) must be demonstrated before students undertake their comprehensive examinations. All students gain teaching experience in both language and literature with extensive hands-on instruction in pedagogical methodologies.

## PhD in Chinese and Comparative Literature or PhD in Japanese and Comparative Literature

The PhD in Chinese and Comparative Literature and the PhD in Japanese and Comparative Literature are offered jointly with the Committee on Comparative Literature. The focus of these programs is comparison of the contents, theoretical basis, and methodologies of Chinese or Japanese literature and a second literature (Western or non-Western), within the contexts of a familiarity with the cultural and historical backgrounds of the literary works and of the critical and historical methodology of modern literary study. Whether or not applicants enter the program with a relevant master's degree, the requirements for our AM in Chinese or Japanese must be met as part of the requirements for the joint PhD degree. Required courses, qualifying examination, comprehensive examinations, dissertation prospectus, demonstration of language proficiency, and teaching opportunities are analogous to those in the PhD programs solely in Chinese or Japanese.

## East Asian Studies

The East Asian Studies program consists of faculty members with Asian specializations drawn from various departments, including Anthropology; Art History and Archaeology; East Asian Languages and Cultures; Film and Media Studies; History; and International and Area Studies. The program offers the **Master**

**of Arts (AM) in East Asian Studies**, a broad-ranging study of East Asia across regional, historical, and disciplinary boundaries. Students may pursue language study in Chinese, Japanese or Korean.

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## Faculty

### Director

**Steven B. Miles** ([http://history.artsci.wustl.edu/steve\\_miles](http://history.artsci.wustl.edu/steve_miles))  
Professor  
PhD, University of Washington  
History

### Professors

**Rebecca Copeland** (<http://ealc.wustl.edu/people/rebecca-copeland>)  
PhD, Columbia University  
East Asian Languages and Cultures

**Beata Grant** ([http://ealc.wustl.edu/people/grant\\_beata](http://ealc.wustl.edu/people/grant_beata))  
PhD, Stanford University  
East Asian Languages and Cultures

**Marvin H. Marcus** (<http://ealc.wustl.edu/people/marvin-marcus>)  
PhD, University of Michigan  
East Asian Languages and Cultures

### Associate Professors

**Lingchei Letty Chen** ([http://ealc.wustl.edu/people/chen\\_lingchei-letty](http://ealc.wustl.edu/people/chen_lingchei-letty))  
PhD, Columbia University  
East Asian Languages and Cultures

**Kristina Kleutghen** (<http://arthistory.artsci.wustl.edu/people/kristina-kleutghen>)  
David W. Mesker Associate Professor  
PhD, Harvard University  
Art History

**Ji-Eun Lee** ([http://ealc.wustl.edu/people/lee\\_ji-eun](http://ealc.wustl.edu/people/lee_ji-eun))  
PhD, Harvard University  
East Asian Languages and Cultures

**Zhao Ma** ([http://ealc.wustl.edu/people/ma\\_zhao](http://ealc.wustl.edu/people/ma_zhao))  
PhD, Johns Hopkins University  
East Asian Languages and Cultures

**Jamie Newhard** (<http://ealc.wustl.edu/people/jamie-newhard>)  
PhD, Columbia University  
East Asian Languages and Cultures

**Lori Watt** ([http://history.artsci.wustl.edu/lori\\_watt](http://history.artsci.wustl.edu/lori_watt))  
PhD, Columbia University  
History; International and Area Studies

## Assistant Professors

**Diane Lewis** (<http://fms.artsci.wustl.edu/people/diane-wei-lewis>)  
PhD, University of Chicago  
Film and Media Studies

**Nathan Vedal** (<http://ealc.wustl.edu/people/nathan-vedal>)  
PhD, Harvard University  
East Asian Languages and Cultures

## Professor of the Practice

**Virginia S. Marcus** (<http://ealc.wustl.edu/people/ginger-marcus>)  
MA, University of Michigan, New York University  
East Asian Languages and Cultures

## Teaching Professors

**Mijeong Mimi Kim** ([http://ealc.wustl.edu/people/kim\\_mijeong-mimi](http://ealc.wustl.edu/people/kim_mijeong-mimi))  
EdD, University of San Francisco  
East Asian Languages and Cultures

**Xia Liang** ([http://ealc.wustl.edu/people/liang\\_xia](http://ealc.wustl.edu/people/liang_xia))  
MA, Beijing Normal University  
East Asian Languages and Cultures

**Fengtao Wu** ([http://ealc.wustl.edu/people/wu\\_fengtao](http://ealc.wustl.edu/people/wu_fengtao))  
MA, University of Indiana Bloomington  
East Asian Languages and Cultures

## Senior Lecturers

**Shino Hayashi** (<http://ealc.wustl.edu/people/shino-hayashi>)  
MA, University of Wisconsin-Madison  
East Asian Languages and Cultures

**Judy Zhijun Mu** ([http://ealc.wustl.edu/people/mu\\_judy-zhijun](http://ealc.wustl.edu/people/mu_judy-zhijun))  
PhD, University of Illinois at Urbana-Champaign  
East Asian Languages and Cultures

**Wei Wang** ([http://ealc.wustl.edu/people/wang\\_wei](http://ealc.wustl.edu/people/wang_wei))  
MA, University of Minnesota, Beijing Language and Culture University  
East Asian Languages and Cultures

## Lecturers

**Wenhui Chen** ([http://ealc.wustl.edu/people/chen\\_wenhui](http://ealc.wustl.edu/people/chen_wenhui))  
MA, Taiwan Normal University  
East Asian Languages and Cultures

**Linling Gao-Miles** (<http://ias.wustl.edu/people/linling-xu>)  
PhD, Nagoya University  
International and Area Studies

**Ke Nie** ([http://ealc.wustl.edu/people/nie\\_ke](http://ealc.wustl.edu/people/nie_ke))  
MA, Capital Normal University  
East Asian Languages and Cultures

**Zihan Qin** (<http://ealc.wustl.edu/people/zihan-qin>)  
MA, University of Iowa  
East Asian Languages and Cultures

**Jingyi Wang** (<http://ealc.wustl.edu/people/jingyi-wang>)  
MA, Capital Normal University  
East Asian Languages and Cultures

**Kanako Yao** (<http://ealc.wustl.edu/people/kanako-yao>)  
PhD, Ohio State University  
East Asian Languages and Cultures

## Degree Requirements

### Master of Arts in East Asian Studies

The Master of Arts in East Asian Studies, which requires 30 units of graduate study, offers advanced interdisciplinary courses in Chinese, Japanese, and Korean studies in areas that include literature, history, anthropology, and art history. Students are required to take the core seminar, normally in their first semester, and at least two substantial writing seminars. Students must achieve at least third-year proficiency in one Asian language, with no more than 12 units of language applying to the degree. For the exit requirement, a student may choose to write a master's thesis or master's essay, or take the exit exam. The degree can be completed in three or four semesters; with the thesis option, the degree requires four semesters.

### Joint Law and East Asian Studies Program

The Joint Law and East Asian Studies program, leading to the Juris Doctoris (JD) (<http://bulletin.wustl.edu/law/juris-doctor>) and Master of Arts degrees, combines the regular curriculum of the School of Law and special strengths in international legal studies with the broad offerings of the interdisciplinary East Asian Studies program. The joint program offers an integrated curriculum with courses that may be applied toward both degrees. Nine units are cross-counted between the degrees; the program can be completed in seven semesters. Applicants must apply to and be accepted by both programs.

### Joint Business and East Asian Studies Program

The Joint Business and East Asian Studies program, leading to an MBA from the Olin Business School (<https://olin.wustl.edu>) and an AM in East Asian Studies, offers the opportunity to develop an expertise in business practice within an East Asian context. Six units are cross-counted between the degrees; the program can be completed in six semesters. Applicants must apply to and be accepted by both programs.

## Economics

The Department of Economics at Washington University has a strong reputation in teaching and developing high-quality PhD students for academic positions and for private- and public-sector jobs. We are seeking qualified students from any field who possess strong analytical abilities in mathematics and statistics and who are willing to complete a challenging **Doctor of Philosophy (PhD) degree in Economics**. At this time, we do not offer a terminal Master of Arts (AM) in our program.

The department offers students financial support while in good academic standing.

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## Faculty

### Chair

**John Nachbar** (<http://economics.wustl.edu/nachbar>)  
Professor  
PhD, Harvard University  
Economic theory

### Associate Chair

**Yongseok Shin** ([http://economics.wustl.edu/people/Yongseok\\_Shin](http://economics.wustl.edu/people/Yongseok_Shin))  
Professor  
PhD, Stanford University  
Macroeconomics; economic growth

### Endowed Professors

**Costas Azariadis** ([http://economics.wustl.edu/people/Costas\\_Azariadis](http://economics.wustl.edu/people/Costas_Azariadis))  
Edward Mallinckrodt Distinguished Professor in Arts & Sciences  
PhD, Carnegie Mellon University  
Macroeconomic dynamics; economic development; monetary and fiscal policy

**Michele Boldrin** ([http://economics.wustl.edu/people/Michele\\_Boldrin](http://economics.wustl.edu/people/Michele_Boldrin))  
Joseph Gibson Hoyt Distinguished Professor in Arts & Sciences  
PhD, University of Rochester  
Economic theory; economic growth; macroeconomics

**Francisco (Paco) Buera** (<https://economics.wustl.edu/people/francisco-paco-buera>)  
Sam B. Cook Professor of Economics  
PhD, University of Chicago  
Macroeconomics; macroeconomic development

**Steven Fazzari** ([http://economics.wustl.edu/people/steve\\_fazzari](http://economics.wustl.edu/people/steve_fazzari))  
Bert A. and Jeanette L. Lynch Distinguished Professor of Economics  
PhD, Stanford University  
Macroeconomics; Keynesian economics; investment and finance

**Rodolfo Manuelli** ([http://economics.wustl.edu/people/rodolfo\\_manuelli](http://economics.wustl.edu/people/rodolfo_manuelli))  
James S. McDonnell Distinguished University Professor  
PhD, University of Minnesota  
Economic growth and development economics; macro and monetary economics

**Werner Ploberger** ([http://economics.wustl.edu/people/werner\\_ploberger](http://economics.wustl.edu/people/werner_ploberger))  
Thomas H. Eliot Distinguished Professor in Arts & Sciences  
PhD, Vienna University of Technology  
Statistics; econometric methodology; time-series econometrics

**Robert Pollak** (<http://www.olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=pollak>)  
Hernreich Distinguished Professor of Economics  
PhD, Massachusetts Institute of Technology  
Environmental economics; microeconomics/industrial organization; business and government; political economy

**Norman Schofield** ([http://polisci.wustl.edu/norman\\_schofield](http://polisci.wustl.edu/norman_schofield))  
Dr. William Taussig Professor of Political Economy  
LittD (Doctor of Letters), Liverpool University  
Doctorat d'Etat en Sciences Economiques, Universite de Caen  
PhD, Essex University  
Formal theory; comparative politics

**Ping Wang** ([http://economics.wustl.edu/people/Ping\\_Wang](http://economics.wustl.edu/people/Ping_Wang))  
Seigle Family Professor  
PhD, University of Rochester  
Growth/development; money/macro; economic theory; spatial/health economics

### Professors

**Gaetano Antinolfi** ([http://economics.wustl.edu/people/Gaetano\\_Antinolfi](http://economics.wustl.edu/people/Gaetano_Antinolfi))  
PhD, Cornell University  
Macroeconomics; monetary and international economics

**Marcus Berliant** (<http://economics.wustl.edu/berliant>)  
PhD, University of California, Berkeley  
Public finance; mathematical economics; urban economics

**Robert Parks** (<http://economics.wustl.edu/people/parks>)  
PhD, Purdue University  
Econometrics; public finance

**Bruce Petersen** ([http://economics.wustl.edu/people/bruce\\_petersen](http://economics.wustl.edu/people/bruce_petersen))  
PhD, Harvard University  
Financial economics; applied microeconomics

## Associate Professors

**George-Levi Gayle** (<http://economics.wustl.edu/people/george-levi-gayle>)

PhD, University of Pittsburgh

Econometric theory; contract theory; labor economics; personnel economics; corporate governance

**Limor Golan** (<http://economics.wustl.edu/people/limor-golan>)

PhD, University of Wisconsin–Madison

Labor economics; applied microeconomics; applied econometrics

**Sukko Kim** ([http://economics.wustl.edu/people/sukko\\_kim](http://economics.wustl.edu/people/sukko_kim))

PhD, University of California, Los Angeles

Economic history; urban and regional economics; trade and development

**Brian Rogers** (<http://economics.wustl.edu/people/brian-rogers>)

PhD, California Institute of Technology

Microeconomic theory, in particular the fields of network formation, social learning, and applied game theory

**Jonathan Weinstein** (<http://economics.wustl.edu/people/jonathan-weinstein>)

PhD, Massachusetts Institute of Technology

## Assistant Professors

**Ana Babus** (<https://economics.wustl.edu/people/ana-babus>)

PhD, Erasmus University Rotterdam

Microeconomic theory; finance

**Ian Fillmore** (<https://economics.wustl.edu/people/ian-fillmore>)

PhD, University of Chicago

Intersection of industrial organization, labor economics, and econometrics; economics of education and education markets

**Sanghmitra Gautam** (<https://economics.wustl.edu/people/sanghmitra-gautam>)

PhD, University College London

Development economics; applied microeconometrics; public economics

**SangMok Lee** (<https://economics.wustl.edu/people/sangmok-lee>)

PhD, California Institute of Technology

Microeconomics

**Anqi Li** (<http://economics.wustl.edu/people/anqi-li>)

PhD, Stanford University

Mechanism design; micro theory

**Paulo Natenzon** (<http://economics.wustl.edu/people/paulo-natenzon>)

PhD, Princeton University

Behavioral economics; decision theory; economic theory

**Carl Sanders** (<http://economics.wustl.edu/people/carl-sanders>)

PhD, University of Wisconsin

Labor economics particularly models with multidimensional human capital and their implications for occupational mobility and wage growth

## Postdoctoral Fellow

**Valerio Dotti** (<https://valeriodotti.github.io>)

PhD, University College London

Political economy

## Degree Requirements

### PhD in Economics

#### General Course Requirements

The PhD in Economics takes five years to complete and requires at least two years of courses in 500-level classes with a 3.0 grade point average. Students may transfer up to 24 units of graduate credits completed elsewhere but are advised to make such a transfer only after consultation with the director of graduate studies.

Courses must include the following classes:

1. Microeconomic Theory and Macroeconomic Theory: 12 units (Econ 501, Econ 502, Econ 503, Econ 504);
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
501 Macroeconomics I	502 Macroeconomics II
503 Microeconomics I	504 Microeconomics II
511 Quantitative Methods I	512 Quantitative Methods II
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
- Field courses
- 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 can be found on the Department of Economics (<http://economics.wustl.edu>) website.

## Education

The Department of Education offers full-time programs for graduates who desire either a master's degree for teacher certification or a **Doctor of Philosophy (PhD) in Education**. The teacher certification master's programs are ideal for recent graduates who have few, if any, formal courses in education. 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. Students interested in the elementary certification program may also consider the MAEd/MSW (<http://bulletin.wustl.edu/brownschool/msw-maed>) joint-degree program with the Brown School. The teacher education program principles include: a commitment to an equitable and just education for all students; a knowledge of both the subject(s) to be taught and best practices in pedagogy; and the enactment of the role of teacher-as-enquirer.

Doctoral study in Education is aimed at strengthening and deepening the student's analytical understanding of education in both research and practice. The PhD in Education focuses on three main strands of study: Social Contexts of Educational Research; Science and Mathematics Education; and Applied Linguistics in Education. In addition, students may select concentrations in the following areas: mathematics and science education; policy studies; urban education and American culture studies; second language research; English language learners.

Students working toward a PhD in Education are expected to acquire an understanding of education as a complex social, cultural, and moral/political activity and as a field of study with rich literature bases and strong ties to disciplinary knowledge, classroom practice, and a variety of technologies. Our faculty bring special interests and expertise to the examination of educational interactions in such sites as schools, families, and other cultural institutions. Students are expected to acquire theoretical and empirical expertise in an area of concentration even as they demonstrate their broader understanding of educational processes and problems. Finally, students are expected to acquire methodological competence in empirical inquiry and to pursue questions that are of interest and import for the student individually as well as a larger educational community.

Graduates of the PhD program should be prepared to join the community of professional educators who contribute to our understanding of the complexity of education and to continue inquiring into educational processes and problems wherever they choose to work.

In addition, through University College, the department offers part-time students the opportunity to earn teacher certification (elementary and secondary) through a non-degree post-AB program, and those currently working in a classroom the opportunity to earn an MAEd through evening classes. For more information on part-time programs, visit the University College – Education (p. 149) page of this *Bulletin*.

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## Faculty

### Chair

**Kit Wellman** (<http://philosophy.artsci.wustl.edu/people/kit-wellman>)

Professor

PhD, University of Arizona

### Endowed Professors

**William F. Tate** ([http://education.wustl.edu/people/tate\\_william-f](http://education.wustl.edu/people/tate_william-f))  
Edward Mallinckrodt Distinguished University Professor in Arts & Sciences

PhD, University of Maryland, College Park

**Carol Camp Yeakey** ([http://education.wustl.edu/people/yeakey\\_carol-camp](http://education.wustl.edu/people/yeakey_carol-camp))

Marshall S. Snow Professor of Arts & Sciences

PhD, Northwestern University

### Professor

**Cindy Brantmeier** (<http://education.wustl.edu/people/cindy-brantmeier>)

Professor of Education and Applied Linguistics

PhD, Indiana University, Bloomington

### Associate Professors

**Garrett A. Duncan** (<http://education.wustl.edu/Duncan>)  
PhD, Claremont Graduate University

**Mary Ann Dzuback** ([http://education.wustl.edu/people/dzuback\\_mary-ann](http://education.wustl.edu/people/dzuback_mary-ann))

PhD, Columbia University

**Rowhea Elmesky** ([http://education.wustl.edu/people/elmesky\\_rowhea](http://education.wustl.edu/people/elmesky_rowhea))

PhD, Florida State University

**Odis Johnson Jr.** (<http://education.wustl.edu/people/odis-johnson>)

Associate Professor and Director of Graduate Studies

PhD, University of Michigan, Ann Arbor

## Assistant Professors

**Ebony Duncan** (<http://education.wustl.edu/people/ebony-duncan>)

PhD, Vanderbilt University

**Michelle Purdy** (<http://education.wustl.edu/people/michelle-purdy>)

PhD, Emory University

## Degree Requirements

### Master of Arts in Education (MAEd)

The MAEd program for students seeking elementary teacher certification requires 48 credit hours of Professional Education courses, which include 8 credit hours of student teaching during the final semester. The courses are typically completed in three semesters and one summer course.

- The first fall semester consists of foundation courses in education, including educational psychology and teaching reading courses.
- Spring is the Curriculum & Instruction (C & I) block, which includes C & I courses in the basic subject areas as well as a field seminar requiring 50 hours of school observation.
- Summer includes a course in education and psychology of exceptional children.
- The second fall (and final semester) includes 12 weeks of student teaching, as well as courses for reading and creating a teaching portfolio.

When students successfully complete the program and the state-mandated certification assessments, they are eligible for initial teacher certification in Missouri for elementary education grades 1-6.

### Master of Arts in Teaching (MAT)

The MAT program for students seeking secondary teacher certification requires at least 36 hours in Professional Education courses plus 12 graduate credit hours in their teaching subject area during semesters when their schedules allow. The courses are typically completed in four semesters.

- 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.
- The second semester includes educational psychology courses with 30 school observation hours and appropriate content area courses.

- The third semester includes a field experience seminar requiring 50 hours of school observation, a curriculum and instruction course for the content area, a reading intervention course, and a possible content area course.
- The final (fourth) semester consists of 12-14 weeks of student teaching (8 credit hours), as well as courses for reading in the content area and a teaching-learning process course.

When 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.

Students may be certified in the following areas: (grades 9-12) Biology, Chemistry, Earth Science, Physics, Mathematics, Social Science (history, political science, psychology, anthropology, etc.), English; (grades K-12) Art, Dance, Foreign Language (Latin, Chinese, French, German, Japanese, Russian, Spanish). There are specific subject area requirements for each subject, which students may fulfill from both their undergraduate courses and the 12 credit hours of subject area graduate courses required in the MAT 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 credits equivalent to an undergraduate major).

### Doctor of Philosophy (PhD) in Education

Our doctoral program focuses on three major strands of study: Social Contexts of Educational Research; Science and Mathematics Education; and Applied Linguistics in Education. Students are afforded an opportunity to build unique programs of study by combining concentrations from: urban education and American culture studies, mathematics and science education, policy studies, second language acquisition, or English language learners. These concentrations are supplemented by core studies in history and methodology and by a seminar shared by all doctoral students. Many courses have fieldwork and research components, opportunities to attend and present at local and national conferences, and seminars. Required and elective courses provide the student with a broad understanding of scholarship and research in education and prepare the student for meeting the qualifying examination requirements and for dissertation research and writing.

Students are required to take graduate-level courses in history, methodology, and doctoral seminars, as well as in their major strand of study and additional concentrations. By the third year, students should be completing their courses and submitting a Qualifying Portfolio of written work before moving on to the dissertation phase of the program. Students must have a dissertation proposal approved, generally by the fourth year, before they continue with the bulk of their research and writing for the dissertation. A dissertation is then completed and defended, usually between the fifth and seventh year of study.

Integrating teaching and research with scholarly development involves the doctoral candidate in the central responsibilities of the professional educator. An advantage of a small department within Arts & Sciences is that students have multiple opportunities to work closely with many of the faculty in the department. In addition, the university offers a climate supporting interdisciplinary conversations across schools, departments and programs. As Education faculty, we encourage students to pursue learning experiences and contacts with faculty in other programs. Students encounter a diversity of disciplinary perspectives within and outside of the Department of Education in order to provide a broad understanding of the field.

## School of Engineering & Applied Science

The School of Engineering & Applied Science is ranked among the top 50 engineering schools in *U.S. News & World Report*, and focuses intellectual efforts through a new convergence paradigm, particularly as applied to medicine and health (<http://bulletin.wustl.edu/medicine/overview>), energy and environment, entrepreneurship (<http://engineering.wustl.edu/our-school/initiatives/Pages/entrepreneurship.aspx>), and security.

For further information about PhD programs in engineering, please visit the following pages:

- Biomedical Engineering (p. 63)
- Computer Science & Engineering (p. 65)
- Electrical & Systems Engineering (p. 68)
- Energy, Environmental & Chemical Engineering (p. 71)
- Materials Science & Engineering (p. 74)
- Mechanical Engineering & Materials Science (p. 79)

## Biomedical Engineering

Biomedical engineering (BME) seeks to advance and integrate life science knowledge with engineering methods and innovations that contribute to improvements in human health and well-being. Our vision is that lasting knowledge of biomedical systems and paradigm-shifting engineering technology will arise from integrating engineering concepts and basic science knowledge across molecular to whole-body levels. We believe that those taught to work across multiple disciplines, and to integrate modeling and experimental systems approaches, will be uniquely positioned to advance and generate new disciplines in biomedical engineering.

With this vision in mind, we are committed to educating the next generation of biomedical engineers. We have leveraged our interdisciplinary strengths in engineering, and clinical and life sciences, to build a biomedical engineering department around research programs of excellence and translational potential: Biomedical & Biological Imaging; Cancer Technologies;

Cardiovascular Engineering; Molecular & Cellular Systems Engineering; Neural Engineering; Orthopedic Engineering; and Regenerative Engineering in Medicine. These areas provide exciting opportunities for students with a variety of backgrounds and interests.

Students seeking the **PhD in Biomedical Engineering** may choose to study in one of seven multidisciplinary research programs that represent frontiers in biomedical engineering. Our core faculty work collaboratively with more than 90 affiliated faculty to offer students the opportunity to learn in a diverse and rich spectrum of BME research areas. Students graduating with the PhD in Biomedical Engineering are prepared to pursue paths in research and development in academic and industry settings, and are well-prepared to contribute to teaching and research translation. The **MD/PhD in Biomedical Engineering**, given jointly with the top-ranked School of Medicine, gives students in-depth training in modern biomedical research and clinical medicine. The typical MD/PhD career combines patient care and biomedical research but leans toward research.

**Contact:** Suesy Seel  
**Phone:** 314-935-2720  
**Email:** [susanseel@wustl.edu](mailto:susanseel@wustl.edu)  
**Website:** <http://bme.wustl.edu/graduate>

## Faculty

### Chair

**Lori A. Setton** (<https://engineering.wustl.edu/Profiles/Pages/Lori-Setton.aspx>)  
Lucy and Stanley Lopata Distinguished Professor of Biomedical Engineering  
PhD, Columbia University  
Biomaterials for local drug delivery; tissue regenerations specific to the knee joints and spine

### Endowed Professors

**Rohit V. Pappu** (<https://engineering.wustl.edu/Profiles/Pages/Rohit-Pappu.aspx>)  
Edwin H. Murty Professor of Engineering  
PhD, Tufts University  
Macromolecular self assembly and function; computational biophysics

**Yoram Rudy** (<https://engineering.wustl.edu/Profiles/Pages/Yoram-Rudy.aspx>)  
Fred Saigh Distinguished Professor of Engineering  
PhD, Case Western Reserve University  
Cardiac electrophysiology; modeling of the cardiac system

## Professors

**Mark Anastasio** (<https://engineering.wustl.edu/Profiles/Pages/Mark-Anastasio.aspx>)  
PhD, University of Chicago  
Imaging sciences; phase-contrast; x-ray imaging

**Jianmin Cui** (<https://engineering.wustl.edu/Profiles/Pages/Jianmin-Cui.aspx>)  
PhD, State University of New York–Stony Brook  
Ion channels; channel structure-function relationship; biophysics

**Daniel Moran** (<https://engineering.wustl.edu/Profiles/Pages/Daniel-Moran.aspx>)  
PhD, Arizona State University  
Motor control; neural engineering; neuroprosthetics; movement biomechanics

**Quing Zhu** (<https://engineering.wustl.edu/Profiles/Pages/Quing-Zhu.aspx>)  
PhD, University of Pennsylvania  
Biophotonics and multimodality ultrasound and optical imaging

## Associate Professors

**Dennis L. Barbour** (<https://engineering.wustl.edu/Profiles/Pages/Dennis-Barbour.aspx>)  
MD, PhD, Johns Hopkins University  
Auditory physiology; sensory cortex neurocircuitry; novel perceptual diagnostics and therapeutics

**Princess Imoukhuede** (<https://engineering.wustl.edu/Profiles/Pages/Princess-Imoukhuede.aspx>)  
PhD, California Institute of Technology  
Ligand-receptor signal transduction; angiogenesis; computational systems bioengineering

**Vitaly Klyachko** (<https://engineering.wustl.edu/Profiles/Pages/Vitaly-Klyachko.aspx>)  
PhD, University of Wisconsin-Madison  
Synaptic function and plasticity; neural circuits; information analysis; neurological disorders

**Baranidharan Raman** (<https://engineering.wustl.edu/Profiles/Pages/Barani-Raman.aspx>)  
PhD, Texas A&M University  
Computational and systems neuroscience; neuromorphic engineering; pattern recognition; sensor-based machine olfaction

**Jin-Yu Shao** (<https://engineering.wustl.edu/Profiles/Pages/Jin-Yu-Shao.aspx>)  
PhD, Duke University  
Cell mechanics; receptor and ligand interactions; molecular biomechanics

**Kurt A. Thoroughman** (<https://engineering.wustl.edu/Profiles/Pages/Kurt-Thoroughman.aspx>)  
PhD, Johns Hopkins University  
Human motor control and motor learning; neural computation

## Assistant Professors

**Hong Chen** (<https://engineering.wustl.edu/Profiles/Pages/Hong-Chen.aspx>)  
PhD, University of Washington  
Physical acoustics; therapeutic ultrasound and ultrasound imaging

**Nate Huebsch** (<https://bme.wustl.edu/faculty/Pages/faculty.aspx?bio=114>)  
PhD, Harvard University  
Cell-material Interactions, iPSC-based tissue modeling to study cardiac development and disease

**Abhinav Kumar Jha** (<https://bme.wustl.edu/faculty/Pages/faculty.aspx?bio=125>)  
PhD, University of Arizona  
Development of computational-imaging solutions for diagnosing and treating diseases

**Kristen Naegle** (<https://engineering.wustl.edu/Profiles/Pages/Kristen-Naegle.aspx>)  
PhD, Massachusetts Institute of Technology  
Computational systems biology with emphasis on cellular networks involved in cancer and diabetes

**Jai S. Rudra** (<https://engineering.wustl.edu/Profiles/Pages/Jai-Rudra.aspx>)  
PhD, Louisiana Tech University  
Peptide-based biomaterials; immunoengineering; immunology of nanoscale aggregates; development of vaccines and immunotherapies

**Jon Silva** (<https://engineering.wustl.edu/Profiles/Pages/Jonathan-Silva.aspx>)  
PhD, Washington University  
Ion channel biophysics

**Michael D. Vahey** (<https://bme.wustl.edu/faculty/Pages/faculty.aspx?bio=113>)  
PhD, Massachusetts Institute of Technology  
Biophysical mechanisms of infectious disease; fluorescence microscopy; microfluidics

## Senior Professor

**Larry Taber** (<https://bme.wustl.edu/faculty/Pages/Larry-Taber.aspx>)  
PhD, Stanford University  
Mechanics of growth and development; cardiac mechanics

## Senior Lecturer

**Patricia Widder** (<https://bme.wustl.edu/faculty/Pages/Patricia-Widder.aspx>)  
MS, Washington University

## Lecturer

**Noah Ledbetter** (<https://bme.wustl.edu/faculty/Pages/Noah-Ledbetter.aspx>)

PhD, University of Utah

## Senior Emeritus Professor

**Frank Yin** (<https://bme.wustl.edu/faculty/Pages/Frank-Yin.aspx>)

MD, PhD, University of California, San Diego

## Degree Requirements

### PhD and Combined MD/PhD in Biomedical Engineering

The department offers programs leading to the Doctor of Philosophy (PhD) in Biomedical Engineering and combined MD/PhD degrees. The latter degree is given jointly with the School of Medicine.

The doctoral degree requires a minimum of 72 credits beyond the bachelor's level, with a minimum of 36 being course credits (including the core curriculum) and a minimum of 24 credits of doctoral dissertation research.

The core curriculum that must be satisfied by all PhD students consists of the following:

- One graduate-level course in life science from an approved list
- One graduate-level course in mathematics from approved list
- One graduate-level course in computer science from approved list or exemption by proficiency
- Four BME courses from an approved list

Please visit the Biomedical Engineering (BME) website (<https://bme.wustl.edu/graduate/phd/Pages/default.aspx>) for a comprehensive list of the approved courses.

Up to 9 credits of BME 601C Research Rotation (<https://courses.wustl.edu/CourseInfo.aspx?sch=E&dept=E62&crs=601C>) and/or BME 501C Graduate Seminar (<https://courses.wustl.edu/CourseInfo.aspx?sch=E&dept=E62&crs=501C>) may be counted toward the 36 credits of graduate courses required for the PhD, so a total of 27 additional credits (~nine courses including the core curriculum) are required for the PhD. Up to two 400-level courses may be counted toward the nine courses required for the PhD (not including independent study courses, journal clubs or seminar-based courses). Graduate courses may be transferred in (up to 24 credits) but must be evaluated and approved by the director of doctoral studies. The evaluation and approval may occur at any time, but course transfer does not become official until after one year in residence at Washington University.

Students seeking the **PhD in Biomedical Engineering** enroll in two to three courses each semester and participate in one

or two laboratory rotations in the first year. Ten months after they enroll in the program, students take their oral qualifying exam consisting of a presentation of their research done to date in the mentor's laboratory followed by an oral exam addressing any issues directly related to their rotation report or their oral presentation. Upon successfully passing the qualifying examination, they advance to candidacy and complete the balance of their requirements. During the second and third years, students complete their remaining courses, participate in one semester of a mentored teaching experience, and begin their thesis research. By the end of the third year, students must complete their thesis proposal. Students must also complete one accepted and one submitted first author publication and complete a dissertation.

Students pursuing the combined **MD/PhD in Biomedical Engineering** must complete the degree requirements in both schools. MD/PhD students typically complete the first two years of the medical school pre-clinical curriculum while also performing one or more research rotations, then the remaining requirements for the doctoral degree, and finally the clinical training years of the medical degree. The department generally gives graduate course credits for some of the medical school courses toward fulfillment of course requirements for the PhD degree. This is arranged on an individual basis between the student, their academic adviser, and the director of doctoral studies.

## Computer Science & Engineering

The Department of Computer Science & Engineering offers **PhD programs in Computer Science and in Computer Engineering**. Computer Science research encompasses the fundamentals of software and algorithm design, machine learning and bioinformatics, visual and cyber-physical computing, and human-computer interaction. Computer Engineering focuses on the interaction of software and hardware in the design of computing systems and networks. Our research groups have extensive interdisciplinary ties across the university, with collaborations in medicine, science, the humanities and social work. Recent graduates have accepted research and teaching faculty positions, and research and engineering positions in leading technology companies.

Both PhD programs require a combination of courses, research and teaching. The required courses are often completed early in the program since students are integrated into research groups in their first year and the program emphasis is on creative research. The program has milestones with both written and oral components that provide structure to the five- to six-year degree. The program considers applicants with either bachelor's or master's degrees and has had successful applicants in the past whose background is outside of computer science.

**Phone:** 314-935-6132  
**Email:** admissions@cse.wustl.edu  
**Website:** <https://cse.wustl.edu/graduate/programs>

## Faculty

### Chair

**Roch Guérin** (<https://engineering.wustl.edu/Profiles/Pages/Roch-Gu%C3%A9rin.aspx>)  
Harold B. and Adelaide G. Welge Professor of Computer Science  
PhD, California Institute of Technology  
Computer networks and communication systems

### Professors

**Sanjoy Baruah** (<https://engineering.wustl.edu/Profiles/Pages/Sanjoy-Baruah.aspx>)  
PhD, University of Texas at Austin  
Real-time and safety-critical system design, cyber-physical systems, scheduling theory, resource allocation and sharing in distributed computing environments

**Aaron Bobick** (<https://engineering.wustl.edu/Profiles/Pages/Aaron-Bobick.aspx>)  
James M. McKelvey Professor and Dean  
PhD, Massachusetts Institute of Technology  
Computer vision, graphics, human-robot collaboration

**Michael R. Brent** (<https://engineering.wustl.edu/Profiles/Pages/Michael-Brent.aspx>)  
Henry Edwin Sever Professor of Engineering  
PhD, Massachusetts Institute of Technology  
Systems biology, computational and experimental genomics, mathematical modeling, algorithms for computational biology, bioinformatics

**Jeremy Buhler** (<https://engineering.wustl.edu/Profiles/Pages/Jeremy-Buhler.aspx>)  
PhD, Washington University  
Computational biology, genomics, algorithms for comparing and annotating large biosequences

**Roger D. Chamberlain** (<https://engineering.wustl.edu/Profiles/Pages/Roger-Chamberlain.aspx>)  
DSc, Washington University  
Computer engineering, parallel computation, computer architecture, multiprocessor systems

**Yixin Chen** (<https://engineering.wustl.edu/Profiles/Pages/Yixin-Chen.aspx>)  
PhD, University of Illinois at Urbana-Champaign  
Mathematical optimization, artificial intelligence, planning and scheduling, data mining, learning data warehousing, operations research, data security

**Patrick Crowley** (<https://engineering.wustl.edu/Profiles/Pages/Patrick-Crowley.aspx>)  
PhD, University of Washington  
Computer and network systems, network security

**Ron K. Cytron** (<https://engineering.wustl.edu/Profiles/Pages/Ron-Cytron.aspx>)  
PhD, University of Illinois at Urbana-Champaign  
Programming languages, middleware, real-time systems

**Christopher D. Gill** (<https://engineering.wustl.edu/Profiles/Pages/Christopher-Gill.aspx>)  
DSc, Washington University  
Parallel and distributed real-time embedded systems, cyber-physical systems, concurrency platforms and middleware, formal models and analysis of concurrency and timing

**Raj Jain** (<https://engineering.wustl.edu/Profiles/Pages/Raj-Jain.aspx>)  
Barbara J. & Jerome R. Cox Jr. Professor of Computer Science  
PhD, Harvard University  
Network security, blockchains, medical systems security, industrial systems security, wireless networks, unmanned aircraft systems, internet of things, telecommunications networks, traffic management

**Tao Ju** (<https://engineering.wustl.edu/Profiles/Pages/Tao-Ju.aspx>)  
PhD, Rice University  
Computer graphics, visualization, mesh processing, medical imaging and modeling

**Chenyang Lu** (<https://engineering.wustl.edu/Profiles/Pages/Chenyang-Lu.aspx>)  
Fullgraf Professor in the Department of Computer Science & Engineering  
PhD, University of Virginia  
Internet of things, real-time, embedded, and cyber-physical systems, cloud and edge computing, wireless sensor networks

**Weixiong Zhang** (<https://engineering.wustl.edu/Profiles/Pages/Weixiong-Zhang.aspx>)  
PhD, University of California, Los Angeles  
Computational biology, genomics, machine learning and data mining, and combinatorial optimization

### Associate Professors

**Kunal Agrawal** (<https://engineering.wustl.edu/Profiles/Pages/Kunal-Agrawal.aspx>)  
PhD, Massachusetts Institute of Technology  
Parallel computing, cyber-physical systems & sensing, theoretical computer science

**Sanmay Das** (<https://engineering.wustl.edu/Profiles/Pages/Sanmay-Das.aspx>)  
PhD, Massachusetts Institute of Technology  
Design of algorithms for complex environments, computational social science, machine learning

**Caitlin Kelleher** (<https://engineering.wustl.edu/Profiles/Pages/Caitlin-Kelleher.aspx>)

Hugo F. & Ina Champ Urbauer Career Development Associate Professor

PhD, Carnegie Mellon University

Human-computer interaction, programming environments, and learning environments

**William D. Richard** (<https://engineering.wustl.edu/Profiles/Pages/William-Richard.aspx>)

PhD, University of Missouri-Rolla

Ultrasonic imaging, medical instrumentation, computer engineering

**Yevgeniy Vorobeychik** (<https://cse.wustl.edu/faculty/Pages/faculty.aspx?bio=185>)

PhD, University of Michigan

Artificial intelligence, machine learning, computational economics, security and privacy, multi-agent systems

## Assistant Professors

**Ayan Chakrabarti** (<https://engineering.wustl.edu/Profiles/Pages/Ayan-Chakrabarti.aspx>)

PhD, Harvard University

Computer vision computational photography, machine learning

**Roman Garnett** (<https://engineering.wustl.edu/Profiles/Pages/Roman-Garnett.aspx>)

PhD, University of Oxford

Active learning (especially with atypical objectives), Bayesian optimization, and Bayesian nonparametric analysis

**Chien-Ju Ho** (<https://engineering.wustl.edu/Profiles/Pages/Chien-Ju-Ho.aspx>)

PhD, University of California, Los Angeles

Design and analysis of human-in-the-loop systems, with techniques from machine learning, algorithmic economics, and online behavioral social science

**Brendan Juba** (<https://engineering.wustl.edu/Profiles/Pages/Brendan-Juba.aspx>)

PhD, Massachusetts Institute of Technology

Theoretical approaches to artificial intelligence founded on computational complexity theory and theoretical computer science more broadly construed

**Ulugbek Kamilov** (<https://engineering.wustl.edu/Profiles/Pages/Ulugbek-Kamilov.aspx>)

PhD, École Polytechnique Fédérale de Lausanne, Switzerland

Computational imaging, image and signal processing, machine learning and optimization

**Brian Kocoloski** (<https://cse.wustl.edu/faculty/Pages/faculty.aspx?bio=115>)

PhD, University of Pittsburgh

Scalable parallel computing, cloud computing, operating systems, virtualization

**Angelina Lee** (<https://engineering.wustl.edu/Profiles/Pages/I-Ting-Angelina-Lee.aspx>)

PhD, Massachusetts Institute of Technology

Designing linguistics for parallel programming, developing runtime system support for multithreaded software, and building novel mechanisms in operating systems and hardware to efficiently support parallel abstractions

**Alvitta Ottley** (<https://cse.wustl.edu/faculty/Pages/faculty.aspx?bio=109>)

PhD, Tufts University

Designing personalized and adaptive visualization systems, including information visualization, human-computer interaction, visual analytics, individual differences, personality, user modeling and adaptive interfaces

**William Yeoh** (<https://engineering.wustl.edu/Profiles/Pages/William-Yeoh.aspx>)

PhD, University of Southern California

Artificial intelligence, multi-agent systems, distributed constraint optimization, planning and scheduling

**Miaomiao Zhang** (<https://cse.wustl.edu/faculty/Pages/faculty.aspx?bio=183>)

PhD, University of Utah

Medical image analysis, statistical modeling, and machine learning

**Ning Zhang** (<https://cse.wustl.edu/faculty/Pages/faculty.aspx?bio=182>)

PhD, Virginia Polytechnic Institute and State University

Medical imaging

## Professor of the Practice

**Dennis Cosgrove** (<https://cse.wustl.edu/faculty/Pages/Dennis-Cosgrove.aspx>)

BS, University of Virginia

Programming environments and parallel programming

## Lecturers

**Marion Neumann** (<https://cse.wustl.edu/faculty/Pages/Marion-Neumann.aspx>)

PhD, University of Bonn, Germany

Machine learning with graphs; solving problems in agriculture and robotics

**Jonathan Shidal** (<https://cse.wustl.edu/faculty/Pages/Jon-Shidal.aspx>)

PhD, Washington University

Computer architecture and memory management

**Douglas Shook** (<https://cse.wustl.edu/faculty/Pages/Doug-Shook.aspx>)

MS, Washington University

Imaging sensor design, compiler design and optimization

**William Siever** (<https://cse.wustl.edu/faculty/Pages/Bill-Siever.aspx>)

Principal Lecturer

PhD, Missouri University of Science and Technology

**Todd Sproull** (<https://cse.wustl.edu/faculty/Pages/Todd-Sproull.aspx>)

PhD, Washington University

Computer networking and mobile application development

## Senior Professors

**Jerome R. Cox Jr.**

ScD, Massachusetts Institute of Technology

Computer system design, computer networking, biomedical computing

**Mark A. Franklin**

Hugo F. and Ina Champ Urbauer Professor of Engineering

PhD, Carnegie Mellon University

Computer architecture, systems analysis and parallel processing, storage systems design

**Jonathan S. Turner**

PhD, Northwestern University

Design and analysis of internet routers and switching systems, networking and communications, algorithms

## Professors Emeriti

**Takayuki D. Kimura**

PhD, University of Pennsylvania

Communication and computation, visual programming

**Seymour V. Pollack**

MS, Brooklyn Polytechnic Institute

Intellectual property, information systems

## Degree Requirements

### PhD in Computer Science or Computer Engineering

Students can choose to pursue a PhD in Computer Science or Computer Engineering. The requirements vary for each degree. Here are the core requirements:

- Complete 72 units of regular courses (at least 33 units), seminars (at least 3 units), and research credits (at least 24 units), including 9 units of breadth requirements for both the PhD in Computer Science and Computer Engineering degrees.
- Satisfy fundamental teaching requirements by participating in mentored teaching experiences, pedagogical teaching requirements by completing a certain number of qualifying pedagogy workshops, and scholarly communication requirements by participating in the Doctoral Student Research Seminar.

- Pass milestones demonstrating abilities to understand research literature, communicate orally and in writing, and formulate a detailed research plan. These milestones include an oral qualifying examination, a portfolio review for admission to candidacy, and a dissertation proposal defense, culminating in a dissertation defense.

For more information, please refer to the Doctoral Program Guide (<https://cse.wustl.edu/graduate/current-students/Pages/phd-students.aspx>) on our website.

## Electrical & Systems Engineering

The Department of Electrical & Systems Engineering offers PhD degrees in Electrical Engineering and in Systems Science & Mathematics. Research activity in the department is focused in the following three areas:

- Applied mathematics, systems & control
- Electronics & optics
- Signal processing, imaging & communications

Students working in any of these areas will enjoy the benefits of programs that balance fundamental theoretical concepts with modern applications. In our department, students find ample opportunities for close interactions with faculty members working on cutting-edge research and technology development.

Prospective PhD students with previous degrees in engineering who are interested in PhD studies and research in mathematics or statistics are encouraged to apply for PhD studies in Mathematics and Statistics. For more details, visit the Graduate Programs in Mathematics and Statistics (<http://wumath.wustl.edu/graduate>) webpage.

**Phone:** 314-935-7520

**Website:** <http://ese.wustl.edu>

## Faculty

### Chair

**R. Martin Arthur** (<https://engineering.wustl.edu/Profiles/Pages/Martin-Arthur.aspx>)

Newton R. and Sarah Louisa Glasgow Wilson Professor of Engineering

PhD, University of Pennsylvania

Ultrasonic imaging, electrocardiography

### Endowed Professors

**Arye Nehorai** (<https://engineering.wustl.edu/Profiles/Pages/Arye-Nehorai.aspx>)

Eugene and Martha Lohman Professor of Electrical Engineering  
PhD, Stanford University

Statistical signal processing, machine learning, imaging, biomedicine

**Joseph A. O'Sullivan** (<https://engineering.wustl.edu/Profiles/Pages/Joseph-O'Sullivan.aspx>)  
Samuel C. Sachs Professor of Electrical Engineering  
Dean, UMSL/WashU Joint Undergraduate Engineering Program  
PhD, Notre Dame University  
Information theory, statistical signal processing, imaging science with applications in medicine and security, and recognition theory and systems

**Lan Yang** (<https://engineering.wustl.edu/Profiles/Pages/Lan-Yang.aspx>)  
Edward H. & Florence G. Skinner Professor of Engineering  
PhD, California Institute of Technology  
Nano/micro photonics, ultra high-quality optical microcavities, ultra-low-threshold microlasers, nano/micro fabrication, optical sensing, single nanoparticle detection, photonic molecules, photonic materials

## Professors

**Shantanu Chakrabarty** (<https://ese.wustl.edu/faculty/Pages/default.aspx?bio=101>)  
PhD, Johns Hopkins University  
New frontiers in unconventional analog computing techniques using silicon and hybrid substrates, fundamental limits of energy efficiency, sensing and resolution by exploiting computational and adaptation primitives inherent in the physics of devices

**Hiroaki Mukai** (<https://engineering.wustl.edu/Profiles/Pages/Hiro-Mukai.aspx>)  
Professor  
PhD, University of California, Berkeley  
Theory and computational methods for optimization, optimal control, systems theory, electric power system operations, differential games

**Heinz Schaettler** (<https://engineering.wustl.edu/Profiles/Pages/Heinz-Schaettler.aspx>)  
PhD, Rutgers University  
Optimal control, nonlinear systems, mathematical models in biomedicine

## Associate Professors

**Jr-Shin Li** (<https://engineering.wustl.edu/Profiles/Pages/Jr-Shin-Li.aspx>)  
Das Family Distinguished Career Development Associate Professor  
PhD, Harvard University  
Mathematical control theory, optimization, quantum control, biomedical applications

## Assistant Professors

**ShiNung Ching** (<https://engineering.wustl.edu/Profiles/Pages/ShiNung-Ching.aspx>)  
Das Family Distinguished Career Development Assistant Professor  
PhD, University of Michigan  
Systems and control in neural medicine, nonlinear and constrained control, physiologic network dynamics, stochastic control

**Zachary Feinstein** (<https://engineering.wustl.edu/Profiles/Pages/Zachary-Feinstein.aspx>)  
PhD, Princeton University  
Financial engineering, operations research, variational analysis

**Ulugbek Kamilov** (<https://ese.wustl.edu/faculty/Pages/default.aspx?bio=120>)  
PhD, École Polytechnique Fédérale de Lausanne, Switzerland  
Computational imaging, signal processing, biomedical imaging

**Matthew D. Lew** (<https://engineering.wustl.edu/Profiles/Pages/Matthew-Lew.aspx>)  
PhD, Stanford University  
Microscopy, biophotonics, computational imaging, nano-optics

**Jung-Tsung Shen** (<https://engineering.wustl.edu/Profiles/Pages/Jung-Tsung-Shen.aspx>)  
Das Family Distinguished Career Development Assistant Professor  
PhD, Massachusetts Institute of Technology  
Theoretical and numerical investigations on nanophotonics, optoelectronics, plasmonics, metamaterials

**Chuan Wang** (<https://ese.wustl.edu/faculty/Pages/default.aspx?bio=123>)  
PhD, University of Southern California  
Flexible electronics, stretchable electronics, printed electronics, nanomaterials, nanoelectronics, optoelectronics

**Shen Zeng** (<https://ese.wustl.edu/faculty/Pages/default.aspx?bio=121>)  
PhD, University of Stuttgart  
Systems and control theory, data-based analysis and control of complex dynamical systems, inverse problems, biomedical applications

**Xuan "Silvia" Zhang** (<https://engineering.wustl.edu/Profiles/Pages/Xuan-%28Silvia%29-Zhang.aspx>)  
PhD, Cornell University  
Robotics, cyber-physical systems, hardware security, ubiquitous computing, embedded systems, computer architecture, VLSI, electronic design automation, control optimization, and biomedical devices and instrumentation

## Senior Professors

### I. Norman Katz

PhD, Massachusetts Institute of Technology  
Numerical analysis, differential equations, finite element methods, locational equilibrium problems, algorithms for parallel computations

### Paul S. Min

PhD, University of Michigan  
Routing and control of telecommunication networks, fault tolerance and reliability, software systems, network management

### William F. Pickard

PhD, Harvard University  
Biological transport, electrobiology, energy engineering

### Daniel L. Rode

PhD, Case Western Reserve University  
Optoelectronics and fiber optics, semiconductor materials, light-emitting diodes (LEDs) and lasers, semiconductor processing, electronics

### Ervin Y. Rodin

PhD, University of Texas at Austin  
Optimization, differential games, artificial intelligence, mathematical modeling

### Barbara A. Shrauner

PhD, Harvard University (Radcliffe)  
Plasma processing, semiconductor transport, symmetries of nonlinear differential equations

### Donald L. Snyder

PhD, Massachusetts Institute of Technology  
Communication theory, random process theory, signal processing, biomedical engineering, image processing, radar

### Barry E. Spielman

PhD, Syracuse University  
High-frequency/high-speed devices, RF & MW integrated circuits, computational electromagnetics

### Tzyh Jong Tarn

DSc, Washington University  
Quantum mechanical systems, bilinear and nonlinear systems, robotics and automation, life science automation

## Professors of Practice

### Dedric Carter

PhD, Nova Southeastern University  
MBA, MIT Sloan School of Management

### Dennis Mell

MS, University of Missouri-Rolla

### Ed Richter

MS, Washington University

### Jason Trobaugh

DSc, Washington University

## Senior Lecturer

### Martha Hasting

PhD, Saint Louis University

## Lecturers

### Randall Brown

PhD, Washington University

### James Feher

PhD, Missouri University of Science and Technology

### Randall Hoven

MS, Johns Hopkins University

### Vladimir Kurenok

PhD, Belarus State University (Minsk, Belarus)

### Tsitsi Madziwa-Nussinov

PhD, University of California, Los Angeles

### Jinsong Zhang

PhD, University of Miami

## Professors Emeriti

### Lloyd R. Brown

DSc, Washington University  
Automatic control, electronic instrumentation

### David L. Elliott

PhD, University of California, Los Angeles  
Mathematical theory of systems, nonlinear difference, differential equations

## Degree Requirements

### PhD in Electrical Engineering or Systems Science & Mathematics

The Department of Electrical & Systems Engineering (ESE) at Washington University in St. Louis offers two PhD programs. Both the PhD in Electrical Engineering and the PhD in Systems Science & Mathematics are academic doctoral degrees designed mainly for full-time students interested in an academic, laboratory, and/or industrial research and development career in a specialization within electrical engineering, systems, control, or applied mathematics.

### Degree Requirements & Timeline

Students pursuing the Doctor of Philosophy degrees in Electrical Engineering or Systems Science & Mathematics must complete a minimum of 72 credit hours of post-baccalaureate study consistent with the residency and other applicable requirements of Washington University and the Graduate School. These 72 units must consist of at least 36 course units and at least 24 units of research and may include work done to satisfy the

requirements of a master's degree in a related discipline. Up to 24 units may be transferred to Washington University from another institution.

Each candidate for the PhD degree in Electrical Engineering and the PhD degree in Systems Science & Mathematics must:

- Complete at least 36 credit hours of post-baccalaureate courses.
- Pass a written qualifying examination, to be taken before the second academic year of the program.
- Pass an oral preliminary research examination, to be completed within two years of passing the written qualifying examination, and at least one year prior to completion of the dissertation.
- Satisfy the general residency requirement for PhD degrees offered by the Graduate School.
- Satisfy the general teaching requirement for PhD degrees offered by the Graduate School.
- Write a doctoral dissertation that describes the results of original and creative research in a specialization within electrical engineering or systems science and mathematics.
- Pass a final oral examination in defense of the dissertation research.
- Take ESE 590 Electrical & Systems Engineering Graduate Seminar each semester.

The PhD degree should ordinarily take no more than five years to complete, for students who enter the program with a baccalaureate degree. While individual circumstances will vary, the typical timeline will be as follows:

- Year 1: Courses and written qualifying examination
- Year 2: Courses, preliminary research, research advisory committee selection
- Year 3: Courses and preliminary research examination
- Year 4: Research
- Year 5: Research, completion of dissertation, and final oral examination

Students who enter the program with a master's degree may be able to shorten this timeline by one year or more.

## Energy, Environmental & Chemical Engineering

The Department of Energy, Environmental & Chemical Engineering (EECE) provides integrated and multidisciplinary programs of scientific education in cutting-edge areas, including the **PhD in Energy, Environmental & Chemical Engineering**. Research and educational activities of the department are organized into four clusters: aerosol science & engineering; engineered aquatic processes; multiscale engineering; metabolic engineering & systems biology. These overlapping clusters address education and research in four thematic areas: energy;

environmental engineering science; advanced materials; and sustainable technology for public health and international development. In addition to the core faculty in the department, faculty in the schools of Medicine, Arts & Sciences, Business, Law, and Social Work collaborate to provide students with a holistic education and to address topical problems of interest.

The department is a key participant in the university's Energy, Environment & Sustainability (<http://sustainability.wustl.edu>) initiative and supports both the International Center for Energy, Environment and Sustainability (InCEES (<http://inceeds.wustl.edu>)) and the McDonnell Academy Global Energy and Environment Partnership (MAGEEP (<http://mageep.wustl.edu>)). Major externally funded research centers in the department include the Consortium for Clean Coal Utilization (<http://cleancoal.wustl.edu>), the Nano Research Facility (NRF) and Jens Environmental Molecular and Nanoscale Analysis Laboratory (Jens Lab) (<https://nano.wustl.edu>), and the Solar Energy Research Institute for India and the United States (SERIUS (<http://www.serius.org>)).

**Contact:** Irma Adams  
**Email:** [iadams@wustl.edu](mailto:iadams@wustl.edu)  
**Website:** <https://eece.wustl.edu/graduate/programs>

## Faculty

### Chair and Endowed Professor

**Pratim Biswas** (<https://engineering.wustl.edu/Profiles/Pages/Pratim-Biswas.aspx>)

Lucy and Stanley Lopata Professor  
PhD, California Institute of Technology  
Aerosol science and engineering, air quality and pollution control, nanotechnology, environmentally benign energy production

### Endowed Professors

**Richard L. Axelbaum** (<https://engineering.wustl.edu/Profiles/Pages/Richard-Axelbaum.aspx>)

Stifel and Quinette Jens Professor  
PhD, University of California, Davis  
Combustion, advanced energy systems, clean coal, aerosols, nanoparticle synthesis, rechargeable battery materials, thermal science

**Milorad P. Dudukovic** (<https://engineering.wustl.edu/Profiles/Pages/Milorad-Dudukovic.aspx>)

Laura and William Jens Professor  
PhD, Illinois Institute of Technology  
Chemical reaction engineering, multiphase reactors, visualization of multiphase flows, tracer methods, environmentally benign processing

**Daniel E. Giammar** (<https://engineering.wustl.edu/Profiles/Pages/Daniel-Giammar.aspx>)  
Walter E. Browne Professor of Environmental Engineering  
PhD, California Institute of Technology  
Aquatic chemistry, environmental engineering, water quality, water treatment

**Vijay Ramani** (<https://eece.wustl.edu/faculty/Pages/faculty.aspx?bio=108>)  
Roma B. and Raymond H. Wittcoff Distinguished University Professor of Environment Engineering  
PhD, University of Connecticut, Storrs  
Electrochemical engineering, energy conversion

## Professors

**Young-Shin Jun** (<https://engineering.wustl.edu/Profiles/Pages/Young-Shin-Jun.aspx>)  
Director of Graduate Studies  
PhD, Harvard University  
Aquatic processes, molecular issues in chemical kinetics, environmental chemistry, surface/physical chemistry, environmental engineering, biogeochemistry, nanotechnology

**Palghat A. Ramachandran** (<https://engineering.wustl.edu/Profiles/Pages/Palghat-Ramachandran.aspx>)  
PhD, University of Bombay  
Chemical reaction engineering, applied mathematics, process modeling, waste minimization, environmentally benign processing

**Yinjie Tang** (<https://engineering.wustl.edu/Profiles/Pages/Yinjie-Tang.aspx>)  
Director of Undergraduate Studies  
PhD, University of Washington, Seattle  
Metabolic engineering, bioremediation

**Jay R. Turner** (<https://engineering.wustl.edu/Profiles/Pages/Jay-Turner.aspx>)  
Vice Dean for Education  
DSc, Washington University  
Air quality planning and management; aerosol science and engineering, green engineering

**Jian Wang** (<https://eece.wustl.edu/faculty/Pages/faculty.aspx?bio=126>)  
PhD, California Institute of Technology  
Aerosol properties and processes, nucleation and new particle formation, aerosols in the marine environment, effects of aerosols on cloud microphysical properties and macrophysical structure, and development of advanced aerosol instruments

## Associate Professors

**John Fortner** (<https://engineering.wustl.edu/Profiles/Pages/John-Fortner.aspx>)  
InCEES Career Development Associate Professor  
PhD, Rice University  
Environmental engineering, aquatic processes, water treatment, remediation, and environmental implications and applications of nanomaterials

**John T. Gleaves** (<https://engineering.wustl.edu/Profiles/Pages/John-Gleaves.aspx>)  
PhD, University of Illinois  
Heterogeneous catalysis, particle chemistry

**Tae Seok Moon** (<https://engineering.wustl.edu/Profiles/Pages/Tae-Seok-Moon.aspx>)  
PhD, Massachusetts Institute of Technology  
Metabolic engineering and synthetic biology

**Brent Williams** (<https://engineering.wustl.edu/Profiles/Pages/Brent-Williams.aspx>)  
Raymond R. Tucker Distinguished InCEES Career Development Associate Professor  
PhD, University of California, Berkeley  
Aerosols, global climate issues, atmospheric sciences

**Fuzhong Zhang** (<https://engineering.wustl.edu/Profiles/Pages/Fuzhong-Zhang.aspx>)  
PhD, University of Toronto  
Metabolic engineering, protein engineering, synthetic and chemical biology

## Assistant Professors

**Peng Bai** (<https://engineering.wustl.edu/Profiles/Pages/Peng-Bai.aspx>)  
PhD, Tsinghua University, China  
Develop next-generation batteries, probe the in situ electrochemical dynamics of miniature electrodes down to nanoscales, capture the heterogeneous and stochastic nature of advanced electrodes, and identify the theoretical pathways and boundaries for the rational design of materials, electrodes and batteries through physics-based mathematical modeling and simulation

**Rajan Chakrabarty** (<https://engineering.wustl.edu/Profiles/Pages/Rajan-Chakrabarty.aspx>)  
PhD, University of Nevada, Reno  
Characterizing the radiative properties of carbonaceous aerosols in the atmosphere; and researching gas phase aggregation of aerosols in cluster-dense conditions

**Marcus Foston** (<https://engineering.wustl.edu/Profiles/Pages/Marcus-Foston.aspx>)  
PhD, Georgia Institute of Technology  
Utilization of biomass resources for fuel and chemical production, renewable synthetic polymers

**Fangqiong Ling** (<https://eece.wustl.edu/faculty/Pages/faculty.aspx?bio=178>)  
PhD, University of Illinois at Urbana-Champaign  
Microbial ecosystem analysis and modelling, process modelling, machine learning, NextGen sequencing bioinformatics, environmental microbiology, and bioreactor design

**Kimberly M. Parker** (<https://engineering.wustl.edu/Profiles/Pages/Kimberly-Parker.aspx>)  
PhD, Stanford University  
Investigation of environmental organic chemistry in natural and engineered systems

**Elijah Thimsen** (<https://engineering.wustl.edu/Profiles/Pages/Elijah-Thimsen.aspx>)  
PhD, Washington University  
Gas-phase synthesis of inorganic nanomaterials for energy applications, and novel plasma synthesis approaches

### Research Associate Professor

**Tianxiang Li**  
PhD, University of Kentucky  
Combustion and applications in energy, pollutant control, biofuel synthesis, flame synthesis of nanomaterials

### Research Assistant Professor

**Benjamin Kumfer**  
DSc, Washington University  
Advanced coal technologies, biomass combustion, aerosol processes and health effects of combustion-generated particles

### Lecturers

**Janie Brennan**  
PhD, Purdue University  
Biomaterials, synthetic biology, engineering education

**Trent Silbaugh**  
PhD, University of Washington  
Chemical engineering

### Joint Faculty

**Doug Allen**  
PhD, Purdue University  
USDA Research Scientist, Danforth Plant Sciences Center  
Metabolic networks of oilseed plants

**Nathan Ravi**  
PhD, Virginia Polytechnic Institute  
Cataract, ocular biomaterials

### Adjunct Faculty

**Robert Heider**  
MME, Washington University  
Process control and process design

**Timothy Michels**  
MA, Washington University  
Energy economics, building construction and equipment sciences

**Gary Moore**  
MS, Missouri University of Science and Technology  
Environmental management

**Nicholas J. Nissing**  
BS, Washington University  
Product development and process design

### Research Associate

**Raymond Ehrhard**  
BS, Missouri University of Science and Technology  
Water and wastewater treatment technologies, process energy management

### Senior Professor

**Rudolf B. Husar**  
PhD, University of Minnesota  
Environmental informatics, aerosol science and engineering

## Degree Requirements

### Doctor of Philosophy (PhD) in Energy, Environmental & Chemical Engineering (EECE)

The doctoral degree requires a total of 72 credits beyond the bachelor's degree. Of these, a minimum of 36 must be graduate courses and a minimum of 30 must be doctoral thesis research units. To be admitted to candidacy, students must have completed at least 18 credits at Washington University, have an overall GPA equal to or greater than 3.25, and pass the qualifying examination. All students are required to enroll in the department seminar every semester to receive passing grades. The first-year students must complete the core curriculum, perform two research rotations, and find a permanent research adviser. Then, within 18 months after the qualifying exam (generally in their third year), students should defend their thesis proposal.

After the successful proposal defense, students should provide the research updates through annual meetings or reports with their thesis committee until their graduation. While conducting doctoral research, students should perform professionally in a research lab including compliance with safety and regulatory requirements for their research projects. During the doctoral program, students must satisfy their fundamental and advanced teaching requirements by participating in mentored teaching experiences in the department for two or three semesters, by attending professional development workshops from the Teaching Center, and by presenting at least two formal presentations at the local level or at a national or international

conference. Upon completion of the thesis, students must present the thesis in a public forum and successfully defend the thesis before their thesis committee.

For more detailed guidelines, please refer to the EECE doctoral studies handbook available on the EECE Graduate Degree Programs (<https://eece.wustl.edu/graduate/programs/Pages/PhD-Energy-Environmental-Chemical-Eng.aspx>) webpage.

## Materials Science & Engineering

The Institute of Materials Science & Engineering (IMSE) at Washington University in St. Louis offers a unique, interdisciplinary PhD in Materials Science & Engineering that crosses traditional departmental and school boundaries. The field of materials science and engineering focuses on the study, development and application of new materials with desirable properties, with the goal of enabling new products and superior performance regimes. Disciplines in the physical sciences (chemistry, physics, etc.) frequently play a central role in developing the fundamental knowledge that is needed to design materials for a variety of engineering applications (mechanical engineering, electrical engineering, chemical engineering, etc.). Building on training that spans from fundamental-to-applied sciences, materials scientists and engineers integrate this fundamental knowledge in order to develop new materials and match them with appropriate technological needs.

The IMSE is well positioned to address the needs of a student seeking a truly interdisciplinary experience. Established in 2013, the IMSE brings together a diverse group of faculty from departments in Arts & Sciences, the School of Engineering & Applied Science, and the School of Medicine. The IMSE integrates and expands the existing materials activities at Washington University by overseeing shared research and instrument facilities, creating partnerships with industry and national facilities, and setting up outreach activities.

Current focused areas of research and advanced graduate education within the IMSE include:

**Biomedical, Bio-derived, and Bio-inspired Materials**

**Materials for Energy Generation, Harvesting, and Storage**

**Materials for Environmental Technologies & Sustainability**

**Nanomaterials and Glasses**

**Materials for Sensors and Imaging**

**Thin Film & 2D Materials**

**Contact:** Beth Gartin  
**Phone:** 314-935-7191  
**Email:** bgartin@wustl.edu  
**Website:** <http://imse.wustl.edu>

## Faculty

### Director

**Katharine M. Flores** (<https://engineering.wustl.edu/Profiles/Pages/Kathy-Flores.aspx>)

Professor - Mechanical Engineering & Materials Science  
PhD, Stanford University

Professor Flores' primary research interest is the mechanical behavior of structural materials, with particular emphasis on understanding structure-processing-property relationships in bulk metallic glasses and their composites.

### Professors

**Richard Axelbaum** (<https://engineering.wustl.edu/Profiles/Pages/Richard-Axelbaum.aspx>)

The Stifel & Quinette Jens Professor of Environmental  
Engineering Science

PhD, University of California, Davis

Rich Axelbaum studies combustion phenomena, ranging from oxy-coal combustion to flame synthesis of nanotubes.

His studies of fossil fuel combustion focus on understanding the formation of pollutants, such as soot, and then using this understanding to develop novel approaches to eliminating them. Recently, his efforts have been focused on addressing global concerns over carbon dioxide emissions by developing approaches to carbon capture and storage (CCS).

**Pratim Biswas** (<https://engineering.wustl.edu/Profiles/Pages/Pratim-Biswas.aspx>)

Lucy & Stanley Lopata Professor & Department Chair - Energy,  
Environmental & Chemical Engineering

PhD, California Institute of Technology

Professor Biswas's research interests include aerosol science and engineering; nanoparticle technology; air quality engineering; environmentally benign energy production; combustion; materials processing for environmental technologies, environmentally benign processing, environmental nanotechnology, and the thermal sciences.

**William Buhro** (<http://chemistry.wustl.edu/faculty/buhro>)

George E. Pake Professor in Arts & Sciences and Department  
Chair - Chemistry

PhD, University of California, Los Angeles

Synthetic inorganic and materials chemistry; optical properties of semiconductor nanocrystals, including quantum wires, belts and platelets; metallic nanoparticles; magic-size nanoclusters; nanoparticle growth mechanisms; and charge and energy transport in nanowires.

**Shantanu Chakrabarty** (<https://engineering.wustl.edu/Profiles/Pages/Shantanu-Chakrabarty.aspx>)

Professor - Electrical & Systems Engineering

PhD, Johns Hopkins University

Shantanu Chakrabarty's research explores new frontiers in unconventional analog computing techniques using silicon and hybrid substrates. His objective is to approach fundamental limits of energy efficiency, sensing and resolution by exploiting computational and adaptation primitives inherent in the physics of devices, sensors and the underlying noise processes. Professor Chakrabarty is using these novel techniques to design self-powered computing devices, analog processors and instrumentation with applications in biomedical and structural engineering.

**Sophia E. Hayes** (<http://www.chemistry.wustl.edu/people/primary-faculty/sophia-e-hayes>)

Professor - Chemistry

PhD, University of California, Santa Barbara

Physical inorganic chemistry; materials chemistry; solid-state NMR; magnetic resonance; optically-pumped NMR (OPNMR); semiconductors; quantum wells; magneto-optical spectroscopy; quadrupolar NMR of thin films and tridecameric metal hydroxide clusters and thin films; carbon capture, utilization and storage (CCUS); CO<sub>2</sub> geosequestration; CO<sub>2</sub> capture; in situ NMR; metal carbonate formation.

**Kenneth F. Kelton** ([http://www.physics.wustl.edu/people/kelton\\_kenneth-f](http://www.physics.wustl.edu/people/kelton_kenneth-f))

Arthur Holly Compton Professor of Arts & Sciences - Physics

PhD, Harvard University

Study and production of titanium-based quasicrystals and related phases. Fundamental investigations of time-dependent nucleation processes. Modeling of oxygen precipitation in single crystal silicon. Structure of amorphous materials. Relation between structure and nucleation barrier. Hydrogen storage in quasicrystals.

**Vijay Ramani** (<https://engineering.wustl.edu/Profiles/Pages/Vijay-Ramani.aspx>)

Roma B. & Raymond H. Wittcoff Distinguished University

Professor of Environment & Energy

PhD, University of Connecticut

Vijay Ramani's research interests lie at the confluence of electrochemical engineering, materials science and renewable and sustainable energy technologies. The National Science Foundation, Office of Naval Research and Department of Energy have funded his research, with mechanisms including an NSF CAREER award (2009) and an ONR Young Investigator Award (ONR-YIP; 2010).

**Lan Yang** (<https://engineering.wustl.edu/Profiles/Pages/Lan-Yang.aspx>)

Edwin H. & Florence G. Skinner Professor - Electrical & Systems Engineering

PhD, California Institute of Technology

Professor Yang's research interests are fabrication, characterization, and fundamental understanding of advanced nano/micro photonic devices with outstanding optical properties. Currently, her group focuses on the silicon-chip based ultra-high-quality micro-resonators made from spin-on glass. The spin-on glass is a kind of glass obtained by curing a special liquid using sol gel or wet chemical synthesis to form a layer of glass. The main advantage of the spin-on glass is the easy tailoring of the nano/micro structure of the glass by controlled variation in the precursor solutions. It enables them to fabricate various micro/nano photonic devices from advanced materials with desired properties.

## Associate Professors

**John Fortner** (<https://engineering.wustl.edu/Profiles/Pages/John-Fortner.aspx>)

I-CARES Career Development Associate Professor - Energy, Environmental & Chemical Engineering

PhD, Rice University

John Fortner's research is primarily focused on advancing water-related technologies and engineering novel material interfaces as they relate to critical environmental-based health, security and energy challenges. He has extensively studied the environmental fate, (photo) reactivity and applications (e.g., novel water treatment membranes) of engineered carbon nanomaterials, including fullerenes, carbon nanotubes, and graphene-based materials.

**Harold Li** (<https://radonc.wustl.edu/faculty/harold-li>)

PhD, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

Associate Professor - Radiation Oncology

Harold Li's research lab, funded by the NIH since 2008, develops high resolution dosimetry systems for radiation therapy dosimetry. In addition, he leads the MRgRT group in developing both experimental and computational methods for radiation therapy patient dosimetry subject to a permanent magnetic field.

**Srikanth Singamaneni** (<https://engineering.wustl.edu/Profiles/Pages/Srikanth-Singamaneni.aspx>)

Associate Professor - Mechanical Engineering & Materials Science

PhD, Georgia Institute of Technology

Professor Singamaneni's research interests include plasmonic engineering in nanomedicine (in vitro biosensing for point-of-care diagnostics, molecular bioimaging, nanotherapeutics), photovoltaics (plasmonically enhanced photovoltaic devices), surface enhanced Raman scattering (SERS) based chemical sensors with particular emphasis on the design and fabrication of unconventional and highly efficient SERS substrates, hierarchical organic/inorganic nanohybrids as multifunctional materials, bioinspired structural and functional materials, polymer surfaces and interfaces, responsive and adaptive materials and scanning probe microscopy and surface force spectroscopy of soft and biological materials.

**Philip Skemer** ([http://eps.wustl.edu/people/phil\\_skemer](http://eps.wustl.edu/people/phil_skemer))

Associate Professor - Earth and Planetary Sciences

Professor Skemer's research interests include mantle deformation, the formation and the dynamics of plate boundaries, and the interpretation of seismological data.

The underlying motivation for his research is to understand the remarkable phenomenon of plate tectonics and its variability among the terrestrial planets. Although primarily an experimentalist, his research uses the microstructures of naturally deformed rocks to infer the importance of specific deformation processes in Earth, and then develops experiments to investigate the sensitivity of these processes to a range of deformation conditions. From these experiments, one can make predictions about rock deformation at conditions or locations that are inaccessible to direct observation.

## Assistant Professors

**Damena Agonafer** (<https://engineering.wustl.edu/Profiles/Pages/Damena-Agonafer.aspx>)

Assistant Professor - Mechanical Engineering & Materials Science

PhD, University of Illinois

Professor Agonafer's research interest includes the areas of phase routing strategies for chemical separation and phase change heat transfer processes, and electrochemical storage applications. His research interest is at the intersection of thermal-fluid sciences, electrokinetics and interfacial transport phenomena, and renewable energy. His goal is to bring transformational changes in the areas related to electrochemical energy storage, cooling of high powered micro and power electronics, and water desalination by tuning and controlling solid-liquid-vapor interactions at micro/nano length scales.

**Anupriya Agrawal** (<https://mems.wustl.edu/faculty/Pages/Anupriya-Agrawal.aspx>)

Research Assistant Professor - Mechanical Engineering & Materials Science

PhD, Ohio State University

Professor Agrawal's research focuses on investigating the structure and dynamics of polymers and metallic glasses using molecular dynamics simulations. She is interested in investigating the deformation behavior of metallic glasses and composites. Her interest also lies in exploring polymer properties such as deformation behavior, diffusion of small organic molecules and ionic aggregation at large length and time scales using multi-scale models.

**Peng Bai** (<https://eece.wustl.edu/faculty/Pages/faculty.aspx?bio=122>)

Assistant Professor - Energy, Environmental & Chemical Engineering

PhD, Tsinghua University, Beijing

Professor Bai's research focuses on the development of next-generation batteries. Knowledge and tools developed in the Bai Group also apply to and benefit the design of other electrochemical energy systems like supercapacitors and fuel cells.

**Alexander Barnes** (<http://chemistry.wustl.edu/faculty/barnes>)

Assistant Professor - Chemistry

PhD, Massachusetts Institute of Technology

Magnetic resonance; dynamic nuclear polarization; structural biology; rational drug design; HIV eradication; Alzheimer's; cancer; electrical engineering; gyrotron technology; molecular biology; biophysical chemistry.

**Mikhail Y. Berezin** ([http://dbbs.wustl.edu/faculty/Pages/faculty\\_bio.aspx?SID=6263](http://dbbs.wustl.edu/faculty/Pages/faculty_bio.aspx?SID=6263))

Assistant Professor - Radiology

PhD, Moscow Institute of Oil and Gas/Institute of Organic Chemistry

Professor Berezin's research interest lies in the investigation and application of molecular excited states and their reactions for medical imaging and clinical treatment. Excited states are the cornerstone of a variety of chemical, physical, and biological phenomena. The ability to probe, investigate, and control excited states is one of the largest achievements of modern science. The lab focuses on the development of novel optically active probes ranging from small molecules to nanoparticles, and the development of optical instrumentation for spectroscopy and imaging and their applications in medicine.

**Rajan Chakrabarty** (<https://engineering.wustl.edu/Profiles/Pages/Rajan-Chakrabarty.aspx>)

Assistant Professor - Energy, Environmental & Chemical Engineering

PhD, University of Nevada, Reno

Rajan Chakrabarty's research focuses on two distinct themes: (i) Investigating the role of atmospheric aerosols in earth's energy balance using novel instrumentation and diagnostic techniques, and numerical models; and (ii) Understanding aerosol formation in combustion systems toward synthesis of high porosity and surface-area materials for energy applications.

**Julio D'Arcy** (<http://www.chemistry.wustl.edu/faculty/darcy>)

Assistant Professor - Chemistry

PhD, University of California, Los Angeles

The overarching goals of the D'Arcy laboratory are to discover and apply novel functional nanostructured organic and inorganic materials utilizing universal synthetic chemistry protocols that control chemical structure, nanoscale morphology, and intrinsic properties. We are interested in capacitive and pseudocapacitive nanostructured materials such as conducting polymers, metal oxides, and carbon allotropes possessing enhanced chemical and physical properties, i.e., charge carrier transport, ion transport, surface area, thermal and mechanical stability. Our concerted material discovery process is a multipronged approach; organic and inorganic nanostructured materials are synthesized via solution processing, electrochemistry, vapor phase deposition, and combinations thereof. Alternatively, we also develop self-assembly techniques that result in tailored materials.

**Marcus Foston** (<https://engineering.wustl.edu/Profiles/Pages/Marcus-Foston.aspx>)

Assistant Professor - Energy, Environmental & Chemical Engineering

PhD, Georgia Institute of Technology

Professor Foston's research objective is to create a top tier, world-recognized research program in the research and education of emerging technologies for exploitation of lignocellulosic biomass, in particular the lignin fraction of biomass, as a sustainable source for energy, chemicals and materials production.

**Erik Henriksen** ([https://www.physics.wustl.edu/people/henriksen\\_erik](https://www.physics.wustl.edu/people/henriksen_erik))

Assistant Professor - Physics

PhD, Columbia University

We are an experimental condensed matter research lab with interests primarily in the quantum electronic properties of graphene and other novel two-dimensional systems. We utilize state-of-the-art nanofabrication techniques in combination with measurements made at low temperatures and high magnetic fields to explore both the fundamental electronic structures and emergent quantum phenomena of low-dimensional materials.

**Mark Meacham** (<https://engineering.wustl.edu/Profiles/Pages/Mark-Meacham.aspx>)

Assistant Professor - Mechanical Engineering & Materials Science

PhD, Georgia Institute of Technology

Mark Meacham's research interests include microfluidics, micro-electromechanical systems (MEMS) and associated transport phenomena, with application to design, development and testing of novel energy systems and life sciences tools, from scalable micro-/nanotechnologies for improved heat and mass exchangers to MEMS-based tools for manipulation and investigation of cellular processes. He is also interested in the behavior of jets and/or droplets of complex fluids during ejection from microscopic orifices, which is critical to applications as disparate as biological sample preparation and additive manufacturing.

**Rohan Mishra** (<https://engineering.wustl.edu/Profiles/Pages/Rohan-Mishra.aspx>)

Assistant Professor - Mechanical Engineering & Materials Science

PhD, Ohio State University

In his lab at Washington University, Mishra plans to identify and develop a quantitative measure of structure-property correlations in materials, such as epitaxial thin films and materials with reduced dimensionality, using a synergistic combination of scanning transmission electron microscopy and atomic-scale theory, to create rational design of materials with properties tailored for electronic, magnetic, optical and energy applications.

**Ryan Ogliore** ([http://physics.wustl.edu/people/ogliore\\_ryan](http://physics.wustl.edu/people/ogliore_ryan))

Assistant Professor - Physics

PhD, California Institute of Technology

Professor Ogliore's research group uses microanalytical techniques to study extraterrestrial materials in order to better understand the formation and evolution of our solar system, as well as other stars.

**Bryce Sadtler** (<http://www.chemistry.wustl.edu/faculty/sadtler>)  
Assistant Professor - Chemistry  
PhD, University of California, Berkeley

The Sadtler research group seeks to understand and control structure-property relationships in adaptive, mesostructured materials. Through hierarchical design of the atomic composition, nanoscale morphology, and mesoscale organization of the individual components, we can direct the emergent chemical reactivity and physical properties of these complex systems. Research projects combine solution phase growth techniques to synthesize inorganic materials, external fields to control the growth and assembly of mesoscale architectures, and super-resolution imaging to provide spatiotemporal maps of the optical response and photocatalytic activity during the morphological evolution of these structures. Knowledge gained from these fundamental studies will be used to create functional materials, including plasmonic substrates that enhance absorption in thin-film semiconductors, mesostructured photocatalysts for solar fuels generation, and chemical sensors based on self-assembled photonic structures.

**Simon Tang** (<http://www.orthoresearch.wustl.edu/content/Laboratories/3043/Simon-Tang/Tang-Lab/Overview.aspx>)  
Assistant Professor - Orthopaedics  
PhD, Rensselaer Polytechnic Institute

With the overall theme of understanding the biological regulation of skeletal matrix quality, our research group integrates engineering and biology approaches for (1) understanding the effect of disease mechanisms on the structure-function relationships of skeletal tissues and (2) developing of translatable therapeutic and regenerative strategies for these diseases. The investigation of these scientific questions includes the application of finite element analyses, multiscale tissue mechanics, and the functional imaging of skeletal tissues for regenerative medicine with in vitro and in vivo biological systems.

**Elijah Thimsen** (<https://engineering.wustl.edu/Profiles/Pages/Elijah-Thimsen.aspx>)  
Assistant Professor - Energy, Environmental & Chemical Engineering  
PhD, Washington University

The Interface Research Group focuses on advanced gas-phase synthesis of nanomaterials for energy applications. We are currently exploring nonthermal plasma synthesis and atomic layer deposition (ALD). The goal is to discover and then understand useful interfacial phenomena. Examples of applications we are currently interested in are: transparent conducting oxides, photovoltaics, lithium-sulfur batteries, and coatings for high-temperature combustion.

**Patricia Weisensee** (<https://mems.wustl.edu/faculty/Pages/default.aspx?bio=112>)  
Assistant Professor - Mechanical Engineering & Materials Science

PhD, University of Illinois at Urbana-Champaign  
Patricia Weisensee's work focuses on the interaction of liquids and micro- and nanostructured solids. Her research is both fundamental and applied and spans a wide range of applications in the fluid and thermal sciences, from droplet impact over phase change heat transfer to electronics cooling.

## Degree Requirements

### Interdisciplinary PhD in Materials Science & Engineering

To earn a PhD degree, students must complete the Graduate School requirements, along with specific program requirements. Courses include:

- Four IMSE Core Courses (12 academic credits)

Code	Title	Units
MEMS 5608	Introduction to Polymer Science and Engineering	3
Physics 537	Kinetics of Materials	3
EECE 502	Advanced Thermodynamics in EECE	3
Chem 465 or Physics 472	Solid-State and Materials Chemistry Solid State Physics	3
Total Units		12

- IMSE 500 First-Year Research Rotation (3 academic credits)
- Three courses (9 credits) from a preapproved list of Materials Science & Engineering electives
- A minimum of 12 credits of graduate-level technical elective courses in Mathematics or any science or engineering department, to reach a total of at least 36 academic credits
  - A maximum of 3 credits of IMSE 502 Independent Study will be permitted toward the free electives requirement.
  - A maximum of 3 credits of IMSE 505 Material Science Journal Club will be permitted toward this requirement.
  - 400-level courses not included on the preapproved list of Materials Science & Engineering electives must be approved by the Graduate Studies Committee.
- A maximum of 12 credits of 400-level courses may be applied to the required 36 academic credits. Undergraduate-only courses (below the 400 level) are generally not permitted by the Graduate School and may not be used to fulfill this requirement.
- Enroll in and satisfactorily complete IMSE 501 IMSE Graduate Seminar every semester
- Successfully complete 18-36 credits of IMSE 600 Doctoral Research

- Complete research ethics training by the end of the third semester
- Maintain a GPA of at least 3.0 for all graded courses
  - Have no more than one grade of B- or below in a core course or Materials Science & Engineering elective
- Successfully complete teaching requirement
  - Attend 2+ Teaching Center Workshops
  - Have 15 units of teaching experience
- Pass the IMSE Qualifying Examination (oral & written)
- Identify an IMSE faculty member willing and able to support their thesis research on a materials-related topic
- Maintain satisfactory research progress on a topic in materials science, as determined by the thesis adviser and Mentoring Committee
- Successfully complete the Thesis Proposal and Presentation, with approval from the Thesis Examination Committee
- Successfully complete and defend a PhD Dissertation, with final approval from the Thesis Examination Committee

**Failure to meet these requirements will result in dismissal from the program.**

## Course Plan

### Year 1

#### Fall Semester (13 credits)

- Solid-State and Materials Chemistry (Chem 465) or Elective
- Advanced Thermodynamics in EECE (EECE 502)
- Introduction to Polymer Science and Engineering (MEMS 5608)
- Elective (optional)
- IMSE Graduate Seminar (IMSE 501)

#### Spring Semester (13 credits)

- Solid State Physics (Physics 472) or Elective
- Kinetics of Materials (Physics 537)
- Elective (optional)
- IMSE First-Year Research Rotation (IMSE 500)
- IMSE Graduate Seminar (IMSE 501)

#### Summer

- Begin thesis research
- Prepare for Qualifying Exam (August)
  - Written document and oral presentation on research rotation
  - Oral exam on fundamentals from core courses

### Years 2 and beyond

- Electives (discuss with PhD adviser)
- IMSE Graduate Seminar (IMSE 501)

- Doctoral Research (IMSE 600)
- Teaching Requirement
  - Attend 2+ Teaching Center Workshops
  - 15 units of Mentored Teaching Experience
- Annual (or more frequent) meetings with Faculty Mentoring Committee
- Thesis proposal and presentation (fifth semester)
- Dissertation and oral defense

## Mechanical Engineering & Materials Science

The Department of Mechanical Engineering & Materials Science offers a **PhD** in either **Mechanical Engineering** or **Aerospace Engineering**. The department's research strengths include biomechanics, materials, energy, fluid mechanics, and rotary-wing aerodynamics. The doctoral student, with their adviser, designs the program of study and research project. The dissertation is defended at the end of the research effort. A typical time to PhD after an undergraduate engineering degree is four to five years, but the length of program may vary, depending on the individual and the area of study.

**Contact:** Prof. Jessica Wagenseil  
**Email:** [jessica.wagenseil@wustl.edu](mailto:jessica.wagenseil@wustl.edu)  
**Website:** <https://mems.wustl.edu/graduate/programs>

## Faculty

### Chair

**Philip V. Bayly** (<https://engineering.wustl.edu/Profiles/Pages/Philip-Bayly.aspx>)  
Lilyan and E. Lisle Hughes Professor of Mechanical Engineering  
PhD, Duke University  
Nonlinear dynamics, vibrations, biomechanics

### Associate Chairs

**Katharine M. Flores (Materials Science)** (<https://engineering.wustl.edu/Profiles/Pages/Kathy-Flores.aspx>)  
PhD, Stanford University  
Mechanical behavior of structural materials

**David A. Peters (Mechanical Engineering)** (<https://mems.wustl.edu/faculty/Pages/default.aspx?bio=92>)  
McDonnell Douglas Professor of Engineering  
PhD, Stanford University  
Aeroelasticity, vibrations, helicopter dynamics

## Endowed Professors

**Ramesh K. Agarwal** (<https://engineering.wustl.edu/Profiles/Pages/Ramesh-Agarwal.aspx>)

William Palm Professor of Engineering  
PhD, Stanford University

Computational fluid dynamics and computational physics

**Guy M. Genin** (<https://engineering.wustl.edu/Profiles/Pages/Guy-Genin.aspx>)

Harold & Kathleen Faught Professor of Mechanical Engineering  
PhD, Harvard University

Solid mechanics, fracture mechanics

**Mark J. Jakiela** (<https://engineering.wustl.edu/Profiles/Pages/Mark-Jakiela.aspx>)

Lee Hunter Professor of Mechanical Design  
PhD, University of Michigan

Mechanical design, design for manufacturing, optimization,  
evolutionary computation

**Shankar M.L. Sastry** (<https://engineering.wustl.edu/Profiles/Pages/Shankar-Sastry.aspx>)

Christopher I. Byrnes Professor of Engineering  
PhD, University of Toronto

Materials science, physical metallurgy

## Professors

**Jianjun Guan** (<https://engineering.wustl.edu/Profiles/Pages/Jianjun-Guan.aspx>)

PhD, Zhejiang University

Biomimetic biomaterials synthesis and scaffold fabrication

**Srikanth Singamaneni** (<https://engineering.wustl.edu/Profiles/Pages/Srikanth-Singamaneni.aspx>)

PhD, Georgia Institute of Technology

Microstructures of cross-linked polymers

## Associate Professors

**Spencer P. Lake** (<https://engineering.wustl.edu/Profiles/Pages/Spencer-Lake.aspx>)

PhD, University of Pennsylvania

Soft tissue biomechanics

**Jessica E. Wagenseil** (<https://engineering.wustl.edu/Profiles/Pages/Jessica-Wagenseil.aspx>)

DSc, Washington University

Arterial biomechanics

## Assistant Professors

**Damena D. Agonafer** (<https://mems.wustl.edu/faculty/Pages/default.aspx?bio=110>)

PhD, University of Illinois at Urbana-Champaign

Computational fluid dynamics and computational physics

**J. Mark Meacham** (<https://engineering.wustl.edu/Profiles/Pages/Mark-Meacham.aspx>)

PhD, Georgia Institute of Technology

Micro-/Nanotechnologies for thermal systems and the life sciences

**Rohan Mishra** (<https://engineering.wustl.edu/Profiles/Pages/Rohan-Mishra.aspx>)

PhD, Ohio State University

Computational materials science

**Amit Pathak** (<https://engineering.wustl.edu/Profiles/Pages/Amit-Pathak.aspx>)

PhD, University of California, Santa Barbara

Cellular biomechanics

**Patricia B. Weisensee** (<https://mems.wustl.edu/faculty/Pages/default.aspx?bio=112>)

PhD, University of Illinois at Urbana-Champaign

Thermal fluids

## Professors of the Practice

**Harold J. Brandon**

DSc, Washington University

Energetics, thermal systems

**Swami Karunamoorthy** (<https://mems.wustl.edu/faculty/Pages/Swami-Karunamoorthy.aspx>)

DSc, Washington University

Helicopter dynamics, engineering education

## Teaching Professor

**Emily J. Boyd** (<https://engineering.wustl.edu/Profiles/Pages/Emily-Boyd.aspx>)

PhD, University of Texas at Austin

Thermofluids

## Joint Faculty

**Richard L. Axelbaum (EECE)** (<https://engineering.wustl.edu/Profiles/Pages/Richard-Axelbaum.aspx>)

Stifel & Quinette Jens Professor of Environmental Engineering Science

PhD, University of California, Davis

Combustion, nanomaterials

**Elliot L. Elson (Biochemistry and Molecular Biophysics)**

([http://dbbs.wustl.edu/faculty/Pages/faculty\\_bio.aspx?SID=188](http://dbbs.wustl.edu/faculty/Pages/faculty_bio.aspx?SID=188))

Professor Emeritus of Biochemistry & Molecular Biophysics

PhD, Stanford University

Biochemistry and molecular biophysics

**Michael D. Harris (Physical Therapy, Orthopaedic Surgery and MEMS)** (<https://pt.wustl.edu/faculty-staff/faculty/mike-harris-phd>)

PhD, University of Utah

Whole body and joint-level orthopaedic biomechanics

**Kenneth F. Kelton (Physics)** ([http://www.physics.wustl.edu/people/kelton\\_kenneth-f](http://www.physics.wustl.edu/people/kelton_kenneth-f))  
Arthur Holly Compton Professor of Arts & Sciences  
PhD, Harvard University  
Study and production of titanium-based quasicrystals and related phases

**Eric C. Leuthardt (Neurological Surgery and BME)** (<http://www.neurosurgery.wustl.edu/patient-care/find-a-physician/clinical-faculty/eric-c-leuthardt-md-250>)  
MD, University of Pennsylvania School of Medicine  
Neurological surgery

**Lori Setton (BME)** (<https://bme.wustl.edu/faculty/Pages/faculty.aspx?bio=105>)  
Lucy and Stanley Lopata Distinguished Professor of Biomedical Engineering  
PhD, Columbia University  
Biomechanics for local drug delivery: tissue regenerations specific to the knee joints and spine

**Matthew J. Silva (Orthopaedic Surgery)** (<http://www.orthoresearch.wustl.edu/content/Laboratories/2963/Matthew-Silva/Silva-Lab/Overview.aspx>)  
Julia and Walter R. Peterson Orthopaedic Research Professor  
PhD, Massachusetts Institute of Technology  
Biomechanics of age-related fractures and osteoporosis

**Simon Tang (Orthopaedic Surgery, BME)** (<http://www.orthoresearch.wustl.edu/content/Laboratories/3043/Simon-Tang/Tang-Lab/Overview.aspx>)  
PhD, Rensselaer Polytechnic Institute  
Biological mechanisms

## Senior Professors

**Phillip L. Gould**  
PhD, Northwestern University  
Structural analysis and design, shell analysis and design, biomechanical engineering

**Kenneth L. Jerina**  
DSc, Washington University  
Materials, design, solid mechanics, fatigue and fracture

**Salvatore P. Suter**  
PhD, California Institute of Technology  
Viscous flow, biorheology

**Barna A. Szabo**  
PhD, State University of New York–Buffalo  
Numerical simulation of mechanical systems, finite-element methods

## Lecturers

**J. Jackson Potter**  
PhD, Georgia Institute of Technology  
Senior design

**H. Shaun Sellers**  
PhD, Johns Hopkins University  
Mechanics and materials

**Louis G. Woodhams**  
BS, University of Missouri-St. Louis  
Computer-aided design

## Senior Research Associate

**Ruth J. Okamoto**  
DSc, Washington University  
Biomechanics, solid mechanics

## Research Assistant Professor

**Anupriya Agrawal**  
PhD, Ohio State University  
Materials science

## Adjunct Instructors

**Ricardo L. Actis**  
DSc, Washington University  
Finite element analysis, numerical simulation, aircraft structures

**Robert G. Becnel**  
MS, Washington University  
FE Review

**John D. Biggs**  
MEng, Washington University  
Thermal science

**Andrew W. Cary**  
PhD, University of Michigan  
Computational fluid dynamics

**Dan E. Driemeyer**  
PhD, University of Illinois  
Thermoscience

**Richard S. Dyer**  
PhD, Washington University  
Propulsion, thermodynamics, fluids

**John M. Griffith**  
BS, Washington University  
Manufacturing

**Jason Hawks**  
MS, Washington University  
Structural analysis

**Richard R. Janis**  
MS, Washington University  
Building environmental systems

**Rigoberto Perez**  
PhD, Purdue University  
Fatigue and fracture

**Dale M. Pitt**

DSc, Washington University  
Aeroelasticity

**Gary D. Renieri**

PhD, Virginia Polytechnic Institute and State University  
Structural applications, composite materials

**Hiroshi Tada**

PhD, Lehigh University  
Solid mechanics

**Matthew J. Watkins**

MS, Washington University  
Finite elements

**Michael C. Wendl**

DSc, Washington University  
Mathematical theory and computational methods in biology and engineering

## Laboratory and Design Specialist

**Chiamaka Asinugo**

MS, Washington University  
Mechanical Engr. design

## Professor Emeritus

**Wallace B. Diboll Jr.**

MSME, Rensselaer Polytechnic Institute  
Dynamics, vibrations, engineering design

## Degree Requirements

### PhD in Mechanical Engineering or Aerospace Engineering

#### Policies & Regulations

A key objective of the doctoral program is to promote cutting-edge multidisciplinary research and education in the areas of mechanical engineering and materials science. Students are selected for admission to the program by a competitive process, and they typically start in the fall semester. On arriving at Washington University in St. Louis, the student will be advised by the temporary adviser on all procedural issues. The student will choose a permanent adviser by the end of the first year of residency in the program.

#### The following is a brief summary of the requirements for doctoral students:

1. Pass the qualifying exams. Qualifying exams should be taken by the end of the third semester.
2. Prepare and defend a research proposal. The research proposal should be defended by the end of the fifth semester.
3. Write and successfully defend the doctoral dissertation.

4. Complete a minimum of **36** hours of course credit, and a minimum of **24** credits of doctoral research; total of **72** credits to earn the PhD degree.
5. Satisfy the applicable teaching requirements of the Graduate School.

## Degrees Offered

The Department of Mechanical Engineering & Materials Science (MEMS) offers the following doctoral degrees:

- PhD in Mechanical Engineering
- PhD in Aerospace Engineering
- DSc in Mechanical Engineering, Aerospace Engineering, or Materials Science

The Doctor of Science (DSc) has similar requirements to the PhD but without the teaching requirement. For a list of differences, please refer to the DSc and PhD Comparison (PDF) (<https://mems.wustl.edu/graduate/programs/Documents/DoctoralComparisonSection.pdf>).

- One may also pursue a PhD in Materials Science — through the Institute of Materials Science & Engineering (IMSE) — but work with professors from the Department of Mechanical Engineering & Materials Science. For details on this program, visit the IMSE Graduate Program (<http://imse.wustl.edu/graduate-program>) webpage.

For more information on MEMS PhD degrees, visit the MEMS Graduate Degree Programs (<https://mems.wustl.edu/graduate/programs/Pages/default.aspx>) webpage.

## 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 terminal 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. A participant in the Carnegie Initiative on the Doctorate, we exemplify an integrated community of scholars and writers, and are home to one of the top ten MFA programs in the U.S. 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. Recent 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. They not only present public talks but also lead small workshops open only to graduate students.

Our program is rooted in the materials of literary history, medieval to post-postmodern, 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. Graduate students in good standing can expect six years of full funding in all.

**Contact:** Sarah Hennessey  
**Phone:** 314-935-5120  
**Email:** sehennes@wustl.edu  
**Website:** <http://english.artsci.wustl.edu/graduate>

## Faculty

### Chair

**Wolfram Schmidgen** ([http://english.artsci.wustl.edu/Wolfram\\_Schmidgen](http://english.artsci.wustl.edu/Wolfram_Schmidgen))  
Professor  
PhD, University of Chicago

### Endowed Professors

**Gerald L. Early** ([http://english.artsci.wustl.edu/gerald\\_early](http://english.artsci.wustl.edu/gerald_early))  
Merle Kling Professor of Modern Letters  
PhD, Cornell University

**Vincent Sherry** ([http://english.artsci.wustl.edu/Vincent\\_Sherry](http://english.artsci.wustl.edu/Vincent_Sherry))  
Howard Nemerov Professor in the Humanities  
PhD, University of Toronto

**Steven Zwicker** ([http://english.artsci.wustl.edu/Steven\\_Zwicker](http://english.artsci.wustl.edu/Steven_Zwicker))  
Stanley Elkin Professor in the Humanities  
PhD, Brown University

### Professors

**David Lawton** ([http://english.artsci.wustl.edu/david\\_lawton](http://english.artsci.wustl.edu/david_lawton))  
FAAH, PhD, University of York

**Joseph Loewenstein** ([http://english.artsci.wustl.edu/Joe\\_Loewenstein](http://english.artsci.wustl.edu/Joe_Loewenstein))  
PhD, Yale University

**William Maxwell** ([http://english.artsci.wustl.edu/william\\_maxwell](http://english.artsci.wustl.edu/william_maxwell))  
PhD, Duke University

**Robert Milder** ([http://english.artsci.wustl.edu/robert\\_milder](http://english.artsci.wustl.edu/robert_milder))  
PhD, Harvard University

**Anca Parvulescu** ([http://english.artsci.wustl.edu/Anca\\_Parvulescu](http://english.artsci.wustl.edu/Anca_Parvulescu))  
PhD, University of Minnesota

**Vivian Pollak** ([http://english.artsci.wustl.edu/vivian\\_pollak](http://english.artsci.wustl.edu/vivian_pollak))  
PhD, Brandeis University

**Rafia Zafar** (<http://english.artsci.wustl.edu/Rafia-Zafar>)  
PhD, Harvard University

### Associate Professors

**Miriam Bailin** (<http://english.artsci.wustl.edu/people/miriam-bailin>)  
PhD, University of California, Berkeley

**Guinn Batten** ([http://english.artsci.wustl.edu/guinn\\_batten](http://english.artsci.wustl.edu/guinn_batten))  
PhD, Duke University

**J. Dillon Brown** ([http://english.artsci.wustl.edu/j\\_dillon\\_brown](http://english.artsci.wustl.edu/j_dillon_brown))  
PhD, University of Pennsylvania

**William McKelvy** ([http://english.artsci.wustl.edu/william\\_mckelvy](http://english.artsci.wustl.edu/william_mckelvy))  
PhD, University of Virginia

**Steven Meyer** ([http://english.artsci.wustl.edu/steven\\_meyer](http://english.artsci.wustl.edu/steven_meyer))  
PhD, Yale University

**Jessica Rosenfeld** ([http://english.artsci.wustl.edu/Jessica\\_Rosenfeld](http://english.artsci.wustl.edu/Jessica_Rosenfeld))  
PhD, University of Pennsylvania

**Abram Van Engen** ([http://english.artsci.wustl.edu/Abram\\_Van\\_Engen](http://english.artsci.wustl.edu/Abram_Van_Engen))  
PhD, Northwestern University

**Julia Walker** ([http://english.artsci.wustl.edu/Julia\\_Walker](http://english.artsci.wustl.edu/Julia_Walker))  
PhD, Duke University

### Assistant Professors

**Anupam Basu** (<http://english.artsci.wustl.edu/people/anupam-basu>)  
PhD, University of Wisconsin–Madison

**Musa Gurnis** (<http://english.artsci.wustl.edu/musa-gurnis>)  
PhD, Columbia University

**Long Le-Khac** (<http://english.artsci.wustl.edu/people/long-le-khac>)  
PhD, Stanford University

**Melanie Micir** (<http://english.artsci.wustl.edu/people/melanie-micir>)  
PhD, University of Pennsylvania

### Senior Lecturers

**Jennifer Arch** ([http://english.artsci.wustl.edu/jennifer\\_arch](http://english.artsci.wustl.edu/jennifer_arch))  
PhD, Washington University

**Bethany Daniels** ([http://english.artsci.wustl.edu/Daniels\\_Bethany](http://english.artsci.wustl.edu/Daniels_Bethany))  
MA, University of Missouri-St. Louis

**Amy Pawl** ([http://english.artsci.wustl.edu/Pawl\\_Amy](http://english.artsci.wustl.edu/Pawl_Amy))  
PhD, University of California, Berkeley

**Stephanie Pippin** ([https://english.artsci.wustl.edu/Pippin\\_Stephanie](https://english.artsci.wustl.edu/Pippin_Stephanie))  
MFA, Washington University

## Professors Emeriti

**Wayne Fields** ([http://english.artsci.wustl.edu/wayne\\_fields](http://english.artsci.wustl.edu/wayne_fields))  
Lynne Cooper Harvey Chair Emeritus Professor of English  
PhD, University of Chicago

**Naomi Lebowitz**  
PhD, Washington University

**Carter C. Revard**  
PhD, Yale University

**Daniel Shea** ([http://english.artsci.wustl.edu/Daniel\\_Shea](http://english.artsci.wustl.edu/Daniel_Shea))  
PhD, Stanford University

## Degree Requirements

### PhD in English and American Literature or 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 English and Comparative Literature. All English graduate students take a minimum of 12 elective 3-credit courses at the 400 or 500 level, along with two compulsory classes: Introduction to Graduate Study, and the Practicum in the Teaching of Composition. Aside from these two classes, there are no specific course requirements, though 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).

For students entering in the fall semester of 2014 and after, at least six of 12 elective courses must be 500-level, graduate-only seminars (four such 500-level seminars must be taken by students who entered in the fall of 2013 or earlier). Students are encouraged to enroll in courses of special interest in other departments or programs whether or not they are cross-listed with the English department, but at least eight of their 12 electives must be home-based English courses, including (save in exceptional cases) at least six of their seminars.

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.

It is assumed that all entering graduate students are aiming for the PhD; the English department does not admit students aiming for a terminal Master of Arts (AM) degree. The AM is awarded during the course of study when a student has completed 36 credit hours, usually at the end of the second year. To satisfy the Graduate School 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.

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 (DGS) 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 DGS determines that the student has fulfilled the course requirements for the PhD, the student may elect not to take classes in semester four and to begin Major Field reading instead; their 6 credits of Major Field preparation in 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 ([http://english.artsci.wustl.edu/graduate/combined\\_phd](http://english.artsci.wustl.edu/graduate/combined_phd)) may do so by fulfilling the English department's requirements for combined degrees. More information on the combined degree may be found on our website.

During the first seven semesters, credits are earned by taking courses, independent study, and directed reading: more precisely, 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.

## 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 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.

Six 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 film and media studies may wish to consider the master's program as part of an accelerated AB/AM option. Washington University students who are admitted in the combined AB/AM program may have up to 9 units of FMS course credit at the 400 level considered for application to Master of Arts (AM) degree requirements. Students who are currently enrolled as undergraduates at Washington University and are seeking the combined AB/AM degree should use the standard application form of the Graduate School to apply.

Students applying to the Film and Media Studies master's from outside the university should follow the standard application procedures of the Graduate School (available on the Graduate School Forms (<http://graduateschool.wustl.edu/forms-0>) webpage). Graduate Record Exam scores indicating an aptitude for graduate study are required, as well as strong letters of recommendations from three instructors who can speak to the applicant's academic skills relevant to graduate study in film and media studies. Applicants who have completed an undergraduate degree and show outstanding promise in writing about film and media but do not have formal film/media studies background may 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 a letter of approximately 500 words describing the candidate's interest in film and media studies and how their intellectual background has prepared them for graduate study in FMS.

All applicants to the certificate, AB/AM, or master's degree in FMS are welcome to consult with the director of graduate studies about the application process.

**Phone:** 314-935-4056  
**Email:** [gstudlar@wustl.edu](mailto:gstudlar@wustl.edu)  
**Website:** <http://fms.artsci.wustl.edu/grad-programs>

## Faculty

### Director

**Gaylyn Studlar** (<http://fms.artsci.wustl.edu/people/gaylyn-studlar>)  
David May Distinguished Professor in the Humanities  
PhD, University of Southern California

### Professor

**William Paul** (<http://fms.artsci.wustl.edu/people/william-paul>)  
PhD, Columbia University

### Associate Professor

**Colin Burnett** (<http://fms.artsci.wustl.edu/people/colin-burnett>)  
PhD, University of Wisconsin-Madison

### Assistant Professors

**Reem Hilu** (<http://fms.artsci.wustl.edu/people/reem-hilu>)  
PhD, Northwestern University

**Diane Wei Lewis** (<http://fms.artsci.wustl.edu/people/diane-wei-lewis>)  
PhD, University of Chicago

### Senior Lecturer

**Richard Chapman** (<http://fms.artsci.wustl.edu/people/richard-chapman>)

## Degree Requirements

### Graduate Certificate in Film and Media Studies

**Required courses for the graduate certificate:** 15 units

#### Core Courses (9 units):

- Film 501 Advanced Moving Image Analysis and Criticism (3 units)
- Film 421 Film Historiography (3 units) or Film 502 Seminar in History of Film and/or Electronic Media (rotating topics) (3 units)

One of the following theory courses is required as part of the core:

- Film 419 Theories of Mass Media (3 units)
- Film 420 Film Theory (3 units)
- Film 450 American Film Genres (3 units) (genre theory)
- Any 400- or 500-level course in film or electronic media theory

Certificate students also have two electives (6 units) that may be taken at the 400 or 500 level and developed in an advising plan, subject to approval of the Film and Media Studies adviser and of the director of graduate studies of the student's home unit.

#### Two Electives (6 units):

Each 3-unit elective course in Film and Media Studies must be at the 400 level or higher.

**Elective:** Courses originating in Film and Media Studies or cross-listed with Film and Media Studies, or offered in another unit and approved by the student's Film and Media Studies adviser.

A student may choose to take one Independent Study of 3 units (Film 500) with a Film and Media Studies faculty member as an elective. This study should relate to a specialized topic mutually agreed upon by the student, their Film and Media Studies

adviser, and the chair of the graduate certificate program. Although students are expected to benefit from elective courses offered by Film and Media Studies core and affiliated faculty, they may take other film-related courses as may be offered by other departments and by faculty not affiliated with Film and Media Studies. To be included in the graduate certificate courses, classes that fall within this category require approval by the student's adviser in Film and Media Studies and their home unit's director of graduate studies (DGS).

## Master of Arts in Film and Media Studies

### Course of Study

Students must fulfill the basic requirements for the Master of Arts (AM) degree (p. 21) as set forth in this Graduate School catalog. In addition, AM candidates must take the course of study described below that consists of 36 units of credit and a comprehensive examination.

There is one course of study for the AM in Film and Media Studies. There is no thesis option in this degree. Students complete 36 semester units (12 courses) defined by the three areas listed below. During their final semester of courses, students take a comprehensive written examination and meet with the examining committee for an oral defense. The examining committee will consist of the DGS, the student's adviser, and one other faculty member, core or affiliated in Film and Media Studies. 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, then they must complete the examinations by April 7 of 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 director of graduate studies (DGS) in their first semester in the program to obtain the master's students' reading and screening list and consult regularly with their adviser. 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, less time if they take more.

### Area I: Required Courses (15 units total)

The requirements for Area I may be fulfilled through the following courses:

- **Visual Analysis**  
Film 501 Advanced Moving Image Analysis and Criticism
- **Moving Image Theory**  
Film 419 Theories of Mass Media **or** Film 420 Film Theory **or**  
Film 502 Seminar in Film and Media Theory (rotating topics)
- **Historiography of the Moving Image**

Film 421 Film Historiography **or** Film 423 Histories of Media Convergence

- **Television & Digital Studies**

Film 503 Seminar in Television Studies (rotating topics) **or**  
Film 504 Seminar in Digital Studies (rotating topics) **or** any  
400- or 500-level Film and Media Studies course in television  
or electronic media

- **Cinema and Television Beyond the United States**

Any 400- or 500-level national, regional, or transnational  
cinemas or television studies course offered in FMS

### Area II: Electives (18 units)

In addition, during their matriculation, students must take 18 units of credit at the 400 or 500 level to satisfy electives for the master's in Film and Media Studies. In choosing electives, students may select any 400- or 500-level Film and Media Studies course not used for Area I. In addition, they can select up to 6 units in Film 500 Independent Study that is in a study area of film and media not ordinarily covered by regular course offerings. Any Film 500 must be approved by the DGS. Six units of courses at the 400 or 500 level offered through other departments or programs that are relevant to the degree's intellectual focus may also be taken to satisfy this area with the permission of the DGS.

### Area III: Practicum in Film and Media Studies

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 Film and Media Studies. Every student presents a written proposal/plan to the DGS and to the faculty mentor/adviser they select for their practicum. Both faculty must give permission to 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 (such as digital art) at an archive, museum, or other nonprofit organization (such as a film festival), in which 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 or 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, bibliographic information

addressing one area of research in the field, etc. The practicum student might participate in other activities related to moving image exhibition or archival preservation or to 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 adviser will award the grade for the practicum.

### Area IV: Mentored Teaching Experience

Believing that graduate education should foster a range of skills, including verbal skills and the ability to organize presentations about the subject, FMS requires every AM student to have three semesters of Mentored Teaching Experience (MTE) within FMS, including participation in at least one FMS course in which the student leads an undergraduate discussion section. The course number for MTE is LGS 600 (pass/no pass).

Only one MTE may be taken in any given semester.

## Germanic Languages and Literatures

The Department of Germanic Languages and Literatures offers a comprehensive program in the language, literature, and culture — past and present — of Germany and German-speaking countries. Our faculty (<http://german.wustl.edu/people>) pursue a multiplicity of approaches in their research and offer seminars (<https://german.wustl.edu/recent-seminars>) that provide a healthy balance of theory and the history of German literature and culture. The department offers numerous opportunities for interdisciplinary study (<https://german.wustl.edu/interdisciplinary-certificates>), including a one-of-a-kind joint PhD program with Comparative Literature (p. 47) and an innovative certificate program that gives students the option of developing an expertise in one of five associated fields.

Both faculty and students teach and do research in a wide range of related disciplines, including art history; comparative literature; digital humanities; European studies; film and media studies; Jewish studies; Medieval and Renaissance studies; religious studies; and women, gender, and sexuality studies.

We consider international exchange to be a crucial component of graduate education. We maintain an exchange agreement on all levels (faculty, graduate, undergraduate) with the University of Tübingen, in addition to graduate student exchanges with the universities of Berlin, Cologne, and Munich. These arrangements enable us to guarantee a year abroad for all of

our PhD candidates. At the same time, they enrich our program by bringing German exchange students to campus to study and teach alongside the full-time students in our program. Exchange is further facilitated by the Max Kade Center (<http://german.wustl.edu/max-kade-center>), which, in addition to numerous other activities, plays host each spring to a writer- and a critic-in-residence. The department also invites a distinguished visiting professor to campus every other year.

Departmental faculty are known across campus and across the discipline for their close mentoring of graduate students, who are integrated into the department through their participation in numerous activities, from the graduate student symposium (<https://pages.wustl.edu/germangrads>) and the department's biennial international symposium (<https://german.wustl.edu/biennial-symposium>) to outreach programs like German Day (<http://german.wustl.edu/events/german-day>). We also give close attention to teacher development through our unique pedagogy internships, through recurring workshops, and through a classroom mentoring program that ensures that all assistants in instruction receive feedback and advice from a large number of faculty members. Graduate students have the opportunity to teach in our undergraduate German program at all levels, in both German and English, and many also have a chance to teach courses or sections in other programs.

The combination of our extremely competitive funding packages and the low cost of living in St. Louis ensures that students have the resources they need to stay focused on their academic work. As a consequence, our graduate students (<http://german.wustl.edu/people>) not only produce first-rate dissertations (<https://german.wustl.edu/recent-dissertations>), they also go on to accept positions (<http://german.wustl.edu/graduate/placement>) at top research universities and liberal arts colleges across the country.

Their success is facilitated by the outstanding research collections available at the Washington University library (<http://library.wustl.edu>), including the Collection of Contemporary German Literature (<http://libguides.wustl.edu/contemporarygermanliteraturecollection>), as well as the Suhrkamp/Insel Collection (<http://libguides.wustl.edu/c.php?g=47129&p=302734>). Other resources include the Gontard Collection (18th to 20th centuries) in the Rare Book Collection at Olin Library, the internationally famous Reformation Collection at Concordia Seminary, and the Vatican Manuscript Collection at Saint Louis University. The Saint Louis Art Museum (<http://www.slam.org>) and the Washington University Mildred Lane Kemper Art Museum (<http://kemperartmuseum.wustl.edu>) have extensive holdings in German expressionist and contemporary art.

For questions about the graduate application process (<https://german.wustl.edu/graduate/admission>), please contact our academic coordinator (<https://german.wustl.edu/people/cecily-stewart-hawksworth>), Cecily Stewart Hawksworth, or our director

of graduate studies (<https://german.wustl.edu/faculty-staff/erin-mcglathlin>), Professor Erin McGlothlin.

**Contact:** Prof. Erin McGlothlin or Cecily Stewart  
Hawthornth

**Phone:** 314-935-4288 or 314-935-4276

**Email:** [mcglathlin@wustl.edu](mailto:mcglathlin@wustl.edu);  
[cecilyhawthornth@wustl.edu](mailto:cecilyhawthornth@wustl.edu)  
([mcglathlin@wustl.edu](mailto:mcglathlin@wustl.edu));  
[cecilyhawthornth@wustl.edu](mailto:cecilyhawthornth@wustl.edu)

**Website:** <http://german.wustl.edu/graduate>

## Faculty

### Chair

**Matt Erlin** (<https://german.wustl.edu/people/matt-erlin>)  
Professor of German  
PhD, University of California, Berkeley  
18th- & 19th-century German literature; intellectual history; digital humanities; material culture

### Endowed Professors

**Paul Michael Lützel** (<https://german.wustl.edu/people/paul-michael-lutzeler>)  
Rosa May Distinguished University Professor in the Humanities  
Director of the Max Kade Center  
PhD, Indiana University  
Contemporary and exile literature; Romanticism; literary discourses on Europe

**Lynne Tatlock** (<https://german.wustl.edu/people/lynne-tatlock>)  
Director, Comparative Literature  
Hortense and Tobias Lewin Distinguished Professor in the Humanities  
PhD, Indiana University  
17th-, 19th- & 20th-century novel and book history; gender; nationalism; translation

**Gerhild Williams** (<https://german.wustl.edu/people/gerhild-williams>)  
Vice Provost  
Barbara Schaps Thomas and David M. Thomas Professor in the Humanities  
Associate Vice Chancellor for Academic Affairs  
PhD in Comparative Literature, University of Washington  
Early modern German and French literature and culture; demonology; Ottoman Eurasia

### Associate Professors

**Erin McGlothlin** (<https://german.wustl.edu/people/erin-mcglathlin>)  
Director of Graduate Studies  
PhD, University of Virginia  
Contemporary literature; Holocaust studies; Jewish studies; narrative theory

**Christian Schneider** (<https://german.wustl.edu/people/christian-schneider>)

Director of Undergraduate Studies  
PhD, Heidelberg University  
Medieval literature; narrative theory; courtly culture; history of knowledge

### Assistant Professors

**Kurt Beals** (<https://german.wustl.edu/people/kurt-beals>)  
PhD, University of California, Berkeley  
20th- & 21st-century German literature and media; poetry; translation; experimentalism; digital media

**Caroline Kita** (<https://german.wustl.edu/people/caroline-kita>)  
PhD, Duke University  
Austrian literature; Jewish studies; music and sound studies; theater

### Postdoctoral Teaching Fellow

**Julia Goetze** (<https://german.wustl.edu/people/julia-goetze>)  
PhD, Georgetown University  
Language teacher psychology; emotions in the foreign & second language classroom; foreign language pedagogy

### Professor Emeritus

**James Fitzgerald Poag** (<https://german.wustl.edu/people/james-fitzgerald-poag>)  
PhD, University of Illinois  
Early and high Middle Ages; history of the German language; medieval Bible exegesis; medieval law and literature; medieval romance; middle high German; mysticism

## Degree Requirements

### 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.

### Program 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. In the final semester of courses, the student will complete a capstone project.

### **Suggested Sequence of Courses**

(actual course progression may follow a different schedule)

#### **Fall semester, 1st year:**

- 2 graduate-level German courses (6 units)
- An elective related to HEA from a designated list (3 units)

#### **Spring semester, 1st year:**

- 2 graduate-level German courses (6 units)
- Educ 4022 Higher Education Administration: History, Research, and Practice (3 units)
- Internship

#### **Summer, after 1st year:**

- Internship at a higher education institution, possibly in Germany or Austria (depending on student interest and objectives)

#### **Fall semester, 2nd year:**

- 2 graduate-level German courses (6 units)
- An elective relating to HEA from a designated list (3 units)
- Internship

#### **Spring semester, 2nd year:**

- 2 graduate-level German courses (6 units)
- Capstone project (3 units)
- Internship

### **HEA 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, providing for 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 10-15 hours of mentored engagement per week.

### **Summer Internship**

For students with a strong interest in international education, the German department can (depending on adequate funding) provide opportunities for them to intern at another university or other higher education institution in a German-speaking country.

In other cases, it may be in the student's best interest to intern at a North American institution.

### **Capstone Project**

In their last semester, each student produces an individual project (research paper, proposed initiative or program, etc.) 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.

## **PhD in Germanic Languages & Literatures**

A summary of program requirements is provided below.

German students who are interested in our exchange programs should contact Cecily Stewart Hawksworth (cecilyhawksworth@wustl.edu) for more information.

### **Courses**

The PhD requires 51 units of courses (including 36 AM credits) 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 hours of course credit.

Each student must take courses in the full range of German literature and culture, to be chosen in consultation with the director of graduate studies. The following courses are required (exceptions are only possible upon review by the Graduate Committee):

- German 453 Theories of Literary and Cultural Analysis (3 units)
- German 456 History of the German Language (3 units)
- German 457 Introduction to Linguistics and the Structure of German (3 units)
- German 5051 Introduction to the Teaching of German (1 unit)
- German 5052 Teaching Practicum (1 unit)
- German 5053 Seminar in Theories of Foreign Language Pedagogy / Theories of Second Language Acquisition (2 units)
- German 5061 Apprenticeship in the Teaching of Literature and Culture I (1 unit)
- German 5062 Apprenticeship in the Teaching of Literature and Culture II (1 unit)

In addition, students are required to take one additional course in German literature prior to 1700.

These rules regarding required courses to be 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 transfer units.

### ***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; 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.

## **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 the exam serves the faculty as one important element in deciding whether the student will receive permission to proceed with their graduate studies.

### ***Qualifying Examinations and Dissertation Proposal***

Students taking the 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. This process consists of three parts: two written qualifying papers and the dissertation proposal. Students typically choose a team of three faculty members at the beginning of the process, who will guide them through the exam procedure and serve as their readers. In the **first exam**, the student is 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 their advising team. The **second exam** serves to frame the student's primary materials in theoretical terms. Within two months after passing the second qualifying exam, the student is required to write a 10-15 page dissertation proposal and present it orally to their advising team.

## **Foreign Language Requirement**

Students planning to work primarily on post-1700 materials must display reading proficiency in French. The requirement may be satisfied by examination or by enrolling in and successfully completing French 400-401. Students are strongly encouraged to pursue reading knowledge in languages other than French if necessary to conduct particular research for their dissertation.

Students planning to work on pre-1700 materials must pass a reading exam in Latin. Reading knowledge of French is also strongly encouraged.

## **Teaching**

PhD candidates are required to complete a minimum of six semesters and a maximum of eight semesters of mentored teaching experiences (or the equivalent) at Washington University under the guidance of the pedagogy specialist.

For information beyond what is presented here, please contact our director of graduate studies (mcglothlin@wustl.edu), Erin McGlothlin.

## **History**

The Department of History offers the **Doctor of Philosophy (PhD) in History**. In view of our commitment to the doctoral program, we do not offer a terminal Master of Arts (AM). Although the department offers any historical specialization covered by a tenured faculty member, it specializes in the history of 17th- through 20th-century America; Africa; American political culture; Central Europe; Medieval and Early Modern Europe; East Asia (China, Japan); international urban history; and the Middle East.

Many of our students pursue interdisciplinary studies and have teaching opportunities in other departments and programs: African and African-American Studies; American Culture Studies; East Asian Languages and Cultures; International and Area Studies; Jewish, Islamic and Near Eastern Languages and Cultures; and Women, Gender, and Sexuality Studies. The graduate program admits only a small number of students each year in order to promote a close working relationship between students and faculty. We encourage students to develop creative, self-tailored programs of study.

In considering applications for admission, the department places great emphasis on an applicant's fit with a particular tenured faculty member (who will serve as the student's primary adviser), on the applicant's proposed future research as described in the personal statement, and on the writing sample submitted with the application.

Doctoral students generally devote their first three years to courses, preparing for qualifying examinations in three fields of history, and producing a portfolio containing two research papers of publishable quality.

**Phone:** 314-935-5450  
**Email:** history@wustl.edu  
**Website:** <http://history.artsci.wustl.edu/graduate-program>

## **Faculty**

### **Chair**

**Peter J. Kastor** ([http://history.artsci.wustl.edu/peter\\_kastor](http://history.artsci.wustl.edu/peter_kastor))  
PhD, University of Virginia  
(The American Frontier and Early Republic)

## Endowed Professors

**Jean M. Allman** (<http://history.artsci.wustl.edu/allman>)  
J.H. Hexter Professor in the Humanities  
PhD, Northwestern University  
(African History)

**Daniel Bornstein** ([http://history.artsci.wustl.edu/daniel\\_bornstein](http://history.artsci.wustl.edu/daniel_bornstein))  
Stella K. Darrow Professor of Catholic Studies  
PhD, University of Chicago  
(Medieval and Renaissance Europe)

**Hillel J. Kieval** ([http://history.artsci.wustl.edu/hillel\\_kieval](http://history.artsci.wustl.edu/hillel_kieval))  
Gloria M. Goldstein Professor of Jewish History and Thought  
PhD, Harvard University  
(Jewish History)

**Kenneth Ludmerer** (<http://history.artsci.wustl.edu/ludmerer>)  
Mabel Dorn Reeder Distinguished Professor in the History of Medicine  
PhD, MD, Johns Hopkins University  
(Medical History)

## Professors

**Iver Bernstein** ([http://history.artsci.wustl.edu/iver\\_bernst](http://history.artsci.wustl.edu/iver_bernst))  
PhD, Yale University  
(U.S. History and the Civil War)

**Andrea S. Friedman** ([http://history.artsci.wustl.edu/andrea\\_friedman](http://history.artsci.wustl.edu/andrea_friedman))  
PhD, University of Wisconsin  
(U.S. Women's History)

**Margaret Garb** ([http://history.artsci.wustl.edu/margaret\\_garb](http://history.artsci.wustl.edu/margaret_garb))  
PhD, Columbia University  
(American Urban History)

**Steven B. Miles** ([http://history.artsci.wustl.edu/steve\\_miles](http://history.artsci.wustl.edu/steve_miles))  
PhD, University of Washington  
(Chinese History)

**Tim Parsons** ([http://history.artsci.wustl.edu/tim\\_parsons](http://history.artsci.wustl.edu/tim_parsons))  
PhD, Johns Hopkins University  
(African Military History)

**Mark Pegg** (<http://history.artsci.wustl.edu/pegg>)  
PhD, Princeton University  
(Medieval European History)

## Associate Professors

**Catherine S. Adcock** ([http://history.artsci.wustl.edu/cassie\\_adcock](http://history.artsci.wustl.edu/cassie_adcock))  
PhD, University of Chicago  
(Modern South Asian History)

**Elizabeth Borgwardt** (<http://history.artsci.wustl.edu/borgwardt>)  
PhD, Stanford University  
(U.S. Foreign Relations)

**Shefali Chandra** (<http://history.artsci.wustl.edu/chandra>)  
PhD, University of Pennsylvania  
(Modern South Asian History)

**Christine R. Johnson** ([http://history.artsci.wustl.edu/christine\\_johns](http://history.artsci.wustl.edu/christine_johns))  
PhD, Johns Hopkins University  
(16th-Century German History)

**Sowandé Mustakeem** (<http://history.artsci.wustl.edu/mustakeem>)  
PhD, Michigan State University  
(Atlantic Slave Trade and the Middle Passage)

**Nancy Y. Reynolds** ([http://history.artsci.wustl.edu/nancy\\_reynolds](http://history.artsci.wustl.edu/nancy_reynolds))  
PhD, Stanford University  
(Middle Eastern History)

**Corinna Treitel** ([http://history.artsci.wustl.edu/corinna\\_treitel](http://history.artsci.wustl.edu/corinna_treitel))  
PhD, Harvard University  
(Modern German History)

**Lori Watt** ([http://history.artsci.wustl.edu/lori\\_watt](http://history.artsci.wustl.edu/lori_watt))  
PhD, Columbia University  
(Japanese History)

## Assistant Professors

**Monique Bedasse** (<http://history.artsci.wustl.edu/monique-bedasse>)  
PhD, University of Miami  
(Caribbean History)

**Venus Bivar** ([http://history.artsci.wustl.edu/venus\\_bivar](http://history.artsci.wustl.edu/venus_bivar))  
PhD, University of Chicago  
(Modern European History)

**Alexandre Dubé** (<http://history.artsci.wustl.edu/alexandre-dube>)  
PhD, McGill University  
(Early Modern Atlantic World)

**Douglas Flowe** (<http://history.artsci.wustl.edu/douglas-flowe>)  
PhD, University of Rochester  
(American History)

**Diana J. Montañó** (<http://history.artsci.wustl.edu/diana-montano>)  
PhD, University of Arizona  
(Latin American History)

**Christina Ramos** (<http://history.artsci.wustl.edu/christina-ramos>)  
PhD, Harvard University  
(Latin American History)

**Anika Walke** (<http://history.artsci.wustl.edu/anika-walke>)  
PhD, University of California, Santa Cruz  
(European History)

## Senior Lecturer

**Krister Knapp** ([http://history.artsci.wustl.edu/krister\\_knapp](http://history.artsci.wustl.edu/krister_knapp))  
PhD, Boston University  
(U.S. Intellectual History)

## Affiliated Faculty

**William Bubelis** (<http://classics.artsci.wustl.edu/bubelis>)  
Associate Professor of Classics  
PhD, University of Chicago  
(Classics)

**Adrienne D. Davis** (<http://law.wustl.edu/faculty/pages.aspx?id=5768>)  
William M. Van Cleve Professor of Law  
JD, Yale University School of Law

**Mary Ann Dzuback** ([http://education.wustl.edu/people/dzuback\\_mary-ann](http://education.wustl.edu/people/dzuback_mary-ann))  
Associate Professor of Education  
PhD, Columbia University  
(Education)

**Martin Jacobs** (<http://pages.wustl.edu/mjacobs>)  
Professor of Rabbinic Studies  
PhD and Habilitation, Free University of Berlin  
(Jewish, Islamic and Near Eastern Languages and Cultures)

**Zhao Ma** ([http://ealc.wustl.edu/people/ma\\_zhao](http://ealc.wustl.edu/people/ma_zhao))  
Assistant Professor of Modern Chinese History and Culture  
PhD, Johns Hopkins University  
(East Asian Languages and Cultures)

**Laurie F. Maffly-Kipp** (<http://rap.wustl.edu/bio/laurie-f-maffly-kipp>)  
Archer Alexander Distinguished Professor  
PhD, Yale University  
(Danforth Center on Religion and Politics)

**Rebecca Messbarger** (<http://rl.wustl.edu/people/messbarger>)  
Professor of Italian and Women, Gender, and Sexuality Studies  
PhD, University of Chicago  
(Romance Languages and Literatures)

**Eric P. Mumford** ([http://samfoxschool.wustl.edu/portfolios/faculty/eric\\_mumford](http://samfoxschool.wustl.edu/portfolios/faculty/eric_mumford))  
Rebecca and John Voyles Professor of Architecture  
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(Danforth Center on Religion and Politics)

**Mark Valeri** (<http://rap.wustl.edu/bio/mark-valeri>)  
Reverend Priscilla Wood Neaves Distinguished Professor of Religion and Politics  
PhD, Princeton University  
(Danforth Center on Religion and Politics)

**Hayrettin Yücesoy** ([http://jinelc.wustl.edu/people/y%C3%BCcesoy\\_hayrettin](http://jinelc.wustl.edu/people/y%C3%BCcesoy_hayrettin))  
PhD, University of Chicago  
(Medieval Middle Eastern History)

**Steven Zwicker** ([http://english.artsci.wustl.edu/Steven\\_Zwicker](http://english.artsci.wustl.edu/Steven_Zwicker))  
Stanley Elkin Professor in the Humanities  
PhD, Brown University  
(English)

## Professors Emeriti

**Henry Berger** ([http://history.artsci.wustl.edu/henry\\_berger](http://history.artsci.wustl.edu/henry_berger))  
PhD, University of Wisconsin

**Steven Hause**  
PhD, Washington University

**Derek M. Hirst** (<https://history.artsci.wustl.edu/derek-hirst>)  
William Eliot Smith Professor Emeritus of History  
PhD, Cambridge University

**Gerald N. Izenberg** (<http://history.artsci.wustl.edu/izenberg>)  
PhD, Harvard University

**David T. Konig** (<http://history.artsci.wustl.edu/david-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** (<http://history.artsci.wustl.edu/okenfuss>)  
PhD, Harvard University

**Peter Riesenberger** (<http://history.artsci.wustl.edu/peter-riesenberger>)  
PhD, Columbia University

**Richard J. Walter** (<http://history.artsci.wustl.edu/walter>)  
PhD, Stanford University

## Degree Requirements

### PhD in History

#### Requirements and Academic Assessment

Doctoral candidates ordinarily spend at least two, and more often three, full academic years in residence. Before the dissertation defense takes place, doctoral candidates must have gained essential language and quantitative skills, completed the necessary courses, and researched and written a dissertation.

## Languages and Quantitative Skills

Each graduate student's need for linguistic and quantitative skills is determined during the first semester in consultation with their adviser. 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, that sufficient progress toward acquiring these skills for dissertation research 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, and competence either in one other language (not 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.

## Grades

The performance of students in the Graduate School is marked by the grades A, B, C (Conditional), and F. The grade of C indicates unsatisfactory performance 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 F.

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 should be viewed as a warning that they have 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 impacting a student's chances on the academic job market.

## 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 of our 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 studied during the academic year, whether as students or as assistants in instruction. The letters will identify any areas in which the student needs to improve, and provide clear steps for addressing this. 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 adviser, 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, then the student will not be allowed to proceed to the PhD qualifying examinations; instead, the student will be offered an opportunity

to secure an Master of Arts (AM) degree before leaving the PhD program. In such cases, requirements for the AM degree are as follows:

- Students must have satisfactorily completed a minimum of 36 hours of credit. Since the department does not offer a separate AM degree, we do not require an AM thesis. Therefore, none of the required 36 hours will be awarded for thesis research.
- Students must have successfully completed the courses: History 5470 Writing Historical Proposals and Prospectuses, and History 5471 Literature of History.
- 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.

## Additional History Department Requirements and Explanations

A full-time graduate student shall not be allowed more than one incomplete per semester, and that incomplete must be removed by the end of the following semester. Within this requirement, faculty and students may wish to enter into contracts specifying conditions for the removal of the incomplete. To remain in good standing, a student should take the qualifying examinations by the first semester of the 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 to four additional Department of History faculty members appointed by the chair of the department at the beginning of each academic year.

Otherwise, there are no additional requirements beyond those of the Graduate School.

These guidelines (<http://history.artsci.wustl.edu/graduate>) will remain posted on our website, and hard copies will be distributed at the annual department orientation for new PhD students in August.

## Imaging Science (Interdisciplinary PhD)

The PhD program in Imaging Science at Washington University in St. Louis is **one of only two** such programs in the U.S. and offers an interdisciplinary curriculum that focuses on the technology of imaging with applications ranging from cancer diagnosis to virtual reality.

## What is Imaging Science?

Imaging Science is an interdisciplinary academic discipline that broadly addresses the design and optimization of imaging systems and the extraction of information from images. It builds on contributions from traditional fields including biomedical engineering, electrical engineering, and computer science, as well as from physics, applied mathematics, biology and chemistry.

## What can you do with a PhD in Imaging Science?

The high demand for personnel with training in imaging science is reflected in government policy and funding opportunities. Many academic, industrial, and national laboratory positions exist for highly qualified candidates. Graduates of the program will be prepared for careers in academic research or in industry that requires expertise in the quantitative principles of imaging.

## Curriculum Focus

- mathematical and computational principles of image formation
- image analysis
- image understanding
- image quality assessment

This interdisciplinary program is unique and brings together expert faculty from the School of Engineering & Applied Science (<https://engineering.wustl.edu/Pages/home.aspx>) and the School of Medicine (<https://medicine.wustl.edu>) to provide students the freedom and flexibility to learn from leading imaging experts and engage in impactful research.

## History

Washington University has been a leader in the technology and advancement of imaging science for more than 125 years. In the 1920s, Washington University researchers were the first to use X-rays to view the gallbladder. In the 1970s, research by Michel Ter-Pogossian at the university's Mallinckrodt Institute of Radiology led to the development of the PET scanner.

**Website:** <https://engineering.wustl.edu/departments-faculty/interdisciplinary-degree-programs/imaging-science/>

## Faculty

**Mark Anastasio** (<https://engineering.wustl.edu/Profiles/Pages/Mark-Anastasio.aspx>)  
Imaging Science Program Director  
Professor  
PhD, University of Chicago  
Biomedical Engineering

**Sam Achilefu** (<http://orl.wustl.edu/index.php?id=122>)  
Michel M. Ter-Pogossian Professor of Radiology  
University of Nancy, France  
Radiology; Biomedical Engineering

**Hongyu An** (<https://www.mir.wustl.edu/research/research-laboratories/biomedical-magnetic-resonance-laboratory-bmrl/people/bio-an>)  
Associate Professor  
PhD, Washington University  
Radiology; Biomedical Engineering

**Beau Ances** (<https://neuro.wustl.edu/research/research-labs-2/ances-laboratory/team>)  
Professor  
MD, University of Pennsylvania  
PhD, University of Pennsylvania  
Neurology; Biomedical Engineering

**Martin Arthur** (<https://engineering.wustl.edu/Profiles/Pages/Martin-Arthur.aspx>)  
Newton R. and Sarah Louisa Glasgow Wilson Professor of Engineering  
PhD, University of Pennsylvania  
Electrical & Systems Engineering

**Deanna Barch** (<https://psychweb.wustl.edu/people/deanna-barch>)  
Gregory B. Couch Professor of Psychiatry  
PhD, University of Illinois  
Psychological & Brain Sciences; Biomedical Engineering

**Phil Bayly** (<https://engineering.wustl.edu/Profiles/Pages/Philip-Bayly.aspx>)  
Lilyan and E. Lisle Hughes Professor of Mechanical Engineering  
PhD, Duke University  
Mechanical Engineering & Materials Science

**Aaron Bobick** (<https://engineering.wustl.edu/Profiles/Pages/Aaron-Bobick.aspx>)  
James M. McKelvey Professor and Dean  
PhD, Massachusetts Institute of Technology  
Computer Science & Engineering

**Frank Brooks** (<https://bme.wustl.edu/faculty/Pages/Frank-Brooks.aspx>)  
Research Assistant Professor  
PhD, Washington University  
Biomedical Engineering

**Ayan Chakrabarti** (<https://engineering.wustl.edu/Profiles/Pages/Ayan-Chakrabarti.aspx>)  
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**Joe Culver** (<https://www.mir.wustl.edu/research/research-laboratories/optical-radiology-laboratory-ori/people/joseph-culver>)

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Radiology; Biomedical Engineering

**James Fitzpatrick** (<http://neurosci.wustl.edu/people/faculty/james-fitzpatrick>)

Associate Professor  
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**Michael Gach** (<https://radonc.wustl.edu/faculty/michael-gach>)

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Radiation Oncology; Biomedical Engineering

**Roch Guérin** (<https://engineering.wustl.edu/Profiles/Pages/Roch-Gu%C3%A9rin.aspx>)

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Biomedical Engineering; Radiology

**Tao Ju** (<https://engineering.wustl.edu/Profiles/Pages/Tao-Ju.aspx>)

Professor  
PhD, Rice University  
Computer Science & Engineering

**Ulugbek Kamilov** (<https://engineering.wustl.edu/Profiles/Pages/Ulugbek-Kamilov.aspx>)

Assistant Professor  
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Computer Science & Engineering; Electrical & Systems Engineering

**Gregory Lanza** (<https://cardiology.wustl.edu/faculty/gregory-m-lanza-md-phd-facc>)

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MD, Northwestern University  
PhD, University of Georgia  
Medicine; Biomedical Engineering

**Richard Laforest** (<https://www.mir.wustl.edu/research/research-laboratories/radiological-chemistry-and-imaging-laboratory-rcil/people/richard-laforest>)

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**Harold Li** (<https://radonc.wustl.edu/faculty/harold-li>)

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Radiation Oncology; Biomedical Engineering

**Hua Li** (<https://radonc.wustl.edu/faculty/hua-li-phd>)

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Radiation Oncology; Biomedical Engineering

**Daniel Marcus** (<https://www.mir.wustl.edu/research/research-support-facilities/neuroimaging-informatics-analysis-center-niac/our-staff/niac-staff-dan-marcus>)

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Radiology; Biomedical Engineering

**Sasa Mutic** (<https://radonc.wustl.edu/faculty/sasa-mutic>)

Professor  
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**Arye Nehorai** (<https://engineering.wustl.edu/Profiles/Pages/Arye-Nehorai.aspx>)

Eugene and Martha Lohman Professor of Electrical Engineering  
PhD, Stanford University  
Electrical & Systems Engineering

**Jody O'Sullivan** (<https://engineering.wustl.edu/Profiles/Pages/Joseph-OSullivan.aspx>)

Samuel C. Sachs Professor of Electrical Engineering  
PhD, University of Notre Dame  
Electrical & Systems Engineering

**Philip Payne** (<https://publichealth.wustl.edu/scholars/philip-r-payne>)

Robert J. Terry Professor  
PhD, Columbia University  
Medicine; Biomedical Engineering

**Jonathan E. Peelle** (<http://oto.wustl.edu/About-Us/Faculty-Physicians/Jonathan-E-Peelle>)

Associate Professor of Otolaryngology  
PhD, Brandeis University  
Otolaryngology

**David Piston** (<https://pistonlab.wustl.edu>)  
Professor

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**Yoram Rudy** (<https://engineering.wustl.edu/Profiles/Pages/Yoram-Rudy.aspx>)

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**Joshua Shimony** (<https://sites.wustl.edu/nillabs/people/joshua-s-shimony>)

Professor of Radiology  
PhD, University of Tennessee  
Department of Radiology

**Koresh Shoghi** (<https://www.mir.wustl.edu/research/research-laboratories/radiological-chemistry-and-imaging-laboratory-rcil/people/biotemplate-rcil/koresh-shoghi>)

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**Yuan-Chuan Tai** (<https://www.mir.wustl.edu/research/research-laboratories/radiological-chemistry-and-imaging-laboratory-rcil/people/bio-template3/yuan-chuan-tai>)

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Radiology; Biomedical Engineering

**David Van Essen** ([http://dbbs.wustl.edu/faculty/Pages/faculty\\_bio.aspx?SID=1569](http://dbbs.wustl.edu/faculty/Pages/faculty_bio.aspx?SID=1569))

Alumni Endowed Professor  
PhD, Harvard University  
Neuroscience; Biomedical Engineering

**Richard Wahl** (<https://wuphysicians.wustl.edu/for-patients/find-a-physician/richard-leo-wahl>)

Elizabeth E. Mallinckrodt Professor of Radiology  
MD, Washington University  
Radiology

**Yong Wang** (<https://reproductivesciences.wustl.edu/people/yong-wang>)

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Obstetrics & Gynecology; Radiology; Biomedical Engineering

**Pam Woodard** (<https://www.mir.wustl.edu/research/research-laboratories/cardiovascular-imaging-laboratory-cvil/people/cvil-faculty/cvil-faculty-bio-pamela-woodard>)

Professor  
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**Tiezh Zhang** (<https://radonc.wustl.edu/faculty/tiezh-zhang-phd>)

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PhD, University of Wisconsin-Madison  
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Radiology; Biomedical Engineering

**Quing Zhu** (<https://engineering.wustl.edu/Profiles/Pages/Quing-Zhu.aspx>)

Professor  
PhD, University of Pennsylvania  
Biomedical Engineering

## Degree Requirements

### PhD in Imaging Science

#### Requirements

- Maintain an average grade of B (GPA 3.0) for all 72 units (up to 24 graduate units may be transferred with approval)
- Complete courses with no more than one grade below B-
- Complete at least one semester-long research rotation

- Become integrated with a research group
- Pass a qualifying exam
- Successfully defend a thesis proposal
- Present and successfully defend a dissertation
- Complete the mentored teaching experience required by the student's administrative home department

## Courses

### Required Core Courses (22 units)

- BME/CSE/ESE, Mathematics of Imaging Science (3 units)
- ESE 506, Seminar in Imaging Science and Engineering (1 unit)
- BME 593, Computational Methods for Imaging Science (3 units)
- ESE 589, Biological Imaging Technology (3 units)
- BME/ESE 5907, Theoretical Imaging Science (3 units)
- BME/CSE/ESE, Image Analysis and Data-Driven Imaging (3 units)
- BME/ESE/CSE, Practicum in Computational Imaging (3 units)
- BME 601, Research Rotation (3 units) (refer to Research Rotations (p. 98) section)

At least 12 units in elective imaging courses must be completed that span any of the following categories:

- Computational Imaging & Theory
- Imaging Sensors & Instrumentation
- Image Formation & Imaging Physics
- Translational Biomedical Imaging
- Medical Physics

## Progression of Courses (Typical)

### First Semester

- BME/CSE/ESE, Mathematics of Imaging Science (3 units)
- ESE 506, Seminar in Imaging Science & Engineering (1 unit)
- BME 601, Research Rotation (3 units) (refer to Research Rotations (p. 98) section)
- Elective (3 units)

### Second Semester

- BME 593, Computational Methods for Imaging Science (3 units)
- ESE 589, Biological Imaging Technology (3 units)
- Elective (3 units) or optional Second Research Rotation – BME 601 (3 units)

### Third Semester

- BME 5907, Theoretical Imaging Science (3 units)
- BME/CSE/ESE, Image Analysis & Data-Driven Imaging (3 units)
- Elective (3 units)

### Fourth Semester

- BME/ESE/CSE, Practicum in Computational Imaging (3 units)
- Elective or doctoral research (3 units)
- Elective or doctoral research (3 units)

### Electives Courses — Computational Imaging & Theory

- BME/ESE, Adaptive Imaging
- BME/ESE, Wave Physics and Applied Optics for Imaging Scientists
- CSE 501N, Programming Concepts and Practice
- CSE 512A, Statistical Computing for Scientific Research
- CSE 511A, Introduction to Artificial Intelligence
- CSE 513T, Theory of Artificial Intelligence & Machine Learning
- CSE 515T, Bayesian Methods in Machine Learning
- CSE 517A, Machine Learning
- CSE 519T, Advanced Machine Learning
- CSE 543T, Algorithms for Nonlinear Optimization
- CSE 546T, Computational Geometry
- CSE 554A, Geometric Computing for Biomedicine
- CSE 555A, Computational Photography
- CSE 559A, Computer Vision
- CSE 566S, High Performance Computer Systems
- ESE 523, Information Theory
- ESE 588, Quantitative Image Processing
- ESE 524, Detection and Estimation Theory
- ESE 518, Optimization Methods in Control

### Electives Courses — Imaging Sensors & Instrumentation

- CSE 568M, Imaging Sensors
- BME, Imaging Instrumentation

### Electives Courses — Image Formation & Imaging Physics

- BME 591, Biomedical Optics I
- BME 592, Biomedical Optics II
- BME 494, Ultrasound Imaging
- BME 5XX, Advanced Topics in Ultrasound Imaging (To be developed)
- BME 5XX, Magnetic Resonance Imaging (To be developed)
- BME 5XX, Imaging in Nuclear Medicine (To be developed)
- ESE 582/BME 5820 Fundamentals and Applications of Modern Optical Imaging

### Electives Courses — Translational Biomedical Imaging

- BME, Therapeutic Applications of Biomedical Imaging
- BME 502, Cardiovascular MRI-Physics to Clinical Application

#### Electives Courses — Medical Physics

- BME 5071, Radiobiology
- BME 5072, Radiation Oncology Physics
- BME 507, Radiological Physics and Dosimetry
- BME 5073, Radiation Protection and Safety

#### Approved Life Science Courses

- BME 530A Molecular Cell Biology for Engineers
- BME 503A Cell & Organ Systems
- BME 538 Cell Signal Transduction
- BME 5902 Cellular Neurophysiology
- Biol 4071 Developmental Biology
- Biol 4580 Principles of Human Anatomy & Development
- Biol 4810 General Biochemistry
- Biol 4820 General Biochemistry II
- Biol 5068 Fundamentals of Molecular Cell Biology
- Biol 5319 Molecular Foundations of Medicine
- Biol 5051 Foundations in Immunology (4 units)
- Biol 5053 Immunobiology (4 units)
- Biol 5062 Central Questions in Cell Biology
- Biol 5146 Principles and Applications of Biological Imaging
- Biol/Chem 5147 Contrast Agents for Biological Imaging
- Biol 5224 Molecular, Cell, and Organ Systems
- Biol 5285 Fundamentals of Mammalian Genetics
- Biol 5352 Developmental Biology
- Biol 5488 Genomics
- Biol 5571 Cellular Neurobiology (4 units)
- Biol 5651 Neural Systems
- Biol 5581 Neural Basis of Acoustic Communication
- Biol 404 Laboratory of Neurophysiology
- Biol 548 Nucleic Acids and Protein Biosynthesis
- Biol 5663 Neurobiology of Disease

**Approved Mathematics Courses** — Any graduate-level course within the Department of Mathematics and Statistics is approved.

### Research Rotations

During their first year, students are required to register for and complete at least one research rotation (for 3 units) with program faculty mentors. The research rotation(s) allow students to sample different research projects and laboratory working environments before selecting the group in which they will carry out the PhD dissertation research.

A rotation will be chosen in consultation with program faculty and must be mutually agreeable to both the student and the mentor.

At the completion of each rotation, the student must submit to the mentor and director a written report approved by the mentor.

### Qualifying Exam

A written qualifying exam will be administered during the *spring* of their second year of graduate school. The examining committee, who will develop and grade the exams, will consist of three members of the Imaging Science PhD Program Committee. The director of the graduate program will approve the committee, whose members will be suggested by the thesis adviser.

Students will choose three out of the four exam topics:

- Mathematics of Imaging Science
- Imaging Physics & Image Formation Methods
- Image Analysis & Data-Driven Imaging
- Theoretical Image Science

### Finding a Thesis Research Mentor

Because the PhD is a research degree, the student is expected to become integrated within a research group. By the end of the first year of study, students should have found a thesis adviser who will oversee their PhD research and assume financial responsibility for stipend, tuition, health insurance, and student fees. The thesis adviser must be a faculty member in the Imaging Science PhD Program Committee with the title of professor, associate professor, or assistant professor. Failure to find a research adviser by May 1 will result in the student being placed on probation that can last up until August 31.

During that time, the student must continue to seek a research adviser. Failure to find a research adviser by August 31 will lead to dismissal from the PhD program and termination of funding.

The student's admission application should include transcripts and letters of evaluation. The Graduate Admissions Committee will review all applications and construct a ranked list of candidates. This list and the associated application packages will be forwarded to the dean of the Graduate School for approval for admission to the program. Following approval by the dean of the Graduate School and the director of the graduate program, the chair of the Graduate Admissions Committee will notify the students accepted by letter.

### Research Presentation/Thesis Proposal

Before the end of the student's third year, the student will give an oral presentation of their proposed PhD project, with the necessary background to support it, to the Thesis Committee. This committee will consist of six members. Four members must be members of the Imaging Science PhD Program Committee. At least one committee member must be chosen from outside the Imaging Science PhD Program Committee, and must be a tenured or tenure-track faculty member at Washington University. The committee will be chaired by the PhD mentor. At least two weeks prior to the presentation, the student will present

to the Thesis Examination Committee a written document outlining the research background, proposed procedures, preliminary results, and plans for completion. The required document will be typically between 15 and 30 pages in length and must contain a comprehensive bibliography.

The student will be placed on probation if they fail to pass their Thesis Proposal by the sixth semester. The student will be given a second opportunity to pass the exam during their seventh semester. If the student passes the second exam and meets the other program requirements (e.g., grades), they may continue the program without prejudice. If the student fails the exam a second time, they will be terminated from the PhD program.

## Dissertation

The student will prepare a written dissertation for examination by the Thesis Examination Committee and will defend the dissertation before this committee. Should a member of this committee be unable to participate, the director of the graduate program, in consultation with the PhD mentor, will choose a replacement. If the committee members feel that the dissertation has deficiencies, they may recommend that the candidate address them and send the revised dissertation to the committee members for approval. The committee may also recommend that the candidate present another oral defense of the modified work. The Thesis Committee will inform the director of the graduate program, and they will warn the student in writing that they must submit a revised dissertation and pass the oral defense (if recommended) in order to complete the PhD program. If, after revision and reexamination, the Thesis Committee still finds deficiencies and cannot reach unanimous agreement to approve the dissertation, the Graduate School's Policy on Dissenting Votes will apply.

## Teaching Requirements

Students in the PhD program will receive formal pedagogical training by attending a minimum of two Teaching Workshops offered by the Washington University Teaching Center (<http://teachingcenter.wustl.edu/graduate-students/workshops>). They will be expected to fulfill the teaching requirements of their designated administrative home department. The teaching requirements must be completed before the student submits their doctoral dissertation to the Graduate School.

## Jewish, Islamic and Near Eastern Languages and Cultures

Jewish, Islamic and Near Eastern Languages and Cultures (JINELC) is an academic department, unique in North America, in which Jewish Studies and Islamic Studies are integrated. It is an interdisciplinary department whose purpose is to explore the *historical experience; literary, religious, and cultural expression; and political and material life of the Jewish, Islamic and Near*

*Eastern civilizations.* Whether students favor the study of language, literature, religion, history or politics, they will find in our courses a way to deepen their appreciation of these complex and diverse societies and cultures. 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 (such as History, Anthropology, or Comparative Literature) in cooperation with participating faculty from Jewish, Islamic and Near Eastern Languages and Cultures. In such instances, the prospective student should apply directly to the appropriate disciplinary department or program at Washington University.

**Email:** [jinelc@wustl.edu](mailto:jinelc@wustl.edu)

**Website:** <http://jinelc.wustl.edu>

## Faculty

### Chair

**Nancy E. Berg** ([http://jinelc.wustl.edu/people/berg\\_nancy](http://jinelc.wustl.edu/people/berg_nancy))  
Professor of Hebrew Language and Literature  
PhD, University of Pennsylvania

### Endowed Professor

**Hillel J. Kieval** ([http://jinelc.wustl.edu/people/hillel\\_kieval](http://jinelc.wustl.edu/people/hillel_kieval))  
Gloria M. Goldstein Professor of Jewish History and Thought  
PhD, Harvard University

### Professor

**Martin Jacobs** ([http://jinelc.wustl.edu/people/jacobs\\_martin](http://jinelc.wustl.edu/people/jacobs_martin))  
Professor of Rabbinic Studies  
PhD and Habilitation, Free University of Berlin

### Associate Professors

**Pamela Barmash** ([http://jinelc.wustl.edu/pamela\\_barmash](http://jinelc.wustl.edu/pamela_barmash))  
Associate Professor of Hebrew Bible and Biblical Hebrew  
PhD, Harvard University

**Erin McGlothlin** ([http://german.wustl.edu/people/mcglathlin\\_erin](http://german.wustl.edu/people/mcglathlin_erin))  
Associate Professor of Jewish Studies  
PhD, University of Virginia

**Nancy Reynolds** (<http://jinelc.wustl.edu/people/nancy-reynolds>)  
Associate Professor of Jewish, Islamic and Near Eastern Studies  
PhD, Stanford University

**Hayrettin Yücesoy** ([http://jinelc.wustl.edu/people/y%C3%BCcesoy\\_hayrettin](http://jinelc.wustl.edu/people/y%C3%BCcesoy_hayrettin))  
Associate Professor of Arabic and Islamic Studies  
PhD, University of Chicago

### Assistant Professors

**Anne-Marie McManus** (<http://jinelc.wustl.edu/people/anne-marie-mcmanus>)  
Assistant Professor of Modern Arabic Literature  
PhD, Yale University

**Aria Nakissa** (<http://jinelc.wustl.edu/people/aria-nakissa>)  
Assistant Professor of Islamic Studies  
PhD, Harvard University

### Senior Lecturers

**Housni Bennis** ([http://jinelc.wustl.edu/Housni\\_Bennis](http://jinelc.wustl.edu/Housni_Bennis))  
Senior Lecturer in Arabic  
PhD Candidate, Washington University

**Rami Pinsberg** (<https://artsci.wustl.edu/faculty-staff/rami-j-pinsberg>)  
Senior Lecturer in Modern Hebrew  
MEd, University of Missouri-St. Louis

**Younasse Tarbouni** ([http://jinelc.wustl.edu/Younasse\\_Tarbouni](http://jinelc.wustl.edu/Younasse_Tarbouni))  
Senior Lecturer in Arabic  
PhD Candidate, L'École des Hautes Études en Sciences Sociales (EHESS)

**Mohammad J. Warsi** (<https://artsci.wustl.edu/faculty-staff/mohammad-warsi>)  
Senior Lecturer in South Asian Languages and Cultures  
PhD, Aligarh Muslim University

### Lecturer

**Madhavi Verma** (<http://jinelc.wustl.edu/people/meera-jain>)  
Lecturer in Hindi Languages and Cultures  
MA, Patna University

### Endowed Professor - Affiliated

**John R. Bowen** ([http://anthropology.artsci.wustl.edu/bowen\\_john](http://anthropology.artsci.wustl.edu/bowen_john))  
Dunbar-Van Cleve Professor in Arts & Sciences  
PhD, University of Chicago  
(Anthropology)

### Professors - Affiliated

**Lois Beck** ([http://anthropology.artsci.wustl.edu/beck\\_lois](http://anthropology.artsci.wustl.edu/beck_lois))  
Professor of Sociocultural Anthropology  
PhD, University of Chicago

**Robert Canfield** ([http://anthropology.artsci.wustl.edu/canfield\\_robert](http://anthropology.artsci.wustl.edu/canfield_robert))  
Professor Emeritus of Sociocultural Anthropology  
PhD, University of Michigan

**Tabea Alexa Linhard** (<http://rll.wustl.edu/people/linhard>)  
Professor of Spanish and Comparative Literature  
PhD, Duke University

**Joseph Schraibman** (<http://rll.wustl.edu/people/schraibman>)  
Professor of Romance Languages  
PhD, University of Illinois at Urbana-Champaign

### Associate Professors - Affiliated

**Michael Frchetti** ([http://anthropology.artsci.wustl.edu/frchetti\\_michael](http://anthropology.artsci.wustl.edu/frchetti_michael))  
Associate Professor of Anthropology  
PhD, University of Pennsylvania

**Seth Graebner** (<http://rll.wustl.edu/people/graebner>)  
Associate Professor of French and International and Area Studies  
PhD, Harvard University

### Assistant Professor - Affiliated

**Denise Gill** (<http://jinelc.wustl.edu/people/denise-elif-gill>)  
Assistant Professor of Ethnomusicology  
PhD, University of California, Santa Barbara

## Degree Requirements

### Master's Degrees

The Department of Jewish, Islamic and Near Eastern Languages and Cultures (JINELC) at Washington University in St. Louis offers two terminal master's degrees: a Master of Arts in Jewish Studies (p. 100), and a Master of Arts in Islamic and Near Eastern Studies (p. 101). While both programs have their own curricula, the department's integrated nature provides students a unique opportunity to explore the shared experiences and interactions of Jews and Muslims in their various cultural and historical contexts. Both Master of Arts (AM) programs are two-year full-time programs that foster breadth and depth of study and include a graduation requirement of advanced language proficiency. Close mentoring relations allow for tailoring a program of study to a student's specific interests and goals. Thanks to the excellence of our AM programs, many of our graduates have been subsequently accepted into highly prestigious PhD programs.

### Master of Arts in Jewish Studies

The AM program 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 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 proficiency in Hebrew language equivalent to at least one year of college-level study. At the end of two years of courses, students will be expected to have completed third-year Hebrew successfully before receiving the AM degree.

## Degree Requirements

- 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 30 credits.)
- Successful completion of third-year Hebrew
- Ability to use Hebrew source material and scholarly articles, to be demonstrated in at least one major seminar paper
- A second major research paper to be written either in a second seminar or in an independent study to be supervised by one of the faculty associated with the program
- Students have the option of writing a master's thesis in place of the two major research papers (please refer to Policies and Timelines (p. 101) below).
- At the end of their program of study, degree candidates are required to complete successfully 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.
- Please note the departmental Policies and Timelines (p. 101) below.

## Master of Arts in Islamic and Near Eastern Studies

The AM program 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 Near Eastern history; Islam in world history; Islamic religion and law; anthropology of Islam; premodern Muslim political theory and practice; Near Eastern urban studies; and both classical and modern Arabic literatures. Admission to the AM program normally requires proficiency in the Arabic language equivalent to one year of college-level study. After a typical two years of courses, students will be expected to have completed third-year Arabic successfully before receiving the AM degree.

## Degree Requirements

- 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 30 credits.)
- Successful completion of third-year Arabic
- Ability to use Arabic source material and scholarly articles, to be demonstrated in at least one major seminar paper
- A second major research paper to be written either in a second seminar or in an independent study to be supervised by one of the faculty associated with the program
- Students have the option of writing a master's thesis in place of the two major research papers (please refer to Policies and Timelines (p. 101) below).
- At the end of their program of study, degree candidates are required to complete successfully 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.
- Please note the departmental Policies and Timelines (p. 101) below.

## Policies and Timelines Applying to Both AM Programs

To complete our AM programs, including the third-year language requirement, within the typical course of two years, students need to be highly self-motivated and should develop close working relationships with their academic advisers. Students may elect to graduate **with** or **without** writing a master's thesis. The master's thesis (usually about 80-100 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 (<http://graduateschool.wustl.edu/guides-0>) issued by the Graduate School). 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 without thesis:**

#### **Second Year**

First week of fall semester: Meet with adviser to discuss graduation plans.

First week of spring semester: Meet with adviser 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.

## **Master's students planning to graduate with thesis:**

### **First Year**

End of spring semester: Approach a primary thesis adviser (who may but does not have to be identical with student's academic adviser).

### **Second Year**

Fall and spring semesters: Enroll in L75 JINE 591 Directed Writing: Thesis.

First week of spring semester: Confirm a thesis committee of three readers, in conversation with student's adviser, and schedule the oral defense.

Friday before spring break: Final draft of the thesis is due to the thesis adviser.

End of March to early April: Oral defense.

## **Latin American Studies**

The **Graduate Certificate in Latin American Studies** offers Washington University students the opportunity to pursue a multidisciplinary specialization 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, neoliberalism, etc.

At the national level, programs of Latin American Studies date back to the late 1940s, when the Area Studies paradigm became central in 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 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 has the third trade partner of the U.S. (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 is growingly the focus of U.S. students.

## **Application**

Students will be required to apply to be considered for the certificate program and will be evaluated by the Graduate Certificate Committee on a rotating basis. 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 (DGS) of their PhD home department or program. The chair of the Graduate Certificate Committee will forward recommendations for admission to the dean of the Graduate School for final approval. All applicants to the certificate program are expected to be in good academic standing as defined by the Graduate School.

**Contact:** Professor Ignacio Sánchez Prado  
**Phone:** 314-935-5175  
**Email:** isanchez@wustl.edu  
**Website:** <http://lasprogram.wustl.edu>

## **Faculty**

### **Core Faculty**

**Mabel Moraña** (<http://rll.wustl.edu/people/morana>)  
William H. Gass Professor in Arts & Sciences  
PhD, University of Minnesota  
(Romance Languages and Literatures)

**Ignacio Sánchez Prado** (<http://rll.wustl.edu/people/sanchez-prado>)  
Professor  
PhD, University of Pittsburgh  
(Romance Languages and Literatures)

### **Faculty Specialized in Latin America**

**William Acree** (<http://rll.wustl.edu/people/acree>)  
Associate Professor  
PhD, University of North Carolina at Chapel Hill  
(Romance Languages and Literatures)

**Sarah Baitzel** ([https://anthropology.artsci.wustl.edu/baitzel\\_sarah](https://anthropology.artsci.wustl.edu/baitzel_sarah))  
Assistant Professor  
PhD, University of California, San Diego  
(Anthropology)

**Peter Benson** ([http://anthropology.artsci.wustl.edu/benson\\_peter](http://anthropology.artsci.wustl.edu/benson_peter))  
Associate Professor  
PhD, Harvard University  
(Anthropology)

**David L. Browman** ([http://anthropology.artsci.wustl.edu/browman\\_david](http://anthropology.artsci.wustl.edu/browman_david))  
Professor  
PhD, Harvard University  
(Anthropology)

**J. Andrew Brown** (<http://rll.wustl.edu/people/brown>)  
Professor  
PhD, University of Virginia  
(Romance Languages and Literatures)

**Rebecca Clouser** (<http://ias.wustl.edu/people/rebecca-clouser>)  
Postdoctoral Fellow  
PhD, Indiana University  
(International and Area Studies)

**Brian Crisp** (<http://polisci.wustl.edu/pages.wustl.edu/crisp>)  
Professor  
PhD, University of Michigan  
(Political Science)

**David Freidel** ([http://anthropology.artsci.wustl.edu/freidel\\_david](http://anthropology.artsci.wustl.edu/freidel_david))  
Professor  
PhD, Harvard University  
(Anthropology)

**Javier García-Liendo** (<http://rll.wustl.edu/people/javier-garcia-liendo>)  
Assistant Professor  
PhD, Princeton University  
(Romance Languages and Literatures)

**Bret Gustafson** ([http://anthropology.artsci.wustl.edu/gustafson\\_bret](http://anthropology.artsci.wustl.edu/gustafson_bret))  
Associate Professor  
PhD, Harvard University  
(Anthropology)

**Steven Hirsch** (<http://ias.wustl.edu/people/steven-hirsch>)  
Professor of Practice  
PhD, George Washington University  
(International and Area Studies)

**Stephanie Kirk** (<http://rll.wustl.edu/people/kirk>)  
Associate Professor  
PhD, New York University  
(Romance Languages and Literatures)

**Tabea Linhard** (<http://rll.wustl.edu/people/linhard>)  
Professor  
PhD, Duke University  
(Romance Languages and Literatures)

**Diana Montaña** (<http://history.artsci.wustl.edu/diana-montano>)  
Assistant Professor  
PhD, University of Arizona  
(History)

**Christina Ramos** (<https://history.artsci.wustl.edu/christina-ramos>)  
Assistant Professor  
PhD, Harvard University  
(History)

**Guillermo Rosas** ([https://polisci.wustl.edu/guillermo\\_rosas](https://polisci.wustl.edu/guillermo_rosas))  
Associate Professor  
PhD, Duke University  
(Political Science)

**Joseph Schraibman** (<http://rll.wustl.edu/people/schraibman>)  
Professor  
PhD, University of Illinois  
(Romance Languages and Literatures)

**Ila Sheren** (<http://arthistory.artsci.wustl.edu/people/ila-sheren>)  
Assistant Professor  
PhD, Massachusetts Institute of Technology  
(Art History and Archaeology)

**Elzbieta Sklodowska** (<http://rll.wustl.edu/people/sklodowska>)  
Randolph Family Professor in Arts & Sciences  
PhD, Washington University  
(Romance Languages and Literatures)

**Kedron Thomas** ([http://anthropology.artsci.wustl.edu/thomas\\_kedron](http://anthropology.artsci.wustl.edu/thomas_kedron))  
Assistant Professor  
PhD, Harvard University  
(Anthropology)

**Miguel Valerio** (<https://rll.wustl.edu/people/miguel-valerio>)  
Assistant Professor  
PhD, Ohio State University  
(Romance Languages and Literatures)

## Professors Emeriti

**Pedro C. Cavalcanti**  
PhD, University of Warsaw  
(Anthropology)

**John F. Garganigo** (<http://rll.wustl.edu/people/garganigo>)  
PhD, University of Illinois  
(Romance Languages and Literatures)

**Richard J. Walter** (<http://history.artsci.wustl.edu/walter>)  
PhD, Stanford University  
(History)

## Degree Requirements

### Graduate Certificate in Latin American Studies

Students interested in earning the Graduate Certificate in Latin American Studies must complete 15 graduate units. Six 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 LASP Graduate Certificate program must fulfill all requirements of the PhD required by their respective home departments and the Graduate School, and the following LASP certificate requirements:

#### Complete a total of 15 graduate credits:

- 3 credits from one (1) LASP core course
- 3 credits from one (1) 400-level course from the LASP core program

- 9 credits from three (3) LASP-related courses in at least two departments or schools outside the student's major department
- Have proven proficiency in Spanish or Portuguese, following the guidelines established by the Department of Romance Languages and Literatures
- Spend at least one summer abroad, conducting research in Latin American Studies
- Participate actively in the Latin American Colloquium for at least one semester, including the presentation of a research paper. The presentation should ideally result from the summer research mentioned above.

## Mathematics and Statistics

The Department of Mathematics and Statistics offers two master's degrees, one in Mathematics and the other in Statistics, and two doctoral degrees, one in Mathematics and one in Statistics. Areas of study for Mathematics include: algebra, algebraic geometry, real and complex analysis, differential geometry, and topology. The areas of study for Statistics are: mathematical statistics, survival analysis, modeling, statistical computing for massive data, Bayesian regulation, bioinformatics, longitudinal and functional data analysis, statistical computation, asymptotic theory, objective Bayes, bootstrap, post-selection inference, and application of statistics to medicine. 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.

Graduate students have an opportunity when they first arrive to share common concerns and to become acquainted. One of the most attractive features of our program is the friendly and supportive atmosphere among graduate students. Advanced courses in the Washington University mathematics and statistics 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. A student who comes here 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. Students should plan to develop a close relationship with their thesis advisers so that they may have a realistic idea of their progress.

Graduate study in mathematics or statistics 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. The experience can be daunting. Those who continue in their studies are largely those for whom the pleasure in attaining

that understanding more than compensates for the required effort. For such persons, the life of a mathematician can be richly rewarding.

**Email:** Brett Wick, Director of Graduate Studies  
([bwick@wustl.edu](mailto:bwick@wustl.edu)) or Mary Ann Stenner ([stenner@wustl.edu](mailto:stenner@wustl.edu))

**Phone:** 314-935-6760

**Website:** <http://wumath.wustl.edu/graduate>

## Faculty

### Chair

**John E. McCarthy** ([http://wumath.wustl.edu/people/faculty/professors/mccarthy\\_john-e](http://wumath.wustl.edu/people/faculty/professors/mccarthy_john-e))

Spencer T. Olin Professor of Mathematics

PhD, University of California, Berkeley

Analysis; operator theory; one and several complex variables

### Directors

**Brett Wick** (<http://wumath.wustl.edu/people/brett-wick>)

Director of Graduate Studies; Professor of Mathematics

PhD, Brown University

Complex analysis, harmonic analysis, operator theory, and several complex variables

**John Shreshian** ([http://wumath.wustl.edu/people/shreshian\\_john](http://wumath.wustl.edu/people/shreshian_john))

Director of Undergraduate Studies; Professor of Mathematics

PhD, Rutgers University

Algebraic and topological combinatorics

### Endowed Professor

**John E. McCarthy** ([http://wumath.wustl.edu/people/faculty/professors/mccarthy\\_john-e](http://wumath.wustl.edu/people/faculty/professors/mccarthy_john-e))

Spencer T. Olin Professor of Mathematics

PhD, University of California, Berkeley

Analysis; operator theory; one and several complex variables

### Professors

**Quo-Shin Chi** ([http://wumath.wustl.edu/people/chi\\_quo-shin](http://wumath.wustl.edu/people/chi_quo-shin))

PhD, Stanford University

Differential geometry

**Renato Feres** ([http://wumath.wustl.edu/people/feres\\_renato](http://wumath.wustl.edu/people/feres_renato))

PhD, California Institute of Technology

Differential geometry; dynamical systems

**José Figueroa-López** (<http://wumath.wustl.edu/people/jose-figueroa-lopez>)

PhD, Georgia Institute of Technology

Statistics; probability and stochastic processes; mathematical finance

**Steven G. Krantz** ([http://wumath.wustl.edu/people/krantz\\_steven-g](http://wumath.wustl.edu/people/krantz_steven-g))

PhD, Princeton University  
Several complex variables; geometric analysis

**Rachel Roberts** ([http://wumath.wustl.edu/people/roberts\\_rachel](http://wumath.wustl.edu/people/roberts_rachel))

PhD, Cornell University  
Low-dimensional topology

**John Shareshian** ([http://wumath.wustl.edu/people/shareshian\\_john](http://wumath.wustl.edu/people/shareshian_john))

PhD, Rutgers University  
Algebraic and topological combinatorics

**Edward Spitznagel** ([http://wumath.wustl.edu/people/spitznagel\\_edward](http://wumath.wustl.edu/people/spitznagel_edward))

PhD, University of Chicago  
Statistics; statistical computation; application of statistics to medicine

**Xiang Tang** ([http://wumath.wustl.edu/people/tang\\_xiang](http://wumath.wustl.edu/people/tang_xiang))

PhD, University of California, Berkeley  
Symplectic geometry; noncommutative geometry; mathematical physics

**Brett Wick** (<http://wumath.wustl.edu/people/brett-wick>)

PhD, Brown University  
Analysis of several complex variables; harmonic analysis and operator theory

**Mladen Victor Wickerhauser** ([http://wumath.wustl.edu/people/wickerhauser\\_mladen-victor](http://wumath.wustl.edu/people/wickerhauser_mladen-victor))

PhD, Yale University  
Harmonic analysis; wavelets; numerical algorithms for data compression

## Associate Professors

**Roya Beheshti Zavareh** ([http://wumath.wustl.edu/people/beheshti-zavareh\\_roya](http://wumath.wustl.edu/people/beheshti-zavareh_roya))

PhD, Massachusetts Institute of Technology  
Algebraic geometry

**Brian E. Blank** ([http://wumath.wustl.edu/people/blank\\_brian-e](http://wumath.wustl.edu/people/blank_brian-e))

PhD, Cornell University  
Representations of Lie groups; harmonic analysis

**Jimin Ding** ([http://wumath.wustl.edu/people/ding\\_jimin](http://wumath.wustl.edu/people/ding_jimin))

PhD, University of California, Davis  
Statistics

**Matthew Kerr** ([http://wumath.wustl.edu/people/kerr\\_matthew](http://wumath.wustl.edu/people/kerr_matthew))

PhD, Princeton University  
Algebraic geometry; Hodge theory

**Gregory Knese** (<http://wumath.wustl.edu/people/gregory-knese>)

PhD, Washington University  
Complex function theory, operators; harmonic analysis

**Nan Lin** ([http://wumath.wustl.edu/people/lin\\_nan](http://wumath.wustl.edu/people/lin_nan))

PhD, University of Illinois at Urbana-Champaign  
Statistics

**Jack Shapiro** ([http://wumath.wustl.edu/people/shapiro\\_jack](http://wumath.wustl.edu/people/shapiro_jack))

PhD, City University of New York  
Algebraic K-theory

**Ari Stern** ([http://wumath.wustl.edu/people/stern\\_ari](http://wumath.wustl.edu/people/stern_ari))

PhD, California Institute of Technology  
Geometric numerical analysis, computational mathematics

## Assistant Professors

**Laura Escobar Vega** (<http://wumath.wustl.edu/people/laura-escobar-vega>)

PhD, Cornell University  
Combinatorics and algebraic geometry

**Steven Frankel** (<http://wumath.wustl.edu/people/steven-frankel>)

PhD, University of Cambridge  
Geometric topology and dynamics

**Todd Kuffner** ([http://wumath.wustl.edu/people/kuffner\\_todd](http://wumath.wustl.edu/people/kuffner_todd))

PhD, Imperial College London  
Statistics; likelihood and asymptotics, econometrics

**Martha Precup** (<http://wumath.wustl.edu/people/martha-precup>)

PhD, University of Notre Dame  
Applications of Lie theory to algebraic geometry and the related combinatorics

**Yanli Song** (<http://wumath.wustl.edu/people/yanli-song>)

PhD, Pennsylvania State University  
Noncommutative geometry, symplectic geometry and representation theory

## Visiting Assistant Professor

**Liberty Vittert** (<http://wumath.wustl.edu/people/liberty-vittert>)

PhD, University of Glasgow  
Shape analysis, face recognition

## Professors Emeriti

**William M. Boothby** ([http://wumath.wustl.edu/people/boothby\\_william-m](http://wumath.wustl.edu/people/boothby_william-m))

PhD, University of Michigan  
Differential geometry

**Lawrence Conlon** ([http://wumath.wustl.edu/people/conlon\\_lawrence](http://wumath.wustl.edu/people/conlon_lawrence))

PhD, Harvard University  
Differential topology

**Ron Freiwald** ([http://wumath.wustl.edu/people/freiwald\\_ron](http://wumath.wustl.edu/people/freiwald_ron))

PhD, University of Rochester  
General topology

**Gary R. Jensen** ([http://wumath.wustl.edu/people/jensen\\_gary-r](http://wumath.wustl.edu/people/jensen_gary-r))

PhD, University of California, Berkeley  
Differential geometry

**Robert McDowell** ([http://wumath.wustl.edu/people/mcdowell\\_robert](http://wumath.wustl.edu/people/mcdowell_robert))  
PhD, Purdue University  
General topology

**Richard Rochberg**  
PhD, Harvard University  
Complex analysis, interpolation theory

**Guido L. Weiss** ([http://wumath.wustl.edu/people/weiss\\_guido-l](http://wumath.wustl.edu/people/weiss_guido-l))  
PhD, University of Chicago  
Interpolation of operators; harmonic analysis, Lie groups

**Edward N. Wilson** ([http://wumath.wustl.edu/people/wilson\\_edward-n](http://wumath.wustl.edu/people/wilson_edward-n))  
PhD, Washington University  
Harmonic analysis, differential geometry

**David Wright** ([http://wumath.wustl.edu/people/wright\\_david](http://wumath.wustl.edu/people/wright_david))  
PhD, Columbia University  
Affine algebraic geometry; polynomial automorphisms

## William Chauvenet Postdoctoral Lecturers

**Yakov Berchenko-Kogan** (<http://wumath.wustl.edu/people/yakov-yasha-berchenko-kogan>)  
PhD, Massachusetts Institute of Technology  
Geometric analysis, numerical analysis

**Patricio Gallardo** (<http://wumath.wustl.edu/people/patricio-gallardo>)  
PhD, Stony Brook University  
Algebraic geometry

## Postdoctoral Lecturers

**Tyler Bongers** (<http://wumath.wustl.edu/people/tyler-bongers-0>)  
PhD, Michigan State University  
Harmonic analysis, geometric measure theory, quasiconformal maps

**Nicholas Syring** (<http://wumath.wustl.edu/people/nicholas-syring>)  
PhD, University of Illinois at Chicago  
Bayesian and Gibbs posterior inference, inferential models

## Lecturers

**Silas Johnson** (<http://wumath.wustl.edu/people/silas-johnson>)  
PhD, University of Wisconsin-Madison  
Algebraic number theory, arithmetic statistics

**Jenny Shrensker**  
MFA, Washington University in St. Louis

## Associate Director of Undergraduate Studies

**Blake Thornton** ([http://wumath.wustl.edu/people/thornton\\_blake](http://wumath.wustl.edu/people/thornton_blake))  
PhD, University of Utah  
Geometric topology

## Program Coordinator

**Lisa M. Kuehne** ([http://wumath.wustl.edu/people/kuehne\\_lisa](http://wumath.wustl.edu/people/kuehne_lisa))  
Program Coordinator, University College & Center for Advanced Learning  
AM Mathematics, Washington University  
Undergraduate mathematics education

## Degree Requirements Master of Arts (AM) in Mathematics

**General requirements:** The minimum residence requirement is one full academic year of graduate study. There are 36 semester hours of graduate-level course work required, with or without a thesis; 6 units may be for thesis research. If the department consents, a student may transfer up to 6 hours from other universities. A grade point average of B or better must be maintained in graduate course work.

**Course requirements:** There are four basic graduate course sequences in pure mathematics: Math 5021–5022, 5031–5032, 5041–5042 or 5043, and 5051–5052. A candidate for the AM in Mathematics must include two of these sequences (12 hours) in the required 36 hours. The student, in consultation with their advisor, selects the remaining 24 hours according to the student's interests and needs.

**The AM examination:** Candidates for the AM degree must pass at least four of the nine semester-long PhD qualifying exams. Under exceptional circumstances, the graduate committee may allow the student to substitute the PhD qualifying exams mentioned above with a comprehensive examination on the contents of Math 411–412, 417–418, and 429–430.

## Master of Arts (AM) in Statistics

**General requirements:** 36 units of courses and an optional thesis. 3 units may be for thesis research. The minimum residence requirement is one full academic year of graduate study. A grade point average of B or better must be maintained in graduate courses.

**Optional thesis requirements:** To be eligible for the thesis option, a student must maintain a cumulative grade point average 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 mathematics or their equivalents:

One of the following two sequences:

Required	Units
Probability; Mathematical Statistics or Theory of Statistics I & II	6

plus:

Required	Units
Linear Statistical Models	3
Advanced Linear Statistical Models	3
Bayesian Statistics	3
Statistical Computation	3

or a suitable substitute elective approved by the department

In the case that an equivalent course has been taken and also proficiency in the course material has been demonstrated, other 400-level and above electives may be substituted in consultation with the adviser. Additional 400-level or higher electives will be chosen by the student in consultation with their adviser to make up the 36 units.

## PhD in Mathematics

No one can earn a doctorate merely by completing a specified course of study; the doctoral candidate must demonstrate high scholarship and the ability to perform significant original research in mathematics.

**General requirements:** Completion of the PhD requires four full years of graduate study (72 hours), with 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 maximum of 24 graduate credits from other universities. The typical course load is 9 credit hours per semester. A grade point average of B or better is required in graduate course work.

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 the satisfactory performance of duties.

For the well-prepared student, "normal progress" usually means the following:

- At the end of the second year, the student has successfully completed the specific course requirements and passed six qualifying exams.
- At the end of the third year, the student has successfully completed the candidacy requirement.

- At the end of the fourth year, the student has completed the 72-hour course requirement and is making substantial progress on a thesis.

Students must also complete the Teaching Seminar course (L24 597). This course prepares them for both Assistant to the Instructor work and academic teaching duties, which are integral to all scholarly activities. The course spans three semesters, usually starting in the second semester. Each student will have departmental duties (e.g., grading, proctoring) of no more than 12 hours per week as Assistant to the Instructor.

Please note that the sequence outlined above is for "well-prepared" students. The exact point at which any student enters the sequence depends upon 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 hours of course work must include eight of the following nine courses: Math 5031–5032 (Algebra I and Algebra II), Math 5051–5052 (Real Analysis and Functional Analysis), Math 5021–5022 (Complex Analysis I & II), Math 5041–5042 (Smooth Manifolds and Differential Geometry), and Math 5043 (Algebraic Topology). Students may omit one of the following classes when satisfying the course requirement: Math 5022, 5042, or 5052. To satisfy the breadth requirement, the student must pass the required courses with a B or better. The classes are typically offered in the following time frame:

Fall: Algebra I, Real Analysis, Complex Analysis I, Algebraic Topology, Smooth Manifolds

Spring: Algebra II, Functional Analysis, Complex Analysis II, Differential Geometry

In exceptional circumstances, departmental permission may be requested to replace a required course with a suitable alternative. The student may also petition the department to waive one or more of these courses because of work done 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 the English Language Program at the International Office will recommend taking 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 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: 5021, 5022, 5031, 5032, 5041, 5042, 5043, 5051 and 5052. 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 Math 5021, 5022, 5051 or 5052; two be from Math 5041, 5042 or 5043; and two be from Math 5031 and 5032. 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 sometimes happens with students who transfer from other PhD programs or who come from certain foreign countries. Such students may formally petition the chairman 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 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 body of literature related to this topic. The student will prepare a one-hour oral presentation related to the topics 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. This 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, please consult the Graduate School forms (<https://graduateschool.wustl.edu/forms>). A sample thesis TeX file and style file can be found in the Department of Mathematics and Statistics Essential Math Links (<http://wumath.wustl.edu/links>).

## PhD in Statistics

### Degree Requirements Summary

A total of 72 graduate units are required, consisting of the following:

- 24 required course work units total in fundamental topics and exam fields
- 12 elective course work units
- 3 qualifying exams: 2 in statistics, 1 in mathematics
- Graduate School Teaching Requirement for PhD Students
- Oral presentation
- Dissertation research, thesis preparation, and defense (30 course work units)

**General requirements:** Completion of the PhD requires four full years of graduate study (72 hours), with 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 maximum of 24 graduate credits from other universities. The typical course load is 9 credit hours per semester. A grade point average of B 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 Math 5061–5062 and Math 439–4392 as well as the mathematical qualifying exam associated with Math 5051–5052. They have also completed the courses Math 459 and Math 475.
- 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-hour course requirement and is making substantial progress on a thesis.

Students must also complete the Teaching Seminar course (L24 597). This course prepares them for both Assistant to the Instructor work and academic teaching duties, which are integral to all scholarly activities. The course spans three semesters, usually starting in the second semester. Students will have departmental duties (e.g., grading, proctoring) of no more than 12 hours per week as Assistant to the Instructor.

Please note that the sequence outlined above is for "well-prepared" students. The exact point at which any student enters the sequence depends upon 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 hours of course work must include two basic graduate-level sequences in statistics: Math 5061 Theory of Statistics I–Math 5062 Theory of Statistics II and Math 439 Linear Statistical Models–Math 4392 Advanced Linear Models; the following statistics courses: Math 459 Bayesian Statistics and Math 475 Statistical Computation; and the following graduate-level mathematics sequence: Math 5051–5052. 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 done previously.

Prerequisites, if needed, are advanced undergraduate courses in abstract 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 three 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 Mathematics and Statistics 400- and 500-level statistics electives, and they may also take reading courses with statistics faculty members (Math 500/Math

590). Statistics electives offered by the department include the following:

Code	Title	Units
Math 420	Experimental Design	3
Math 434	Survival Analysis	3
Math 449	Numerical Applied Mathematics	3
Math 456	Financial Mathematics	3
Math 459	Bayesian Statistics	3
Math 460	Multivariate Statistical Analysis	3
Math 461	Time Series Analysis	3
Math 462	Mathematical Foundations of Big Data	3
Math 475	Statistical Computation	3
Math 495	Stochastic Processes	3
Math 551	Advanced Probability I	3
Math 552	Advanced Probability II	3
Math 523C	Information Theory and Statistics (ESE 523)	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 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
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
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
MSB M19-550	Randomized Controlled Trials	3
MSB M21-623	Advanced Topics in Biostatistics	3
Econ 5145	Advanced Theoretical Econometrics	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 the English Language Program at the International Office will recommend taking 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 three 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, Math 5061–5062 and Math 439–4392, and in the mathematics sequence Math 5051–5052. Each spring, at the end of the Math 5061–5062 and Math 439–4392 sequences, all students enrolled in the course 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. In the case of the Math 5051–5052 sequence, to satisfy the qualification examination requirement, the student must pass the final exam for the course with an A- or better.

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 sometimes happens with students who transfer from other PhD programs or who come from certain foreign countries. Such students may formally petition the chairman 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. The candidacy requirement is designed to expedite this process. Along with a committee of at least two faculty members, the student selects one major and one minor topic and a body of literature dealing with each. The student then usually spends a semester studying the selected material. At the end of this period, the student demonstrates mastery of the two selected topics by means of satisfactory oral expositions to a faculty committee. One member of this committee will in all likelihood become the student's thesis advisor and may have already agreed to be the advisor. The preparatory work for the presentation 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. This 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, please consult the Graduate School forms (<https://graduateschool.wustl.edu/forms>). A sample thesis TeX file and style file can be found in the Department of Mathematics and Statistics Essential Math Links (<http://wumath.wustl.edu/links>).

## Movement Science

The **PhD in Movement Science** is an interdisciplinary program designed to prepare students for productive research careers in academia and industry. The program offers training to investigators who seek to answer questions about human movement, its functions and dysfunctions. The program is organized around three core content areas: biocontrol (neuroscience), bioenergetics (exercise physiology) and biomechanics. Our students are trained to investigate and improve movement impairments in people with chronic diseases

such as obesity, stroke, diabetes, neuropathy, Parkinson's disease, and low back pain.

The Movement Science Program is administered through the Program in Physical Therapy. Applicants come from a variety of academic backgrounds: physical therapy, exercise science, kinesiology, biomedical engineering, neuroscience and occupational therapy. Students learn from, and collaborate with, scientists from multiple departments, such as anesthesiology, medicine, psychiatry, orthopedics, biomedical engineering, psychology, neurology and biology.

Accepted students receive full tuition remission, a stipend, and health insurance. The Movement Science Program is supported by NIH training grant T32HD007434.

**Contact:** Jennifer Brown  
**Phone:** 314-273-6067  
**Email:** jennifer.brown@wustl.edu  
**Website:** <https://pt.wustl.edu/education/phd-in-movement-science>

## Faculty

### Chair

**Gammon M. Earhart** (<https://pt.wustl.edu/faculty-staff/faculty/gammon-m-earhart-pt-phd>)  
Professor  
PhD, Washington University  
Neural control of locomotion in people with Parkinson's disease

### Professors

**W. Todd Cade** (<https://pt.wustl.edu/faculty-staff/faculty/w-todd-cade-pt-phd>)  
PhD, University of Maryland, Baltimore  
Mechanisms and treatments of metabolic diseases

**B. Ruth Clark** (<https://pt.wustl.edu/faculty-staff/faculty/b-ruth-clark-pt-phd>)  
PhD, Saint Louis University  
Promotion of nutrition and exercise in urban residents

**Joseph W. Klaesner** (<https://pt.wustl.edu/faculty-staff/faculty/joseph-w-klaesner-phd>)  
PhD, Vanderbilt University  
Rehabilitation engineering

**Catherine E. Lang** (<https://pt.wustl.edu/faculty-staff/faculty/catherine-lang-pt-phd>)  
Associate Director, Movement Science Program  
PhD, Washington University  
Stroke recovery and rehabilitation; neurorehabilitation

**Michael J. Mueller** (<https://pt.wustl.edu/faculty-staff/faculty/michael-j-mueller-pt-phd-fapta>)  
PhD, Washington University  
Metabolic and movement factors in people with diabetes mellitus (DM)

**Susan B. Racette** (<https://pt.wustl.edu/faculty-staff/faculty/susan-b-racette-phd>)  
PhD, University of Chicago  
Dietary and exercise interventions for health promotion and disease prevention

**Linda R. Van Dillen** (<https://pt.wustl.edu/faculty-staff/faculty/linda-van-dillen-pt-phd>)  
PhD, Washington University  
Musculoskeletal pain problems in the low back, hip and neck

### Assistant Professors

**Michael Harris** (<https://pt.wustl.edu/faculty-staff/faculty/mike-harris-phd>)  
PhD, University of Utah  
Whole body & joint-level orthopaedic biomechanics

**Gretchen A. Meyer** (<https://pt.wustl.edu/faculty-staff/faculty/gretchen-a-meyer-phd>)  
PhD, University of California, San Diego  
Mechanical and cellular contributors to skeletal muscle disease

**Diana C. Parra Perez** (<https://pt.wustl.edu/faculty-staff/faculty/diana-c-parra-perez-mpt-phd>)  
PhD, Washington University  
Physical activity and healthy diets and their role in preventing chronic disease and obesity

## Degree Requirements

### PhD in Movement Science

Students will complete the required courses and electives during the first two years. In addition to courses, the requirements to complete the PhD degree include:

- **Qualifying examination:** Part one of the qualifying exam is a written test to assess the knowledge about the three curriculum cores (biocontrol, bioenergetics and biomechanics). Part two requires the student to develop a research proposal pertinent to their projected area of dissertation research.
- **Laboratory research:** Students will develop, implement and complete original laboratory research appropriate for a doctoral dissertation.
- **Doctoral dissertation:** Students will successfully defend an oral defense of their dissertation proposal, complete a written doctoral dissertation, and defend an oral presentation of the doctoral dissertation.

On average, students complete the degree in 4.5 years.

## 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 each student is assured individual attention. There is traditionally close rapport and mutually supportive interaction 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 Turkish and other Middle Eastern 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 program. Diverse opportunities for performance are offered as well.

The **AM and PhD programs in music theory** focus on 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 artsong.

**Contact:** Kim Daniels  
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**Email:** daniels@wustl.edu  
**Website:** <http://music.wustl.edu/graduate>

## Faculty

### Chair

**Todd Decker** (<http://music.wustl.edu/people/decker>)  
PhD, University of Michigan

### Endowed Professor

**Dolores Pesce** (<http://music.wustl.edu/people/pesce>)  
Avis Blewett Professor of Music  
PhD, University of Maryland

### Professors

**Todd Decker** (<http://music.wustl.edu/people/decker>)  
PhD, University of Michigan

**Jeffrey Kurtzman** (<http://music.wustl.edu/people/kurtzman>)  
PhD, University of Illinois

### Associate Professors

**Patrick Burke** (<http://music.wustl.edu/people/burke>)  
PhD, University of Wisconsin

**Robert Snarrenberg** (<http://music.wustl.edu/people/snarrenberg>)  
PhD, University of Michigan

**Paul Steinbeck** (<http://music.wustl.edu/people/steinbeck>)  
PhD, Columbia University

### Assistant Professors

**Clare Bokulich** (<http://music.wustl.edu/people/bokulich>)  
PhD, Stanford University

**Ben Duane** (<http://music.wustl.edu/people/duane>)  
PhD, Northwestern University

**Christopher Stark** (<http://music.wustl.edu/people/stark>)  
DMA, Cornell University

**Alexander Stefaniak** (<http://music.wustl.edu/people/stefaniak>)  
PhD, Eastman School of Music

### Professor of the Practice

**William Lenihan** (<http://music.wustl.edu/people/lenihan>)  
BMus, University of Missouri-Columbia

### Senior Lecturer

**Christine Armistead** (<http://music.wustl.edu/people/armistead>)  
MM, Washington University

### Lecturers

**Nicole Aldrich** (<http://music.wustl.edu/people/aldrich>)  
DMA, University of Maryland

**Amanda Kirkpatrick** (<http://music.wustl.edu/people/kirkpatrick>)  
MM, University of Missouri-Columbia

**L.J. White** (<http://music.wustl.edu/people/white>)  
PhD, Northwestern University

### Postdoctoral Research Associate

**Esther Kurtz**  
PhD, Brown University

### Professors Emeriti

**Hugh Macdonald**  
PhD, Cambridge University

**Craig Monson**  
PhD, University of California, Berkeley

**Robert Wykes**  
DMA, University of Illinois

## Degree Requirements

### 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.

### 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, 1 unit of pedagogy, 6 units outside music, and 20 units of electives and dissertation research. Also required are keyboard proficiency, reading knowledge of two foreign languages (German and either French, Italian, Latin, or a substitute, according to the student's needs), 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.

### 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.

### PhD in Music (music theory)

The PhD degree in music theory requires a total of 72 units of graduate study, including 24 units of music theory, 15 units of music history and bibliography, 6 units of composition, 1 unit of pedagogy, 6 units outside music, and 20 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 need), written and oral qualifying examinations, and a dissertation with a 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.

## Philosophy

The Department of Philosophy houses two doctoral programs: a **PhD in Philosophy** and an interdisciplinary **PhD in Philosophy-Neuroscience-Psychology** (PNP). The Philosophy program covers a broad array of philosophy, with particular strengths in ethics, moral psychology, and political philosophy; philosophy of mind, philosophy of language, philosophy of science, and metaphysics; and the history of philosophy. The PNP program

draws on a core faculty in philosophy and on Washington University's exceptional psychology and neuroscience faculty.

The department accepts about 10 percent of the applicants to these programs and maintains about 25 students in both programs. We are especially open to interdisciplinarity and are committed to providing methodologically and substantively broad philosophical development. Applicants from a wide range of backgrounds are welcome; the most successful applicants have evidence of philosophical talent and promise.

Both programs take at most six years, during which all PhD students are fully supported. The first six or seven semesters are dedicated primarily to courses, which may include independent studies and courses in other programs, such as classics, law, political science, and women's studies. Students in their first seven semesters must also complete two qualifying papers that bridge the gap between seminar papers and professional publications. In addition, the department houses two dissertation workshops, one required for Philosophy students in their third year and beyond and the other for PNP students in all years. Students in their fourth year finish their third qualifying paper, devise a dissertation prospectus, and defend the prospectus in an oral exam. Then, the fifth year typically offers fellowship support to draft the full dissertation, before a sixth year is given over to revisions, a required colloquium, and job applications.

The department also works hard to prepare its students as teachers and as potential academic job applicants. Students are required to participate in mentored teaching experiences for two of their six years in residence, and may serve as instructor of record for their own courses in University College or Summer School. Placement efforts begin during the first-years' orientation and intensify in the spring of the student's fifth year.

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PhD, Brandeis University

## Professors Emeriti

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**Carl P. Wellman** (<http://philosophy.artsci.wustl.edu/people/carl-wellman>)  
Hortense and Tobias Lewin Distinguished Professor Emeritus in the Humanities  
PhD, Harvard University

## Degree Requirements

### PhD in Philosophy-Neuroscience-Psychology (PNP)

Successful completion of 72 units of courses and seminars at the 400 level or above (with the exception of Phil 301G Symbolic Logic) in a way that meets both the detailed course requirements and the following minima:

1. 33 units of Philosophy courses
2. 18 units of empirical courses/laboratory experience
3. Participation in the PNP Dissertation Seminar (PNP 501) in semesters when it is offered
4. Regular attendance at Philosophy PNP Colloquia, except with the permission of the director of PNP
5. Successful completion of two qualifying papers
6. Completion of teaching experiences
7. Satisfaction of any colloquium requirement imposed by the department
8. Completion and defense of a dissertation prospectus (typically during the fourth year)
9. Completion and defense of a dissertation

### Additional Information

For additional information, visit our PNP Graduate Program (<http://pnp.artsci.wustl.edu/graduate>) webpage. Please contact the department for further requirements.

### PhD in Philosophy

1. Every student must complete the logic requirement, either by passing the exam given during orientation or by receiving at least a B in Phil 301G Symbolic Logic or Phil 405 Philosophical Logic.
2. Every student must complete at least 42 units of graduate-level (400-level or above) philosophy courses, each with at least a B-. No units can be transferred from other institutions.

These units must include the following distribution requirements:

- a. Phil 502 Proseminar in Philosophy, taken in the first semester
  - b. at least two additional 500-level seminars
  - c. at least two core surveys in theoretical philosophy (Phil 4141 Advanced Epistemology, Phil 4142 Advanced Metaphysics, Phil 4065 Advanced Philosophy of Language, Phil 4210 Topics in Advanced Philosophy of Science)
  - d. at least two core surveys in practical philosophy (Phil 4315 Normative Ethical Theory, Phil 4310 20th-Century Metaethics, Phil 4320 British Moralists, Phil 4400 Advanced Social and Political Philosophy)
  - e. at least one core survey in ancient philosophy (Phil 451 Plato, Phil 452 Aristotle, Phil 4530 Hellenistic Philosophy)
  - f. at least one core survey in modern philosophy (Phil 4550 Continental Rationalism, Phil 4560 Empiricism, Phil 4575 Kant's Moral Theory, Phil 4570 Kant's Critique of Pure Reason)
3. Additional courses or directed research to 72 hours (at the 400 or 500 level; may consist of directed research Phil 591 or additional, germane courses)
  4. Completion of teaching experiences
  5. Successful completion of two qualifying papers
  6. Completion of dissertation requirements
  7. Completion of colloquium requirements

### Additional Information

For additional information, visit our Philosophy Graduate Program (<http://philosophy.artsci.wustl.edu/graduate>) webpage. Please contact the department for further requirements.

### Physics

The Department of Physics offers **Master of Arts (AM) and Doctor of Philosophy (PhD) programs in Physics**. Research covers a wide area of experimental and theoretical physics, and benefits from close contacts with nuclear and inorganic chemists in the chemistry department, planetary scientists in the earth and planetary sciences department, applied scientists in the School of Engineering & Applied Science 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 and the Institute of Materials Science & Engineering.

Experimental research areas include:

- astrophysics (observations of cosmic rays, gamma rays, X-rays, dark matter detection, high-precision tests of gravity)

- space sciences (laboratory analysis of meteorites, stardust, interplanetary dust particles)
- condensed matter and materials physics (graphene and other two-dimensional atomic crystals, quantum information and atomic physics with condensed matter devices, nanostructured materials, metallic glasses and liquids, magnetism and superconductivity, high-pressure physics, nuclear magnetic resonance)
- biophysics (computational neurophysics, systems cell biology).

Theoretical research areas include:

- biophysics (nonequilibrium dynamics in biological cells, theory of the microbiome)
- condensed matter physics (strongly correlated electron systems, topological phases, excited states of many-electron systems, density functional theory and glasses)
- elementary particle physics (astroparticle physics, dark matter, theoretical cosmology, strong interactions, non-Hermitian Hamiltonians, quark physics beyond the Standard Model)
- nuclear theory (nuclear matter, correlations in nuclei).

Students are usually admitted to the PhD program rather than to the AM. They spend their first two years taking graduate courses, finding a dissertation adviser, and starting research. During that time they 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, 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

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PhD, Harvard University  
Nuclear/particle physics

### Endowed Professors

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Condensed matter and materials physics

### Professors

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PhD, California Institute of Technology

## Degree Requirements

### Master of Arts (AM) and PhD in Physics

This document summarizes the physics department's degree requirements. These are in addition to the requirements established by the Graduate School. For more information

regarding requirements for doctoral degrees (p. 15) or master's degrees (p. 21) in the Graduate School, please visit the appropriate sections of this *Bulletin*.

## Requirements for AM in Physics

### 36-unit academic credit course requirement

Courses that count toward academic credit:

- Any regular 400- or 500-level lecture courses in the physics department, including Physics 597/598 Supervised Teaching of Physics and Physics 582 Research Seminar
- Courses outside the physics department, if approved by the Master's Program director
- Reading courses, for which students should register for Physics 589/590 Selected Topics in Physics
- Supervised research, for which students should register for Physics 593/594 Introduction to Methods in Physics. This can be used for a maximum of 6 units of academic credit.

Students can take up to six 400-level physics classes toward their academic credit without special permission from the graduate studies committee. However, they should discuss the merits of doing so with their adviser.

### Core course requirements

For qualification, students must pass five core 500-level physics courses. In those courses, the student must maintain an average of a B (GPA 3.0), with no more than one grade lower than B-. A given core course may be taken only once. If more than five courses are taken, the average will be determined from the best five course grades.

#### Must take:

Required	Units
Classical Electrodynamics I	3
Quantum Mechanics I	3
Statistical Mechanics	3

#### plus at least two of:

Required	Units
Methods of Theoretical Physics I	3
Classical Electrodynamics II	3
Classical Mechanics <b>or</b> Nonlinear Dynamics	3
Quantum Mechanics II	3

## Requirements for PhD in Physics

### Outline of requirements

- Complete 36 units of academic credit (detailed below), maintaining an average grade of at least B (GPA 3.0).

- Pass the PhD qualification procedure. This must be done before a student can formally join a research group, and is normally completed before the start of the third year.
- Teaching requirements.
- Write a thesis ("doctoral dissertation").
- Pass an oral dissertation defense examination.

### 36-unit academic credit course requirement

Courses that count toward academic credit:

- Any regular 400- or 500-level lecture courses in the physics department, including Physics 597/598 Supervised Teaching of Physics and Physics 582 Research Seminar
- Courses outside the physics department, if approved by the student's adviser and the director of graduate studies
- Reading courses, for which students should register for Physics 589/590 Selected Topics in Physics
- Supervised research, for which students should register for Physics 593/594 Introduction to Methods in Physics. This can be used for a maximum of 6 units of academic credit.

Students can take up to four 400-level physics classes toward their academic credit without special permission from the graduate studies committee. However, they should discuss the merits of doing so with their adviser.

### 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 (GPA 3.0), 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 average will be determined from the best six grades.

#### Must take:

Required	Units
Theoretical Physics	3
Classical Electrodynamics I	3
Quantum Mechanics I	3
Statistical Mechanics	3

#### plus at least two of:

Required	Units
Methods of Theoretical Physics II	3
Classical Electrodynamics II	3
Classical Mechanics <b>or</b> Nonlinear Dynamics	3
Quantum Mechanics II	3

These requirements can be modified or waived for students with previous graduate experience, e.g., a master's degree in physics.

### PhD qualification: oral examination requirement

To qualify, the student must give a presentation to a committee of three physics faculty members (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 answer 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 be either 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 chairman 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 Graduate School:

- **Take L31 Physics 597:** Graduate students are required to take L31 Physics 597 Supervised Teaching of Physics prior to serving as an assistant in instruction. Students typically take Physics 597 in their first fall semester.
- **At least two semesters of mentored teaching experiences**
- **Four hours of oral presentations:** Graduate students must give a total of 4 hours of "specialized oral presentation." For example, 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.

### For dissertation requirements, including the oral defense of the dissertation:

Please refer to the Graduate School's Doctoral Dissertation Guide on the Graduate School website (<https://graduateschool.wustl.edu/sites/graduateschool.wustl.edu/files/Doctoral%20Dissertation%20Guide%202018.pdf>).

## Political Science

The doctoral program in political science at Washington University is one of the top 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 eight to 10 students into the PhD program each year, and most of these complete the doctorate, generally 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. While our program stresses the importance of political methodology (applied statistics) and formal theory (game theory and mathematical modeling), 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 at Washington University, including economics, anthropology, the law school, and with various interdisciplinary research centers on campus.

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## Faculty

### Chair

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PhD, Stanford University

## Degree Requirements

### PhD in Political Science

Students in the PhD program are expected to acquire:

- a broad understanding of several fields of political science as a discipline,
- methodological competence sufficient to be productive professionals, and
- specialized expertise in a particular field of concentration.

The procedures and requirements described below are designed to facilitate achievement of those 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 (<http://polisci.wustl.edu/graduate>).

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 — with a grade of B or better — the following core courses:

- Math Camp: August before first semester
- Mathematical Modeling in Political Science (5052): first semester
- Research Design (540): first semester
- Quantitative Methods I (581): second semester
- Game Theory (505): second semester
- Quantitative Methods II (582): third semester
- Research Workshop I and II (TBD): a year-long course taken in student's fifth and sixth semesters

According to the Probation and Dismissal Policy, if a student fails to obtain a B in one of the required courses, they will be placed on probation and have the opportunity to retake the course in the following year. Failure to obtain a B the second time will result in dismissal from the program. Furthermore, failure to obtain a B 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 in the first two years. Students should plan to take four courses per semester in their first year and three courses per semester in their second year.

## Incompletes

Students are strongly discouraged from accumulating incompletes. The Graduate School prohibits more than 9 credit hours of incomplete. The department supports this policy and will consider the number of incompletes that students have accumulated in evaluating their work and in making decisions on financial support.

## Fields

The department divides the discipline of political science into six fields:

- American politics,
- comparative politics,
- formal theory,
- international politics,
- political and social theory, and
- quantitative methods.

Before writing the dissertation, students must pass a qualifying examination (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 five courses in that field with a grade B+ or better; a minor field requires completing three courses in that field with a grade 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 not beyond the student's sixth semester.

### The field requirements are as follows:

#### *American Politics:*

- Major: Students must satisfactorily (with a grade B+ or better) complete at least five graduate-level seminars in American politics, including American Political Institutions (520) and American Political Behavior (5678).
- Minor: Student must satisfactorily (with a grade B+ or better) complete at least three graduate-level seminars in American politics, including American Political Institutions (520) and American Political Behavior (5678).

#### *Comparative Politics:*

- Major: Student must satisfactorily (with a grade of B+ or better) complete at least five graduate-level seminars in comparative politics, including Approaches to Comparative Politics (510).
- Minor: Student must satisfactorily (with a grade of B+ or better) complete at least three graduate-level seminars in comparative politics, including Approaches to Comparative Politics (510).

#### *Formal Theory:*

- Major: Student must satisfactorily (with a grade of B+ or better) complete at least five graduate-level seminars in formal theory, including Game Theory (505), Seminar in Political Economy (5551), and three other 500-level courses requiring one of the above as a prerequisite or offered in the economics department.
- Minor: Students must satisfactorily (with a grade of B+ or better) complete at least three graduate-level seminars in formal theory, including Game Theory (505), Seminar in Political Economy (5551), and one other 500-level course requiring one of the above as a prerequisite or offered in the economics department.

#### *International Politics:*

- Major: Students must satisfactorily (with a grade of B+ or better) complete at least five graduate-level seminars in international politics. This includes the 500-level graduate sequence and 400- and 500-level political science and

economics courses authorized by the International Politics Committee.

- Minor: Students must satisfactorily (with a grade of B+ or better) complete at least three graduate-level seminars in international politics. The includes the 500-level graduate sequence and 400- and 500-level political science and economics courses authorized by the International Politics Committee.

#### *Political and Social Theory:*

- Major: Student must satisfactorily (with a grade of B+ or better) complete at least five graduate-level courses in political theory; the theory faculty recommends at least two of the History of Political Thought courses (5090, 5092, 5093) and at least two seminars in political theory.
- Minor: Students must satisfactorily (with a grade of B+ or better) complete at least three graduate-level courses in political theory authorized by the Political Theory Committee.

#### *Quantitative Methods:*

- Major: Student must satisfactorily (with a grade of B+ or better) complete at least five methods courses, including the required sequence (581 and 582) and additional elective methodology courses authorized by the Quantitative Methods Committee.
- Minor: Student must satisfactorily (with a grade of B+ or better) complete at least three methods courses, including the required sequence (581 and 582) 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 because of grades or for other reasons by the end of their fourth semester, then they will be placed on probation for one semester. Failure to meet the field requirements by the end of that semester results in dismissal from the program.

## Qualifying Exams

All students must take a qualifying exam covering all required courses (including math camp, math modeling, research design, quantitative methods I and II, and game theory). The exam is scheduled for the month of January before the start of the student's fourth semester. The aim of this exam is to ensure a minimum level of competence in basic research practices for all students. Successful completion of this exam does not satisfy requirements for methods, formal, or any other field.

The exam will include a technical component and an applied component. The latter will consist of analyzing a dataset to answer a substantive question. The substantive questions offered to the students will be related to the American, Comparative, and International Relations (IR) classes offered over the previous three semesters. The committee for the

qualifying exams is not field-specific and can include any of the tenured or tenure-track faculty.

The committee will assign grades of pass or fail, and students will be notified of the results of the exam by the DGS.

According to the Probation and Dismissal Policy, failing to pass this exam will result in the student being put on probation and a second exam administered two months later (in March) at a date specified by the DGS. Failing the retake will result in dismissal from the program.

## Research Paper Requirement

In their second and third year, students are 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 of submission to a peer-reviewed journal.

Students need to identify two advisers (i.e., research paper chair and 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 advisers (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 submit a form with advisers' signatures after the defense 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 committees 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" can be granted.

Students will enroll in a year-long Research Workshop in their third year. The fall semester of this 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 semester.

The Third-Year Committee will evaluate the quality of the research paper and its potential for submission and acceptance at a peer-reviewed journal. Students who received a "reject and resubmit" in 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 do so 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 decide about the final grade. The research paper chair and the reader(s) will inform the student and the DGS about 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 Committee consisting of at least three faculty members by the start of the fifth semester/January of their third year. Forming a committee requires selecting a dissertation chair and at least two other faculty members and submitting the Dissertation Committee Proposal Form, which consists of signatures of all committee members. With the assistance of the DGS, students will make sure the composition of the committee also meets the Graduate School requirements.

Students will enroll in a year-long Research Workshop in 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/end of 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 fail the defense will be put on probation and may re-define 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 NSF Dissertation Improvement Grant and 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* 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): Qualifying exam; submit Research 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 research paper
- Beginning of sixth semester (January): Resubmit and defend research paper; submit Dissertation Committee Proposal Form
- End of sixth semester: Defend Dissertation Prospectus (Resubmitted prospectus must be defended before the start of the seventh semester)

## Dissertation and Defense

The requirements for completion of the dissertation are described in the general Degree Requirements (<https://graduateschool.wustl.edu/degree-requirements-0>) by the Graduate School, which are applicable to all Washington University doctoral candidates.

## Graduation

Students need to graduate by May of their seventh 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 their seventh year. Failing that, they will be dismissed from the program.

## Foreign Language Requirement

There is no uniform foreign language requirement set by the Graduate School or by the department. The extent and substance of foreign language competence required shall be determined by the Graduate Committee in consultation with the student and their adviser.

## Mentored Teaching and Research Experience Responsibilities

Students collaborate with a faculty member in a mentored teaching experience (MTE) or in a mentored research experience or as a combination of the two, depending on their stage of development.

Mentored teaching responsibilities vary from course to course, but in all cases may 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.

Research experiences vary across faculty members, but in all cases consists of participating in research activities.

Graduate students are expected to participate in the mentored teaching experience an average of 13.5 hours per week. In some weeks this will be considerably less, and in other weeks (usually around midterms or finals) considerably more hours.

Faculty are expected to set expectations on the grading at the beginning of the semesters, and graduate students should plan accordingly for weeks of heavier grading or other responsibilities.

According to the Probation and Dismissal Policy, poor performance in fulfilling mentored teaching or research responsibilities will result in the student being placed on probation. Lack of improvement while on probation will result in dismissal from the program.

## Teaching Certification Requirement

All students need to meet the Graduate School's teaching requirement by the time they graduate. This requirement includes:

- 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 in graduate student recruitment, helping to organize in-house conferences (such as CPAC, etc.);
- Participating in an MTE for a "core" class in student's field of study (this includes intro classes, Quantitative Political Methods (QPM), or other classes considered "core" by the DGS);
- Giving at least one supervised guest lecture or presentation;
- Participating in the mentored teaching experience or teaching a class with regular interaction with students.

## 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 Psychology; 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, whereas students must affiliate with at least one of the areas within psychological and brain sciences, they are frequently affiliated with multiple areas within psychological and brain sciences. Further, many graduate students in Psychological & Brain Sciences 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 and 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 schools of Medicine and Engineering.

The Department of Psychological & Brain Sciences admits students for full-time study toward the **PhD** and does not offer a terminal 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, methods, ethics, and several core

content areas), a subject matter exam, at least two semesters of a teaching experience that fulfills 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**, 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. Further, 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 will provide 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 will require students to master both an introductory level and a more advanced level of quantitative skills and knowledge. Some of the introductory-level courses might 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 in order to achieve greater depth and breadth of 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 adviser and the Graduate Certificate in Quantitative Data Analysis program director (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 Graduate School office, and send a copy to the Graduate Certificate in Quantitative Data Analysis office.

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PhD, University of Illinois at Urbana-Champaign

**Lori Markson** (<http://psychweb.wustl.edu/markson>)  
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PhD, University of North Carolina at Chapel Hill

### Assistant Professors

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PhD, University of California, Berkeley

**Calvin Lai**  
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PhD, University of Illinois at Urbana-Champaign

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**Clara L. Wilkins**  
PhD, University of Washington

### Affiliated Faculty

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PhD, Virginia Commonwealth University  
(Psychiatry)

**Joe Barcroft** (<http://pages.wustl.edu/barcroft>)  
PhD, University of Illinois at Urbana-Champaign  
(Romance Languages and Literatures)

**Cindy Brantmeier** (<http://education.wustl.edu/people/cindy-brantmeier>)  
PhD, Indiana University  
(Education & Applied Linguistics)

**Robert Carney** (<http://www.psychiatry.wustl.edu/c/Faculty/FacultyDetails.aspx?ID=508>)  
PhD, Washington University  
(Psychiatry)

**Robert Cloninger** (<https://psychobiology.wustl.edu/people/cloninger.htm>)  
PhD, University of Gothenburg  
MD, University of Umea  
(Psychiatry)

**Maurizio Corbetta** (<http://www.nil.wustl.edu/labs/corbetta/about.html>)  
MD, University of Pavia  
(Neurology)

**James DuBois** (<https://publichealth.wustl.edu/scholars/james-m-dubois>)  
PhD, International Academy of Philosophy, Liechtenstein  
(Medicine)

**Hillary Eifenbein** (<http://www.olin.wustl.edu/EN-US/Faculty-Research/Faculty/Pages/FacultyDetail.aspx?username=helfenbein>)  
PhD, Harvard University  
(Business)

**Kenneth Freedland** (<http://www.psychiatry.wustl.edu/c/Faculty/FacultyDetails.aspx?ID=1730>)  
PhD, University of Hawaii  
(Psychiatry)

**Robert Fucetola** (<http://wuphysicians.wustl.edu/physician2.aspx?Physnum=2526>)  
PhD, Washington University  
(Neurology)

**Jason Hassenstab** (<https://neuro.wustl.edu/biographies/jason-hassenstab-phd>)  
PhD, Fordham University  
(Neurology)

**Andrew Heath** (<http://www.psychiatry.wustl.edu/Faculty/FacultyDetails?ID=56>)  
DPhil, Oxford University  
(Psychiatry)

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PhD, Washington University  
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PhD, Saint Louis University  
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PhD, Rutgers University  
(Philosophy)

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(Psychiatry)

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MD, University of Washington  
(Radiology)

**Eugene Rubin** (<http://psychiatry.wustl.edu/c/faculty/FacultyDetails.aspx?ID=200>)  
MD, PhD, Washington University School of Medicine  
(Psychiatry)

**Lawrence Snyder** ([http://dbbs.wustl.edu/faculty/Pages/faculty\\_bio.aspx?SID=3164](http://dbbs.wustl.edu/faculty/Pages/faculty_bio.aspx?SID=3164))  
MD, PhD, University of Rochester  
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PhD, Harvard University  
(Anatomy and Neurobiology)

**James V. Wertsch** ([http://anthropology.artsci.wustl.edu/wertsch\\_james](http://anthropology.artsci.wustl.edu/wertsch_james))  
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PhD, University of Missouri-Columbia

## Professors Emeriti

**Stanley Finger** (<http://psychweb.wustl.edu/finger>)  
PhD, Indiana University Bloomington

**Larry Jacoby** (<http://psychweb.wustl.edu/jacoby>)  
PhD, Southern Illinois University Carbondale

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**Michael Merbaum** (<http://psychweb.wustl.edu/merbaum>)  
PhD, University of North Carolina at Chapel Hill

**Anthony Schuham** (<http://psychweb.wustl.edu/schuham>)  
PhD, Washington University

**Martha Storandt** (<http://psychweb.wustl.edu/storandt>)  
PhD, Washington University

**Robert L. Williams** (<http://psychweb.wustl.edu/williams>)  
PhD, Washington University

## Degree Requirements

### 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 (<http://psychweb.wustl.edu/graduate>). Of note, students in the clinical science training program have somewhat different requirements; please refer to the Clinical Program Handbook (<http://psychweb.wustl.edu/graduate/clinical-psychology>) as well (available on the clinical program website). All students must:

- Complete required graduate-level courses (courses must be completed for a student to be considered ABD). A typical semester course load for the first two years is 12-13 credit hours, unless teaching or research responsibilities suggest a 9-10 credit hour load.
- 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 typically happens during the fall semester of a student's first or second year in the program.
- Attend at least five (5) professional development workshops over the entire course of the program.
- Complete a qualifying research project during the first two years of graduate study. This 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.

## Graduate Certificate in Quantitative Data Analysis

The goal of the certificate is to ensure that students have both a solid basis in probability and statistics as well as inference and quantitative research design, and some depth of experience

in a more advanced topic area. As such, students completing the certificate are required to take at least five courses. Consult the required course listings below. Of note, 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 adviser, students may substitute equivalent courses or more demanding mathematical treatments of the same course material. For programming prerequisites, visit our Quantitative Data Analysis website ([http://psychweb.wustl.edu/Graduate\\_Certificate\\_in\\_Quantitative\\_Data\\_Analysis](http://psychweb.wustl.edu/Graduate_Certificate_in_Quantitative_Data_Analysis)).

### Core Area Courses (at least one from each area)

#### Probability and Statistics

Code	Title	Units
L33 Psych 5066	Quantitative Methods I	3
L33 Psych 5067	Quantitative Methods II	3
S50 SWSA 5230	Applied Linear Modeling	
L32 Pol Sci 572	Quantitative Methods in Pol Analysis II: Linear Models (Generalized Linear Models)	3
L32 Pol Sci 581	Quantitative Political Methodology I	3
L32 Pol Sci 582	Quantitative Political Methodology II	3
L48 Anthro 5365	Problems in Applied Data Analysis	3
L11 Econ 508	Mathematics for Economics	3

#### Inference and Quantitative Research Design

Code	Title	Units
L32 Pol Sci 5024	Causal Inference	3
L33 Psych 5011	Research Designs and Methods	3
L12 Educ 503	Foundations of Educational Research	3
Math 420	Experimental Design (with graduate extension)	3

### Focus Area Courses (at least two from one of these three areas)

#### Longitudinal and Time-Series Data Analysis

Code	Title	Units
SWDT 6600	Multilevel and Longitudinal Modeling	3
SWDT 6905	Propensity Score Analysis	3
L33 Psych 5068	Hierarchical Linear Models	3
L33 Psych 5165	Applied Longitudinal Data Analysis	3
B54 MEC 661	Analysis of Time Series Data	3
L32 Pol Sci 584	Multilevel Models in Quantitative Research	3
MSB 618	Survival Analysis	3

#### Multivariate and Machine Learning Analysis

Code	Title	Units
L33 Psych 5012	Selected Topics in Design and Statistics	3
L33 Psych 516	Applied Multivariate Analysis	3
CSE 514A	Data Mining	3
CSE 517A	Machine Learning	3
Math 470	Analytic Combinatorics (with graduate extension)	3
L24 Math 535	Topics in Combinatorics	3
SWDT 6901	Structural Equation Modeling	3

#### Data Mining and Specialized Research Tools

Code	Title	Units
SWCD 5082	Foundations of Geographic Information Systems (GIS) for the Applied Social Sciences	3
CSE 514A	Data Mining	3
CSE 517A	Machine Learning	3
M21 MSB 550	Introduction to Bioinformatics	3
Math 459	Bayesian Statistics (with graduate extension)	3
CSE 316A	Social Network Analysis (with graduate extension)	3
L11 Econ 5161	Applied Econometrics	3

The fifth course can be from any of the three focus areas or can be a second course from the Probability and Statistics group.

## Public Health Sciences

The Brown School's **PhD program in Public Health Sciences** prepares students to think critically as public health scientists, succeed as independent investigators, and understand and address public health challenges for the nation and the world. It provides hands-on research experiences and mentoring from day one in the program; a curriculum that builds methodological and analytical skills, and deep knowledge of the field's theoretical and conceptual underpinnings, philosophy and history; and professional acculturation and network building.

Our doctoral program involves intense study in population health and social science research methods and personalized mentoring by some of the leading scholars in the field. Our faculty are on the forefront of research in health disparities, chronic disease prevention, epidemiology and biostatistics, global health, health policy, systems science, urban design and the built environment, dissemination and implementation science, and mental health. Our curriculum prepares students for leadership in research in a rapidly changing society. We provide a diversity of experience and faculty with a cross-section of interests that enhance transdisciplinary learning. We have created a collaborative and entrepreneurial community with a

strong commitment to conducting research that will have social impact.

A completed master's degree in public health, social work, or related social or health science is required of all applicants for admission. The deadline for applications to the PhD in Public Health Sciences is December 1 of the year preceding enrollment.

For additional information, please refer to the Doctoral Programs Viewbook (<https://brownschool.wustl.edu/Academics/PhD-in-Public-Health-Sciences/Pages/default.aspx>) on the Brown School website.

**Contact:** Elizabeth Hahn  
**Phone:** 314-935-3599  
**Email:** ehahn@wustl.edu  
**Website:** <https://brownschool.wustl.edu/academics/PhD-in-public-health-sciences>

## Faculty

### Dean

**Mary McKernan McKay** (<https://brownschool.wustl.edu/faculty-and-research/pages/mary-mckay.aspx>)  
Professor; Neidorff Family and Centene Corporation Dean of the Brown School  
PhD, University of Illinois at Chicago  
Child mental health services; HIV prevention and care; poverty

### Associate Dean for Doctoral Education

**Renee M. Cunningham-Williams** (<https://brownschool.wustl.edu/faculty-and-research/pages/renee-cunningham-williams.aspx>)  
Associate Professor; Director, NIDA T32 (TranSTAR) Pre- and Postdoctoral Training Program  
PhD, Washington University  
Epidemiological, prevention, and intervention research; health and mental health disparities; pathological gambling and comorbidity; risk taking, substance use and antisocial behaviors; crisis intervention

### Director, PhD Program in Public Health Sciences

**Douglas A. Luke** (<https://brownschool.wustl.edu/faculty-and-research/pages/douglas-luke.aspx>)  
Professor; Director, Center for Public Health Systems Science  
PhD, University of Illinois  
Systems science; evaluation of public health programs; tobacco control policy

## Endowed Professors

**Ross Brownson** (<https://brownschool.wustl.edu/faculty-and-research/pages/ross-brownson.aspx>)  
Bernard Becker Professor  
PhD, Colorado State University  
Evidence-based public health; dissemination and implementation research; chronic disease prevention

**Debra Haire-Joshu** (<https://brownschool.wustl.edu/faculty-and-research/pages/debra-haire-joshu.aspx>)  
Joyce Wood Professor  
PhD, Saint Louis University  
Obesity prevention; diabetes prevention; health policy

**Matthew Kreuter** (<https://brownschool.wustl.edu/faculty-and-research/pages/matthew-kreuter.aspx>)  
Kahn Family Professor of Public Health  
PhD, University of North Carolina at Chapel Hill  
Health communication; health disparities

**Vetta Sanders Thompson** (<https://brownschool.wustl.edu/faculty-and-research/pages/vetta-sanders-thompson.aspx>)  
E. Desmond Lee Professor of Racial and Ethnic Diversity  
PhD, Duke University  
Health and mental health disparities; cultural competency; race, identity and health

## Professors

**Timothy McBride** (<https://brownschool.wustl.edu/faculty-and-research/pages/timothy-mcbride.aspx>)  
PhD, University of Wisconsin-Madison  
Health policy; health economics; rural health care

**Rodrigo Reis** (<https://brownschool.wustl.edu/Faculty-and-Research/Pages/Rodrigo-Reis.aspx>)  
PhD, Federal University of Santa Catarina, Florianopolis, Brazil  
Physical activity; international health; urban design and health; transportation and health

## Associate Professors

**Derek Brown** (<https://brownschool.wustl.edu/faculty-and-research/pages/derek-brown.aspx>)  
PhD, Duke University  
Health economics; health policy

**Alexis Duncan** (<https://brownschool.wustl.edu/faculty-and-research/pages/alexis-duncan.aspx>)  
PhD, Saint Louis University  
Psychiatric and genetic epidemiology; obesity and eating disorders

**Amy Eyler** (<https://brownschool.wustl.edu/faculty-and-research/pages/amy-eyler.aspx>)  
PhD, Oregon State University  
Physical activity; childhood obesity; prevention policy

**Jenine Harris** (<https://brownschool.wustl.edu/faculty-and-research/pages/jenine-harris.aspx>)  
PhD, Saint Louis University  
Social network analysis; social media in public health

**Darrell Hudson** (<https://brownschool.wustl.edu/faculty-and-research/pages/darrell-hudson.aspx>)  
PhD, University of Michigan  
Social determinants of health; health disparities

**Lora Iannotti** (<https://brownschool.wustl.edu/faculty-and-research/pages/lora-iannotti.aspx>)  
PhD, Johns Hopkins University  
Child nutrition; infectious diseases; poverty pathways

**Kimberly Johnson** (<https://brownschool.wustl.edu/faculty-and-research/pages/kimberly-johnson.aspx>)  
PhD, University of Minnesota  
Human genetics and cancer; epidemiology

**Jason Purnell** (<https://brownschool.wustl.edu/faculty-and-research/pages/jason-purnell.aspx>)  
PhD, Ohio State University  
Health disparities; economic determinants of health

**Jean-Francois Trani** (<https://brownschool.wustl.edu/faculty-and-research/pages/jean-francois-trani.aspx>)  
PhD, Institut d'Etudes Politiques de Paris, France  
Global health; human rights; disabilities

## Degree Requirements

### PhD in Public Health Sciences

- 72 credit hours; 21 credits transferable from a relevant master's program
- Two years enrolled in full-time courses
- Complete and defend a dissertation
- Three teaching practicums for course credit
- Three research practicums for course credit

## Rehabilitation and Participation Science

The **Rehabilitation and Participation Science (RAPS) PhD** program aims to develop rehabilitation scientists whose research questions are chosen based explicitly on their potential to generate fundamental knowledge that will enhance health, improve quality of life, and reduce illness and disability. Our doctoral model is that of mentored research, wherein students devote the majority of their time to research activities beginning in the first semester and become increasingly independent. Students may choose their area of study to be in rehabilitation neuroscience, pediatric rehabilitation, outcome science, community health, and productive aging.

This program is designed to be completed in four to five years of full-time study. The maximum time allowed for completion

is seven years, and there is no provision for part-time study. A tuition stipend and fellowship is provided for up to five years.

Graduates of the RAPS PhD program will be prepared for careers as independent scientists and academicians in research universities, research institutes, or industry settings.

**Contact:** Abby King  
**Phone:** 314-286-1619  
**Website:** <http://ot.wustl.edu/education/phd-in-rehabilitation-and-participation-science-142>

## Faculty

### Chair

**Carolyn Baum** (<https://www.ot.wustl.edu/about/our-people/m-carolyn-baum-10>)  
Elias Michael Director and Professor of Occupational Therapy, Neurology, and Social Work  
PhD, Washington University

### Associate Professors

**Allison King** (<https://www.ot.wustl.edu/about/our-people/allison-king-48>)  
Associate Professor of Occupational Therapy, Medicine, Pediatrics, Surgery (Prevention and Medicine) and Education  
MD, University of Missouri  
MPH, Saint Louis University  
PhD, Saint Louis University

**Susy Stark** (<https://www.ot.wustl.edu/about/our-people/susan-stark-96>)  
Associate Professor of Occupational Therapy, Neurology and Social Work  
PhD, University of Missouri-Columbia  
MS, Washington University School of Medicine, Program in Occupational Therapy

### Assistant Professors

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Assistant Professor of Occupational Therapy, Neurology and Psychiatry  
PhD, Washington University, Program in Occupational Therapy

**Kerri Morgan** (<https://www.ot.wustl.edu/about/our-people/kerri-morgan-63>)  
Assistant Professor of Occupational Therapy and Neurology  
PhD, Washington University School of Medicine, Program in Physical Therapy

**Bobbi Pineda** (<https://www.ot.wustl.edu/about/our-people/bobbi-pineda-74>)  
Assistant Professor of Occupational Therapy and Pediatrics  
PhD, University of Florida

**Alex Wong** (<https://www.ot.wustl.edu/about/our-people/alex-wong-114>)

Assistant Professor of Occupational Therapy and Neurology  
PhD, Hong Kong Polytechnic University  
DPhil, University of Illinois at Urbana-Champaign

### Instructor

**Benjamin Philip** (<https://www.ot.wustl.edu/about/our-people/benjamin-philip-73>)  
Instructor in Occupational Therapy and Neurology  
PhD, Brown University

## Degree Requirements

### PhD in Rehabilitation and Participation Science (RAPS)

#### Applicant Background

RAPS PhD students may enter the program from a variety of clinical backgrounds. All students chose to pursue the RAPS PhD degree to generate knowledge to improve rehabilitation practices and thus people's lives through participation. Prior research experience is strongly encouraged.

#### Curriculum

Students must complete core courses, electives to enhance their learning, research in their mentor's laboratory, a qualifying exam and a dissertation. Prior graduate courses that explicitly meet the program requirements may be considered (syllabus must be submitted for review and approval of the RAPS PhD chair).

All RAPS PhD students will join faculty in a biweekly seminar where faculty and student research is presented and discussed. Presentations will also be made by Washington University faculty and visiting professors who will be invited to spend time with faculty and students.

#### Core Courses

- Theories, Models and Classifications of Rehabilitation and Participation Science (RAPS, 3 units)
- Biopsychosocial Factors Affecting Performance (RAPS, 3 units)
- Environmental Factors and Participation (RAPS, 3 units)
- Measurement Theory and Development (RAPS, 3 units)
- RAPS Seminar (RAPS, 1 unit)

Additional courses will be required in research design methods and graduate statistics.

#### Research Units

It is expected that all students will be involved in research beginning in their first semester and continuing through completion of the degree. Prior to completion of courses and the qualifying exam, each student is expected to spend at

least 15-20 hours per week actively engaged in research. After passing the qualifying exam, students are expected to focus full-time on their dissertation and other research projects. It is anticipated that these efforts will lead to refereed publications and the student becoming an independent scientist.

## Romance Languages and Literatures

The Department of Romance Languages and Literatures offers **PhD programs in French Language and Literature** and in **Hispanic Languages and Literatures**, preparing students for careers in university teaching and research. 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.

In both programs, students receive six years of funding (five if admitted with a master's degree) in the form of fellowships.

## Contact Information

For information on the combined degrees, PhD in French & Comparative Literature and PhD in Spanish & Comparative Literature, consult the Comparative Literature program (p. 47).

PhD program in French Language and Literature website (<http://rll.wustl.edu/french/grad>)

PhD program in Hispanic Languages and Literatures website (<http://rll.wustl.edu/spanish/grad>)

**Phone:** 314-935-5175

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## Faculty

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William H. Gass Professor in Arts & Sciences; Director of Latin American Studies Program  
PhD, University of Minnesota

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Randolph Family Professor in Arts & Sciences  
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## Professors

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PhD, Brown University

**Tabea Linhard** (<http://rll.wustl.edu/people/linhard>)  
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**Rebecca Messbarger** (<http://rll.wustl.edu/people/messbarger>)  
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PhD, University of Chicago

**Ignacio Sánchez-Prado** (<http://rll.wustl.edu/people/sanchez-prado>)  
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**Harriet A. Stone** (<http://rll.wustl.edu/people/stone>)  
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PhD, Cornell University

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PhD, University of Missouri-Columbia

## Associate Professors

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PhD, University of North Carolina at Chapel Hill

**Tili Boon Cuillé** (<http://rll.wustl.edu/people/tili-cuille>)  
Associate Professor of French  
PhD, University of Pennsylvania

**Nina Cox Davis** (<http://rll.wustl.edu/people/davis>)  
Associate Professor of Spanish  
PhD, Johns Hopkins University

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Associate Professor of Comparative Literature and Spanish  
PhD, Rutgers University

**Stephanie Kirk** (<http://rll.wustl.edu/people/kirk>)  
Associate Professor of Spanish  
PhD, New York University

**Eloísa Palafox** (<http://rll.wustl.edu/people/palafox>)  
Associate Professor of Spanish  
PhD, Michigan State University

**Julie Singer** (<http://rll.wustl.edu/people/singer>)  
Associate Professor of French  
PhD, Duke University

## Assistant Professors

**Javier García-Liendo** (<http://rll.wustl.edu/people/javier-garcia-liendo>)  
Assistant Professor of Spanish  
PhD, Princeton University

**Miguel Valerio** (<http://rll.wustl.edu/people/miguel-valerio>)  
PhD, Ohio State University

## Professor Emerita

**Elyane Dezon-Jones**  
Professor of French  
Doctorat de 3e Cycle, University of Paris

## Professors Emeriti

**Stamos Metzidakis** (<http://rll.wustl.edu/people/metzidakis>)  
Professor of French and Comparative Literature  
PhD, Columbia University

**Michel Rybalka**  
Professor of French  
PhD, University of California, Los Angeles

## Degree Requirements

Students in both programs take a required seminar in language teaching methodology, in addition to the requirements specified below. Optional pedagogical or interdisciplinary study can be acquired by means of one of the Graduate School's certificate programs.

## PhD in French Language and Literature

For the PhD in French Language and Literature, students take courses in all areas of French and Francophone studies, and may take up to two courses outside French, for a total of 60 credits at the graduate level. In their third semester, students take the AM exam. In the semester after they finish their courses, students take their PhD exams, consisting of three written examinations and one oral examination by the full faculty, followed by a dissertation prospectus defense before their thesis committee of three faculty members. Students then have approximately two years to complete research and writing of their dissertations, which they defend in the last semester of their programs.

## PhD in Hispanic Languages and Literatures

For the PhD in Hispanic Languages and Literatures, students take courses in all areas of Latin American and Iberian studies and may take up to two courses outside Spanish. In the third semester, students take a comprehensive exam that tests their knowledge of some 60 texts from all periods of Spanish and Latin American Literature. Having passed their comprehensive exams, students proceed to a qualifying exam in their sixth semester based on lists that students develop with their faculty advisers. In their eighth semester, students submit an extended prospectus and a draft of a chapter. The student will then defend the prospectus and the chapter to a committee of four faculty members in a one-hour oral exam. Students then research, write, defend, and submit their doctoral dissertation in the course of the next two years.

## Graduate Certificate in Language Instruction

In order 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.

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 have important implications for the way we teach foreign languages. Study within these different fields provides a fascinating examination of how second languages 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.

PhD students must apply to be considered for the certificate program at the beginning of their doctoral courses; AM students are not eligible for consideration. Applications will be evaluated by a faculty committee twice a year, in October and March. The certificate consists of five courses: three required courses and two electives.

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.

For more information, visit the Graduate Certificate in Language Instruction (<http://rll.wustl.edu/cert/langinstruction>) webpage, contact Professor Joe Barcroft (<http://rll.wustl.edu/people/barcroft>), or phone 314-935-7951.

## Social Work

The objective of the **PhD in Social Work** is to prepare scholars for teaching and research careers in social work and related social and behavioral sciences. The program is highly interdisciplinary, and students have the opportunity to learn from faculty at the forefront of advances in practice and policy impact in areas such as social and economic development, gerontology, health disparities, mental health, child and family welfare, violence prevention and intervention, and international social work. Our PhD program combines intensive study with personalized mentoring to prepare the next generation of scholars across the nation and around the world with the skills needed to impact change and advance social justice.

We have a very high completion rate with most graduates going on to academic positions where they pursue a rigorous research agenda, while teaching and providing service and leadership to the school and the profession. Thus, we prepare doctoral students with the advanced quantitative and qualitative methodological training and professional skills to conduct research projects, successfully publish findings, present at highly regarded academic conferences, and apply the latest knowledge and instructional strategies in the classroom. The Brown School's collaborative community is strongly committed to providing an exciting and supportive learning environment.

A completed master's degree in social work or related field is required of all applicants for admission. Post-master's experience in social work at the micro, mezzo or macro levels is highly valued.

**Contact:** Doctoral Education Program Office  
**Phone:** 314-935-6605  
**Email:** [phdsw@wustl.edu](mailto:phdsw@wustl.edu)  
**Website:** <https://brownschool.wustl.edu/Academics/PhD-in-Social-Work>

## Faculty

### Dean

**Mary McKernan McKay** (<https://brownschool.wustl.edu/faculty-and-research/pages/mary-mckay.aspx>)  
Professor; Neidorff Family and Centene Corporation Dean of the Brown School  
PhD, University of Illinois at Chicago  
Child mental health services; HIV prevention and care; poverty

### Associate Dean for Doctoral Education

**Renee M. Cunningham-Williams** (<https://brownschool.wustl.edu/faculty-and-research/pages/renee-cunningham-williams.aspx>)  
Associate Professor; Director, NIDA T32 (TranSTAR) Pre- and Postdoctoral Training Program  
PhD, Washington University  
Epidemiological, prevention, and intervention research; health and mental health disparities; pathological gambling and comorbidity; risk taking, substance use and antisocial behaviors; crisis intervention

### Director, PhD Program in Social Work

**Melissa Jonson-Reid** (<https://brownschool.wustl.edu/faculty-and-research/pages/melissa-jonson-reid.aspx>)  
Ralph and Muriel Pumphrey Professor of Social Work; Director, Center for Violence and Injury Prevention  
PhD, University of California, Berkeley  
Education and child welfare services policy; child abuse and neglect; interagency service delivery systems; school social work

### Professors

**Wendy Auslander** (<https://brownschool.wustl.edu/faculty-and-research/pages/wendy-auslander.aspx>)  
Barbara A. Bailey Professor of Social Work  
PhD, Washington University  
Health behavior and health promotion; childhood abuse and adolescent risk behaviors; trauma treatment for adolescent girls; family, psychosocial, and behavioral issues in diabetes; HIV prevention; community participatory research; cultural and ethnic factors related to health; intervention research and evaluation

**Ross C. Brownson** (<https://brownschool.wustl.edu/faculty-and-research/pages/ross-brownson.aspx>)  
Bernard Becker Professor; Director, Prevention Research Center  
PhD, Colorado State University  
Chronic disease prevention through environmental and policy change; evidence-based public health; policy effects on physical activity and obesity; dissemination research

**F. Brett Drake** (<https://brownschool.wustl.edu/faculty-and-research/pages/brett-drake.aspx>)  
PhD, University of California, Los Angeles  
Children born prenatally exposed to drugs; child protection and child protective practice

**Tonya Edmond** (<https://brownschool.wustl.edu/faculty-and-research/pages/tonya-edmond.aspx>)  
Associate Dean for Diversity and Inclusion  
PhD, University of Texas at Austin  
Violence against women; trauma-focused intervention research; evidence-based practice

**Michal Grinstein-Weiss** (<https://brownschool.wustl.edu/faculty-and-research/pages/michal-grinstein-weiss.aspx>)  
Shanti K. Khinduka Distinguished Professor; Associate Dean for Policy Initiatives; Director, Envolve Center for Health Behavior Change  
PhD, Brown School at Washington University  
Public policy; economic & social mobility; asset building

**Shenyang Guo** (<https://brownschool.wustl.edu/faculty-and-research/pages/shenyang-guo.aspx>)  
Frank J. Bruno Distinguished Professor of Social Work Research; Assistant Vice Chancellor for International Affairs - Greater China  
PhD, University of Michigan  
Quantitative research methodology; program and practice evaluations; child welfare; child mental health

**Debra Haire-Joshu** (<https://brownschool.wustl.edu/faculty-and-research/pages/debra-haire-joshu.aspx>)  
Joyce Wood Professor; Director, Center for Diabetes Translation Research; Director, Center for Obesity Prevention and Policy Research; Faculty Director, Envolve Center for Health Behavior Change  
PhD, Saint Louis University  
Health policy; preventing obesity and diabetes in underserved populations; transdisciplinary approaches to biomedical, behavioral, and public health research

**Sean Joe** (<https://brownschool.wustl.edu/faculty-and-research/pages/sean-joe.aspx>)  
Benjamin E. Youngdahl Professor of Social Development; Associate Dean for Faculty and Research  
PhD, University of Illinois at Urbana-Champaign  
Role of religion in black suicidal behavior; salivary biomarker discovery for adolescent suicidal behavior; father-focused family-based interventions; preventing self-destructive behaviors in African-American adolescent males; racial inequality in adolescent development

**Matthew W. Kreuter** (<https://brownschool.wustl.edu/faculty-and-research/pages/matthew-kreuter.aspx>)  
Kahn Family Professor of Public Health; Senior Scientist, Health Communication Research Laboratory; Faculty Director, Envolve Center for Health Behavior Change  
PhD, University of North Carolina at Chapel Hill  
Health communication; cancer prevention and control; integrating health and social services; health disparities

**Carolyn Lesorogol** (<https://brownschool.wustl.edu/faculty-and-research/pages/carolyn-lesorogol.aspx>)  
Associate Dean for Global Strategy and Programs  
PhD, Washington University  
International social development; capacity building and participatory development; institutional change; political economy; ethnographic research

**Douglas A. Luke** (<https://brownschool.wustl.edu/faculty-and-research/pages/douglas-luke.aspx>)  
Director, PhD Program in Public Health Sciences; Director, Center for Public Health Systems Science  
PhD, University of Illinois  
Evaluations of public health programs; tobacco control and prevention policy; community health interventions

**Timothy McBride** (<https://brownschool.wustl.edu/faculty-and-research/pages/timothy-mcbride.aspx>)  
PhD, University of Wisconsin-Madison  
Health policy; health economics; health insurance; Medicare and Medicaid policy; rural health care; health reform; Social Security and pensions; state health policy

**Nancy Morrow-Howell** (<https://brownschool.wustl.edu/faculty-and-research/pages/nancy-morrow-howell.aspx>)  
Betty Bofinger Brown Distinguished Professor of Social Policy; Director, Harvey A. Friedman Center for Aging  
PhD, University of California, Berkeley  
Productive and civic engagement in late life; social engagement in later life

**Enola K. Proctor** (<https://brownschool.wustl.edu/faculty-and-research/pages/enola-proctor.aspx>)  
Shanti K. Khinduka Distinguished Professor Emeritus; Director, Center for Mental Health Services Research  
PhD, Washington University  
Mental health services delivery; post-acute health and mental health community care; outcomes of clinical practice; evaluation of clinical social work

**Mark Rank** (<https://brownschool.wustl.edu/faculty-and-research/pages/mark-rank.aspx>)  
Herbert S. Hadley Professor of Social Welfare  
PhD, University of Wisconsin  
Poverty and economic inequality; social welfare; family; social policy; demography; life course

**Rodrigo S. Reis** (<https://brownschool.wustl.edu/faculty-and-research/pages/rodrigo-reis.aspx>)  
PhD, Federal University of Santa Catarina, Florianopolis, Brazil  
Physical activity and public health, with particular interest in community interventions for promoting physical activity; effect of the built environment and community on health; active transportation and health

**Michael Sherraden** (<https://brownschool.wustl.edu/faculty-and-research/pages/michael-sherraden.aspx>)  
George Warren Brown Distinguished University Professor; Director, Center for Social Development  
PhD, University of Michigan  
Asset building; civic engagement and civic service; productive aging; social policy; community development; youth development

**Fred Ssewamala** (<https://brownschool.wustl.edu/faculty-and-research/pages/fred-ssewamala.aspx>)  
William E. Gordon Distinguished Professor  
PhD, Brown School at Washington University  
Microfinance; Asset-based social programs; disadvantaged children; social and economic development policy; children and adolescent health

**Vetta L. Sanders Thompson** (<https://brownschool.wustl.edu/faculty-and-research/pages/vetta-sanders-thompson.aspx>)  
E. Desmond Lee Professor of Racial and Ethnic Diversity  
PhD, Duke University  
Cultural competence; racial identity; disparities in health and mental health services; psychosocial implications of race and ethnicity in health communications; access to health services

## Associate Professors

**Derek Brown** (<https://brownschool.wustl.edu/faculty-and-research/pages/derek-brown.aspx>)  
PhD, Duke University  
Health economics; stated preference methods & health-related quality of life; child abuse and neglect; Medicaid

**Sheretta T. Butler-Barnes** (<https://brownschool.wustl.edu/faculty-and-research/pages/sheretta-butler-barnes.aspx>)  
PhD, Wayne State University  
Positive youth development; African Americans; academic achievement; mental health; religiosity

**Leopoldo J. Cabassa** (<https://brownschool.wustl.edu/faculty-and-research/pages/leopoldo-cabassa.aspx>)  
PhD, Brown School at Washington University  
Racial/ethnic disparities in health and mental health care; implementation science; integration of physical and mental health services; mental health services

**Alexis Duncan** (<https://brownschool.wustl.edu/faculty-and-research/pages/alexis-duncan.aspx>)  
PhD, Saint Louis University  
Psychiatric epidemiology; obesity and eating disorders; substance use and related disorders; comorbidity; child abuse and neglect; behavior genetics

**Amy A. Eyler** (<https://brownschool.wustl.edu/faculty-and-research/pages/amy-eyler.aspx>)  
PhD, Oregon State University  
Physical activity; childhood obesity; policies and preventative health

**Patrick J. Fowler** (<https://brownschool.wustl.edu/faculty-and-research/pages/patrick-fowler.aspx>)  
PhD, Wayne State University  
Housing and homelessness; child maltreatment and child welfare system; developmental psychopathology; policy and program evaluation; prevention science; violence exposure

**Ross Hammond** (<https://brownschool.wustl.edu/Faculty-and-Research/Pages/Ross-Hammond.aspx>)  
Betty Bofinger Brown Associate Professor  
PhD, University of Michigan  
Modeling complex dynamics in social, economic, and public health systems; obesity etiology and prevention; food systems and food security; tobacco control

**Jenine Harris** (<https://brownschool.wustl.edu/faculty-and-research/pages/jenine-harris.aspx>)  
PhD, Saint Louis University  
Dissemination research; social network analysis; social media; public health systems

**Darrell Hudson** (<https://brownschool.wustl.edu/faculty-and-research/pages/darrell-hudson.aspx>)  
PhD, University of Michigan  
Health disparities; mental health; health behavior; health education; violence and injury prevention

**Lora Iannotti** (<https://brownschool.wustl.edu/faculty-and-research/pages/lora-iannotti.aspx>)

Associate Dean for Public Health

PhD, Johns Hopkins University

Young child nutrition; micronutrient deficiencies; infectious diseases and poverty pathways; evaluation research

**Kimberly Johnson** (<https://brownschool.wustl.edu/faculty-and-research/pages/kimberly-johnson.aspx>)

PhD, University of Minnesota

Epidemiology; human genetics; cancer

**Jack A. Kirkland** (<https://brownschool.wustl.edu/faculty-and-research/pages/jack-kirkland.aspx>)

MSW, Syracuse University

International & national community economic development; urban issues; international, state, and regional planning; international social development; multicultural education

**Patricia Kohl** (<https://brownschool.wustl.edu/faculty-and-research/pages/patricia-kohl.aspx>)

Associate Dean for Social Work

PhD, University of North Carolina at Chapel Hill

Child welfare; evidence-based practice; engaging hard to reach populations in treatment; parent training

**Von Nebbitt** (<https://brownschool.wustl.edu/faculty-and-research/pages/von-nebitt.aspx>)

PhD, Brown School at Washington University

Urban African-American children and youth, with a primary research agenda of increasing empirical and theoretical knowledge of the effects of living in urban public housing

**David A. Patterson** (<https://brownschool.wustl.edu/faculty-and-research/pages/david-patterson.aspx>)

PhD, University of Louisville

Alcohol and other drug treatment retention and effectiveness; implementation of evidence-based practices; Native American and Indigenous People's health and wellness; underrepresented minority college success

**Jason Purnell** (<https://brownschool.wustl.edu/faculty-and-research/pages/jason-purnell.aspx>)

PhD, Ohio State University

Health behavior; information and communication technologies; health disparities

**Lindsay Stark**

PhD, Columbia University

Violence prevention; child welfare; women's health

**Jean-Francois Trani** (<https://brownschool.wustl.edu/faculty-and-research/pages/jean-francois-trani.aspx>)

PhD, Institut d'Etudes Politiques de Paris, France

Mental health; disabilities; international social work

## Assistant Professors

**Christine Ekenga** (<https://brownschool.wustl.edu/faculty-and-research/pages/christine-ekenga.aspx>)

PhD, New York University

Chronic disease epidemiology; cumulative risk assessment; environmental health; occupational health; disaster epidemiology and public health preparedness

**Vanessa Fabbre** (<https://brownschool.wustl.edu/faculty-and-research/pages/vanessa-fabbre.aspx>)

PhD, University of Chicago

Aging and the life course; health and mental health; gender and sexuality; interpretive methodology

**Sojung Park** (<https://brownschool.wustl.edu/faculty-and-research/pages/sojung-park.aspx>)

PhD, University of Michigan

Health and well-being of older adults; environmental gerontology; community-based long-term care; cross-national/cross-cultural studies

**Deborah Salvo**

PhD, Emory University

Physical activity and spatial epidemiology; obesity prevention and nutrition; chronic disease prevention; global health disparities

## Degree Requirements

### PhD in Social Work

A completed master's degree in social work, public health, or related social science is required of all applicants for admission; a minimum of two years of post-master's practice and/or research experience is strongly recommended. The deadline for applications to the PhD in Social Work is December 1 of the year preceding enrollment.

Students need a minimum of 72 graduate credit hours for a PhD from the Brown School. These can include 21 master's-level credits. While in the program, the student takes a variety of theory and research methods courses, plus 15 units of elective credits outside the traditional social work curriculum. Electives may include classes in psychology, psychiatry, public health, anthropology, education, law, economics, or political science. Teaching practicums, research assistantships, and the writing of an "area statement" round out the required credits. Competence is assessed through a qualifying examination and the defense of the dissertation. We are unable to offer distance learning or part-time study.

The curriculum at the Brown School emphasizes substantive, theoretical and methodological preparation. Courses (<http://bulletin.wustl.edu/brownschool/#courses>) include:

- Introduction to Advanced Research
- Conceptual Foundations of Social Science Research

- The Role and Use of Theory in Applied Social Research
- Foundations of Data Analysis
- Applied Linear Regression Analysis
- Structural Equation Modeling

The first year of study includes basic principles in research, statistics, measurement, as well as theoretical orientations and content underlying the knowledge base of social work and social welfare.

The second year turns to a more individualized program of study. A curriculum plan is developed by each student and the adviser, focusing on an area of specialization within the field of social work.

The orientation of the PhD program is interdisciplinary, requiring 15 credits of course work in the social sciences. Social science courses are selected that are related to the student's developing area of specialization. Courses in research methodology, research and teaching practica, and specialized courses also help to build the student's expertise as a social work scholar.

## Speech and Hearing Sciences

The **PhD in Speech and Hearing Sciences** prepares students for academic and research careers in the field. Established in 1947, the program is dedicated to fostering scientific inquiry in speech and hearing sciences and related disciplines. The program is administered jointly between the Graduate School and the Program in Audiology and Communication Sciences in the Washington University School of Medicine.

**Phone:** 314-747-0104  
**Email:** pacs@wustl.edu  
**Website:** <http://pacs.wustl.edu>

## Faculty

### Chair

**William W. Clark** (<http://pacs.wustl.edu/our-faculty/william-w-clark-phd>)  
Program Director and Professor  
PhD, University of Michigan

### Faculty List

For our full faculty list, please visit our faculty webpage (<http://pacs.wustl.edu/our-faculty>).

## Degree Requirements

### PhD in Speech and Hearing Sciences

#### Curriculum

The curriculum combines interdisciplinary academic courses, teaching experiences and research, and culminates in a

dissertation. Each student's experience can be tailored to their individual interests.

Generally, 24 hours of graduate credit can be transferred toward the PhD from another institution; graduates of our Doctor of Audiology (AuD) and Master of Science in Deaf Education (MSDE) programs are provided with advanced standing and may transfer up to 48 or 36 credits respectively.

### Teaching Experiences

Teaching experiences prepare students to become effective teachers and communicators of their discipline and their own research. All PhD students receive instruction in pedagogy and complete teaching experiences at the introductory and advanced levels under the guidance of a faculty mentor.

### Research

Students immerse themselves in the world-class research environment of Washington University. As they conduct their own original research, which culminates in a dissertation, they participate in colloquia, Grand Rounds, brown bag seminars, research seminars, journal clubs, and similar opportunities. The program fosters opportunities to publish and participate in professional conferences. In the final year, students present and defend their dissertation.

The Program in Audiology and Communication Sciences (PACS) is affiliated with the Department of Otolaryngology, which operates one of the nation's largest hearing and deafness research programs. Topics include adult aural rehabilitation, biology of hearing and deafness, childhood deafness, cochlear implants, dizziness and balance, and hearing aids.

## Theater and Performance Studies

The **master's program in Theater and Performance Studies** at Washington University in St. Louis is one of the strongest programs of its kind. We offer students 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 theatre 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 routinely place our graduates in top PhD programs in the field, including those 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.

**Contact:** Paige McGinley  
**Phone:** 314-935-6106  
**Email:** pmcginley@wustl.edu  
**Website:** <http://pad.artsci.wustl.edu/graduate>

## Faculty

### Professors

**Robert Henke** ([http://pad.artsci.wustl.edu/robert\\_henke](http://pad.artsci.wustl.edu/robert_henke))  
PhD, University of California, Berkeley  
Ancient and Renaissance Theater and Performance,  
Comparative Literature, Dramatic Theory

**Henry I. Schvey** (<http://pad.artsci.wustl.edu/henry-i-schvey>)  
PhD, Indiana University  
Modern American and European Drama, Shakespeare in  
Production, Expressionism and the Arts, Tennessee Williams

### Associate Professors

**Pannill Camp** ([http://pad.artsci.wustl.edu/pannill\\_camp](http://pad.artsci.wustl.edu/pannill_camp))  
PhD, Brown University  
18th-Century French Theater, Dramatic Theory, Theater  
Architecture

**Paige McGinley** (<http://pad.artsci.wustl.edu/paige-mcginley>)  
PhD, Brown University  
20th-Century Theater and Performance; Race, Ethnicity and  
Performance; American Studies

**Julia Walker** (<http://pad.artsci.wustl.edu/julia-walker>)  
PhD, Duke University  
Theatrical Modernism, Performance Theory, History of Acting

### Assistant Professors

**Joanna Dee Das** (<http://pad.artsci.wustl.edu/joanna-dee-das>)  
PhD, Columbia University  
Global Dance History & Theory, Politics of Performance, African  
Diasporic Dance, Musical Theater, Cultural Policy

**Rhaisa Williams** (<https://pad.artsci.wustl.edu/rhaisa-williams>)  
PhD, Northwestern University  
Performance theory; African-American studies; gender; archival  
studies

### Teaching Professors

**Robert Mark Morgan** (<http://pad.artsci.wustl.edu/robert-mark-morgan>)  
MFA, San Diego State University  
Scenic Design

**Andrea Urice** (<http://pad.artsci.wustl.edu/andrea-urice>)  
MFA, University of Virginia  
Directing, Acting, Creative Studies

### Professors of Practice

**Christine Knoblauch-O'Neal** (<http://pad.artsci.wustl.edu/christine-knoblauch-oneal>)  
PhD, Texas Women's University  
Ballet, Applied Anatomy, Musical Theater, Performance Studies

**David Marchant** (<http://pad.artsci.wustl.edu/david-marchant>)  
MFA, University of Iowa  
Modern Dance, Composition, Improvisation, Alexander  
Technique, Somatic Studies

**Jeffery Matthews** (<http://pad.artsci.wustl.edu/jeffery-matthews>)  
MFA, Virginia Commonwealth University  
Acting, Directing, Voice and Speech

**Annamaria Pileggi** (<http://pad.artsci.wustl.edu/annamaria-pileggi>)  
MFA, Brandeis University  
Acting, Movement, Musical Theater, Robotics and Expressive  
Simulation, Theatre for Social Change

**Cecil Slaughter** (<http://pad.artsci.wustl.edu/cecil-slaughter>)  
MFA, University of Iowa  
Dance

**William Whitaker** (<http://pad.artsci.wustl.edu/william-whitaker>)  
MFA, Florida Atlantic University  
Acting, Directing

### Artist-in-Residence

**Ron Himes** (<http://pad.artsci.wustl.edu/ron-himes>)  
Henry E. Hampton, Jr. Artist-in-Residence  
BA, Washington University  
African-American Theater

### Senior Lecturer and Senior Playwright-in-Residence

**Carter W. Lewis** (<http://pad.artsci.wustl.edu/carter-w-lewis>)  
MA, University of Oklahoma  
Playwriting, Dramaturgy, A.E. Hotchner Playwriting Festival

### Senior Lecturer

**Sean Savoie** (<http://pad.artsci.wustl.edu/sean-savoie>)  
MFA, University of Cincinnati - College Conservatory of Music  
Lighting Design, Production Management

## Lecturer

**Dominique Glaros** (<https://pad.artsci.wustl.edu/dominique-nikki-glaros>)  
MFA, University of Cincinnati-College Conservatory of Music  
Costume Design

## Professor Emerita

**Mary-Jean Cowell** (<https://artsci.wustl.edu/faculty-staff/mary-jean-cowell>)  
PhD, Columbia University  
Modern Dance Technique, Theory and Composition, Dance  
History and Ethnology

## Degree Requirements

### Master of Arts (AM) in Theater and Performance Studies

#### Degree Requirements: 36 units (12 courses at the 400 level or above)

\*Note: Students must be enrolled in 9 graduate credits each semester to retain full-time status.

#### I. Required courses: 15 units (5 courses)

1. **L15 Drama 5101, Introduction to Graduate Study.** 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 performances 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. **L15 Drama 449, 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.
3. **L15 Drama 497, 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.
4. **Theater/Performance History.** One 400- or 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) 400- or 500-level course(s) in theater practice: dramaturgy, directing, playwriting or design. Students may meet this requirement with L15 Drama 506 Problems in Contemporary Arts Practice Research.

#### II. Electives: 21 units (7 courses)

Students are invited to develop a broad-based or a 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 without. 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 Art.

#### III. AM Exam

The AM exam is based on a seminar paper written during the student's first three semesters in the program, which, under the guidance of a faculty adviser, is extensively revised and expanded into an essay of publishable length (typically 25 double-spaced pages) and publishable quality. After the revised seminar paper has been submitted to and approved by the director of graduate studies (DGS), the student will meet with a committee of three faculty members (the adviser, the DGS, and a third faculty member, one of whom may be from another department) for an oral exam.

### Accelerated Master of Arts (AM) in Theater and Performance Studies

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, with admission to the Accelerated AM program, upon acceptance, occurring during the fall semester after completion of the AB during the preceding December, May or August. Applications may be submitted at any time during the student's senior year through August 1, 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 above. 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](mailto:pmcginley@wustl.edu)), during their sophomore or junior year for additional information and application instructions.

## Urban Studies

Why is the study of urban life, of living in cities, an important area of study? The answer is simple. Because of increasing urbanization — that is, the dynamics resulting from people moving into densely populated areas — worldwide projections show the increase in urban populations everywhere. Not only are world cities growing by one million people per week, but demographers suggest that by 2050, more than two-thirds of the planet's population will be urban dwellers. The issues impacting our densely populated cities and those who inhabit them will be the focus of substantive research and policy debates in the 21st century. Because we seek to prepare our students to be leaders on the world stage, in-depth study in urbanism and urbanization on both a national and international scale is in keeping with that preparation.

The Graduate Certificate Program in Urban Studies is administered by the Urban Studies program and the Graduate School. The Urban Studies program director, Professor Carol Camp Yeakey, is responsible for the Graduate Certificate Program.

**Contact:** Carol Camp-Yeakey  
**Phone:** 314-935-6241  
**Email:** [cyeakey@wustl.edu](mailto:cyeakey@wustl.edu)  
**Website:** <http://urbanstudies.wustl.edu/programs/graduate-certificate-program>

## Faculty

### Founding Director

**Carol Camp Yeakey** ([http://education.wustl.edu/people/yeakey\\_carol-camp](http://education.wustl.edu/people/yeakey_carol-camp))  
Marshall S. Snow Professor of Arts & Sciences  
Professor  
Director, Center on Urban Research & Public Policy (CURPP)  
PhD, Northwestern University  
(Education)

### Professors

**John G. Baugh Jr.** (<http://psychweb.wustl.edu/people/john-baugh>)  
Margaret Bush Wilson Professor in Arts & Sciences  
PhD, University of Pennsylvania  
(Linguistics)

**John R. Bowen** (<https://anthropology.wustl.edu/people/john-bowen>)  
Dunbar–Van Cleve Professor in Arts & Sciences  
PhD, University of Chicago  
(Anthropology)

**Adrienne D. Davis** (<http://law.wustl.edu/faculty/pages.aspx?id=5768>)  
William M. Van Cleve Professor of Law  
JD, Yale University  
(Law)

**Gerald L. Early** ([http://english.artsci.wustl.edu/gerald\\_early](http://english.artsci.wustl.edu/gerald_early))  
Merle Kling Professor of Modern Letters  
PhD, Cornell University  
(English)

**Steven Fazzari** ([http://economics.wustl.edu/people/steve\\_fazzari](http://economics.wustl.edu/people/steve_fazzari))  
Bert A. and Jeanette L. Lynch Distinguished Professor of Economics  
PhD, Stanford University  
(Economics)

**Margaret C. Garb** ([http://history.artsci.wustl.edu/margaret\\_garb](http://history.artsci.wustl.edu/margaret_garb))  
PhD, Columbia University  
(History)

**James L. Gibson** ([http://polisci.wustl.edu/James\\_Gibson](http://polisci.wustl.edu/James_Gibson))  
Sidney W. Souers Professor of Government  
PhD, University of Iowa  
(Political Science)

**John Hoal** (<http://samfoxschool.wustl.edu/directory/60>)  
PhD, Washington University  
(Architecture)

**Bruce Lindsey** (<http://www.arch.wustl.edu/directory/39>)  
E. Desmond Lee Professor for Community Collaboration, Sam Fox School of Design & Visual Arts  
MArch, Yale University  
(Architecture)

**William R. Lowry** ([http://polisci.wustl.edu/William\\_Lowry](http://polisci.wustl.edu/William_Lowry))  
PhD, Stanford University  
(Political Science)

**Eric Mumford** (<http://samfoxschool.wustl.edu/directory/487>)  
Rebecca & John Voyles Professor of Architecture  
PhD, Princeton University  
(Architecture)

**Kimberly Jade Norwood** ([http://law.wustl.edu/faculty\\_profiles/profiles.aspx?id=303](http://law.wustl.edu/faculty_profiles/profiles.aspx?id=303))  
Henry H. Oberschelp Professor of Law  
JD, University of Missouri  
(Law)

**Timothy H. Parsons** ([http://history.artsci.wustl.edu/tim\\_parsons](http://history.artsci.wustl.edu/tim_parsons))  
PhD, Johns Hopkins University  
(History)

**Will R. Ross** (<https://renal.wustl.edu/bio/will-ross-md-mph>)  
Professor of Medicine  
MD, Washington University  
(Medicine)

**Vetta L. Sanders Thompson** (<https://brownschool.wustl.edu/Faculty-and-Research/Pages/Vetta-Sanders-Thompson.aspx>)  
PhD, Duke University  
(Social Work)

**Karen L. Tokarz** (<http://law.wustl.edu/faculty/pages.aspx?id=448>)  
Charles Nagel Professor of Public Interest Law & Public Service  
JD, Saint Louis University  
LLM, University of California, Berkeley  
(Law)

**James V. Wertsch** ([http://anthropology.artsci.wustl.edu/wertsch\\_james](http://anthropology.artsci.wustl.edu/wertsch_james))  
David R. Francis Distinguished Professor  
Vice Chancellor of International Affairs  
PhD, University of Chicago  
(Anthropology)

**Rafia Zafar** (<http://english.artsci.wustl.edu/Rafia-Zafar>)  
PhD, Harvard University  
(English)

## Associate Professors

**Lingchei Letty Chen** ([http://ealc.wustl.edu/people/chen\\_lingchei-letty](http://ealc.wustl.edu/people/chen_lingchei-letty))  
PhD, Columbia University  
(East Asian Languages and Cultures)

**Garrett Albert Duncan** (<http://education.wustl.edu/Duncan>)  
PhD, The Claremont Graduate School  
(Education)

**Mary Ann Dzuback** ([http://education.wustl.edu/people/dzuback\\_mary-ann](http://education.wustl.edu/people/dzuback_mary-ann))  
PhD, Columbia University  
(Education)

**Rowhea Elmesky** ([http://education.wustl.edu/people/elmesky\\_rowhea](http://education.wustl.edu/people/elmesky_rowhea))  
PhD, Florida State University  
(Education)

**Robert G. Hansman** (<http://www.samfoxschool.wustl.edu/directory/58>)  
BFA, University of Kansas  
(Architecture)

**Clarissa Hayward** (<http://polisci.wustl.edu/Clarissa%20Rile%20Hayward>)  
PhD, Yale University  
(Political Science)

**Shanti A. Parikh** ([http://anthropology.artsci.wustl.edu/parikh\\_shanti](http://anthropology.artsci.wustl.edu/parikh_shanti))  
PhD, Yale University  
(Anthropology)

**Sunita A. Parikh** ([http://polisci.wustl.edu/Sunita\\_Parikh](http://polisci.wustl.edu/Sunita_Parikh))  
PhD, University of Chicago  
(Political Science)

**Nancy Y. Reynolds** ([http://history.artsci.wustl.edu/nancy\\_reynolds](http://history.artsci.wustl.edu/nancy_reynolds))  
PhD, Stanford University  
(History)

**Denise Ward-Brown** (<http://samfoxschool.wustl.edu/directory/549>)  
MFA, Howard University  
(Art)

## Assistant Professors

**Sheretta Tekise Butler-Barnes** (<http://urbanstudies.wustl.edu/people/sheretta-butler-barnes>)  
PhD, Wayne State University  
(Social Work)

**Ebony Duncan** (<http://education.wustl.edu/people/ebony-duncan>)  
PhD, Vanderbilt University  
(Sociology; Education)

**Michelle A. Purdy** (<http://education.wustl.edu/people/michelle-purdy>)  
PhD, Emory University  
(Education)

## Senior Lecturer

**Gay Goldman Lorberbaum** (<http://www.samfoxschool.wustl.edu/directory/475>)  
MArch, Washington University  
(Architecture)

## Adjunct Assistant Professor

**Sheri Notaro** (<http://urbanstudies.wustl.edu/people/sheri-notaro>)  
PhD, University of Michigan  
(Psychological & Brain Sciences; Public Health)

## Degree Requirements

### Graduate Certificate Program in Urban Studies

The Graduate Certificate Program in Urban Studies is open to PhD students in any discipline. It is administered by the Center on Urban Research and Public Policy according to the Graduate School's general requirements for graduate certificates.

Specifically, the graduate certificate requires successful completion of five courses for a total of 15 graduate units: two core courses and three electives. Up to two of these five courses may also be counted for the PhD.

### Women, Gender, and Sexuality Studies

Washington University offers a **Graduate Certificate in Women, Gender, and Sexuality Studies (WGSS)** for students in Master of Arts (AM) or PhD programs who wish to enhance their disciplinary studies with an interdisciplinary concentration in gender and sexuality studies. The certificate offers students opportunities to meet and engage with faculty and graduate students in departments throughout Arts & Sciences and the professional schools who do research on women, gender and sexuality. The certificate prepares students for job opportunities within women, gender, and sexuality studies programs as well as within their home disciplines.

Graduate certificate students are invited to participate in a variety of events, including special guest lectures and workshops, conferences, the WGSS Colloquium Series, faculty searches, the WGSS newsletter *Gender Spectrum*, and informal gatherings. The department sponsors a graduate certificate workshop providing both professional development and a place where graduate students share their research and writing with others interested in feminist, gender, and sexuality-oriented scholarship.

The WGSS department also offers certificate students the opportunity to observe and then design and teach sections of introductory courses in WGSS and to participate in this joint mentored teaching experience (MTE). The MTE in WGSS takes place over two semesters. During the first, students undergo a mentored teaching preparation semester in which they observe the class they will teach and are mentored by the instructor. They also attend instructor meetings devoted to examining content and pedagogy. They develop a syllabus, often in consultation with their WGSS teaching mentor and their department adviser, that is reviewed carefully by WGSS faculty. These students may also be undergoing a mentored teaching experience in their own departments during this first semester. The next semester, they teach the WGSS course, are observed by WGSS faculty and, in some cases, by faculty in their own departments. These faculty use a rubric for the assessment,

which is made available to the student, and receive a written assessment, which they then discuss with the observing WGSS faculty member. Sometimes students are observed and assessed more than once. Students who undergo the MTE are equipped to offer both disciplinary and interdisciplinary scholarly and teaching expertise to hiring institutions.

The Graduate Certificate in WGSS provides students with a rich repertoire of pedagogical skills, scholarly opportunities, professional development, and collaborative experiences.

**Phone:** 314-935-5102  
**Email:** wgss@wustl.edu  
**Website:** <http://wgss.artsci.wustl.edu>

## Faculty

### Chair

**Mary Ann Dzuback** ([http://education.wustl.edu/people/dzuback\\_mary-ann](http://education.wustl.edu/people/dzuback_mary-ann))  
Director of Women, Gender, and Sexuality Studies; Associate Professor of Women, Gender, and Sexuality Studies, Education, and History (courtesy)  
PhD, Columbia University  
(Women, Gender, and Sexuality Studies; Education; History)

### Core Faculty

**Barbara Baumgartner** ([http://wgss.artsci.wustl.edu/people/baumgartner\\_barbara](http://wgss.artsci.wustl.edu/people/baumgartner_barbara))  
Director of Undergraduate Studies and Teaching Professor  
PhD, Northwestern University  
(Women, Gender, and Sexuality Studies; English)

**Rachel Brown** (<http://wgss.artsci.wustl.edu/people/rachel-brown>)  
Assistant Professor  
PhD, The Graduate Center, City University of New York  
(Women, Gender, and Sexuality Studies; Political Science)

**Amy Cislo** ([https://wgss.artsci.wustl.edu/people/cislo\\_amy](https://wgss.artsci.wustl.edu/people/cislo_amy))  
Senior Lecturer  
PhD, Washington University  
(Women, Gender, and Sexuality Studies; German)

**Andrea Friedman** ([http://history.artsci.wustl.edu/andrea\\_friedman](http://history.artsci.wustl.edu/andrea_friedman))  
Professor  
PhD, University of Wisconsin-Madison  
(Women, Gender, and Sexuality Studies; History)

**Jeffrey Q. McCune Jr.** (<http://wgss.artsci.wustl.edu/people/jeffrey-mccune>)  
Associate Professor  
PhD, Northwestern University  
(Women, Gender, and Sexuality Studies; Performing Arts)

**Bahia Munem** (<https://wgss.artsci.wustl.edu/people/bahia-munem>)

Postdoctoral Fellow

PhD, Rutgers University

(Women, Gender, and Sexuality Studies)

**Rebecca Wanzo** (<https://wgss.artsci.wustl.edu/Wanzo>)

Associate Professor, Women, Gender, and Sexuality Studies;

Associate Director, Center for Humanities

PhD, Duke University

(Women, Gender, and Sexuality Studies)

## Professor Emerita

**Linda Nicholson** (<http://history.artsci.wustl.edu/linda-nicholson>)

Susan E. and William P. Stiritz Distinguished Professor of  
Women's Studies

PhD, Brandeis University

(Women, Gender, and Sexuality Studies; History)

## Additional Program Faculty

**Jami Ake** ([http://wgss.artsci.wustl.edu/people/ake\\_jami](http://wgss.artsci.wustl.edu/people/ake_jami))

Assistant Dean and Academic Coordinator, College of Arts &  
Sciences

PhD, Indiana University Bloomington

(English; Women, Gender, and Sexuality Studies)

**Margaret Baum** (<http://wgss.artsci.wustl.edu/people/margaret-baum-md>)

MD, Johns Hopkins University School of Medicine

(Obstetrics and Gynecology; Women, Gender, and Sexuality  
Studies)

**Lynnea Brumbaugh** ([http://wgss.artsci.wustl.edu/people/brumbaugh\\_lynnea](http://wgss.artsci.wustl.edu/people/brumbaugh_lynnea))

PhD, Washington University

(Women, Gender, and Sexuality Studies)

**Gil Gross** (<http://obgyn.slu.edu/index.php?page=gilad-gross-md>)

MD, Saint Louis University

(Obstetrics and Gynecology; Women, Gender, and Sexuality  
Studies)

**Andrea Nichols** (<http://wgss.artsci.wustl.edu/people/andrea-nichols>)

PhD, University of Missouri-St. Louis

(Women, Gender, and Sexuality Studies; Criminology)

**Trevor Sangrey** (<http://wgss.artsci.wustl.edu/people/trevor-sangrey>)

PhD, University of California, Santa Cruz

(Women, Gender, and Sexuality Studies; History of  
Consciousness)

## Affiliate Faculty

**Jean Allman** (<http://history.artsci.wustl.edu/allman>)

J.H. Hexter Professor in the Humanities

PhD, Northwestern University

(History)

**Susan Frelich Appleton** (<http://law.wustl.edu/Faculty/pages.aspx?id=195>)

Lemma Barkeloo and Phoebe Couzins Professor of Law  
JD, University of California, Berkeley

(Law)

**Miriam Bailin** (<http://english.artsci.wustl.edu/people/miriam-bailin>)

Associate Professor

PhD, University of California, Berkeley

(English)

**Nancy Berg** ([https://jinelc.wustl.edu/people/berg\\_nancy](https://jinelc.wustl.edu/people/berg_nancy))

Professor

PhD, University of Pennsylvania

(Modern Hebrew Languages and Literatures)

**Shefali Chandra** (<http://history.artsci.wustl.edu/chandra>)

Associate Professor

PhD, University of Pennsylvania

(History)

**Elizabeth Childs** (<http://arthistory.artsci.wustl.edu/people/elizabeth-c-childs>)

Etta and Mark Steinberg Professor of Art History

PhD, Columbia University

(Art History)

**Caitlyn Collins** (<http://sociology.wustl.edu/people/caitlyn-collins>)

Assistant Professor

PhD, University of Texas at Austin

(Sociology)

**Rebecca Copeland** (<http://ealc.wustl.edu/people/rebecca-copeland>)

Professor

PhD, Columbia University

(Japanese)

**Marion Crain** ([http://law.wustl.edu/faculty\\_profiles/profiles.aspx?id=6613](http://law.wustl.edu/faculty_profiles/profiles.aspx?id=6613))

Wiley Rutledge Professor of Law

JD, University of California, Los Angeles

(Law)

**Adrienne Davis** ([http://law.wustl.edu/faculty\\_profiles/profiles.aspx?id=5768](http://law.wustl.edu/faculty_profiles/profiles.aspx?id=5768))

William M. Van Cleve Professor of Law

JD, Yale University

(Law)

**Tonya Edmond** (<http://gwbweb.wustl.edu/FACULTY/FULLTIME/Pages/TonyaEdmond.aspx>)  
Associate Professor  
PhD, University of Texas at Austin  
(Social Work)

**Vanessa Fabbre** (<http://brownschool.wustl.edu/Faculty/FullTime/Pages/Vanessa-Fabbre.aspx>)  
Assistant Professor  
PhD, University of Chicago  
(Social Work)

**Denise Elif Gill** (<http://music.wustl.edu/people/gill>)  
Assistant Professor  
PhD, University of California, Santa Barbara  
(Ethnomusicology; Feminist Studies)

**Beata Grant** ([https://religiousstudies.artsci.wustl.edu/beata\\_grant](https://religiousstudies.artsci.wustl.edu/beata_grant))  
Professor  
PhD, Stanford University  
(Chinese; East Asian Languages and Cultures; Religious Studies)

**R. Marie Griffith** ([https://religiousstudies.artsci.wustl.edu/marie\\_griffith](https://religiousstudies.artsci.wustl.edu/marie_griffith))  
John C. Danforth Distinguished Professor  
PhD, Harvard University  
(Director, John C. Danforth Center on Religion and Politics)

**Christine Johnson** ([http://history.artsci.wustl.edu/christine\\_johns](http://history.artsci.wustl.edu/christine_johns))  
Associate Professor  
PhD, Johns Hopkins University  
(History)

**Stephanie Kirk** (<http://rll.wustl.edu/people/kirk>)  
Associate Professor  
PhD, New York University  
(Romance Languages and Literatures)

**Rebecca Lester** ([http://anthropology.artsci.wustl.edu/lester\\_rebecca](http://anthropology.artsci.wustl.edu/lester_rebecca))  
Associate Professor  
PhD, University of California, San Diego  
(Anthropology)

**Erin McGlothlin** ([http://german.wustl.edu/people/mcglathlin\\_erin](http://german.wustl.edu/people/mcglathlin_erin))  
Associate Professor  
PhD, University of Virginia  
(Germanic Languages and Literatures)

**Rebecca Messbarger** (<http://rll.wustl.edu/people/messbarger>)  
Professor  
PhD, University of Chicago  
(Romance Languages and Literatures)

**Melanie Micir** (<http://english.artsci.wustl.edu/people/melanie-micir>)  
Assistant Professor  
PhD, University of Pennsylvania  
(English)

**Angela Miller** (<https://arthistory.artsci.wustl.edu/people/angela-miller>)  
Professor  
PhD, Yale University  
(Art History)

**Patricia Olynyk** ([http://samfoxschool.wustl.edu/portfolios/faculty/patricia\\_olynyk](http://samfoxschool.wustl.edu/portfolios/faculty/patricia_olynyk))  
Florence and Frank Bush Professor of Design and Visual Arts  
MFA, California College of the Arts  
(Art)

**Shanti Parikh** ([http://anthropology.artsci.wustl.edu/parikh\\_shanti](http://anthropology.artsci.wustl.edu/parikh_shanti))  
Associate Professor  
PhD, Yale University  
(Anthropology; African and African-American Studies)

**Anca Parvulescu** ([http://english.artsci.wustl.edu/Anca\\_Parvulescu](http://english.artsci.wustl.edu/Anca_Parvulescu))  
Professor  
PhD, University of Minnesota  
(English)

**Vivian Pollak** ([http://english.artsci.wustl.edu/Vivian\\_Pollak](http://english.artsci.wustl.edu/Vivian_Pollak))  
Professor  
PhD, Brandeis University  
(English)

**Nancy Reynolds** ([http://history.artsci.wustl.edu/nancy\\_reynolds](http://history.artsci.wustl.edu/nancy_reynolds))  
Associate Professor  
PhD, Stanford University  
(History)

**Jessica Rosenfeld** ([http://english.artsci.wustl.edu/Jessica\\_Rosenfeld](http://english.artsci.wustl.edu/Jessica_Rosenfeld))  
Associate Professor  
PhD, University of Pennsylvania  
(English)

**Carolyn Sargent** ([http://anthropology.artsci.wustl.edu/sargent\\_carolyn](http://anthropology.artsci.wustl.edu/sargent_carolyn))  
Professor  
PhD, Michigan State University  
(Anthropology)

**Elizabeth Sepper** ([http://law.wustl.edu/faculty\\_profiles/profiles.aspx?id=9367](http://law.wustl.edu/faculty_profiles/profiles.aspx?id=9367))  
Associate Professor  
JD, LL.M., New York University School of Law  
(Law)

**Julie Singer** (<http://rll.wustl.edu/people/singer>)

Associate Professor  
PhD, Duke University  
(Romance Languages and Literatures)

**Peggie Smith** ([http://law.wustl.edu/faculty\\_profiles/profiles.aspx?id=7971](http://law.wustl.edu/faculty_profiles/profiles.aspx?id=7971))

Charles F. Nagel Professor of Employment and Labor Law  
JD, Yale University  
(Law)

**Gaylyn Studlar** (<http://fms.artsci.wustl.edu/people/gaylyn-studlar>)

David May Distinguished University Professor in the Humanities  
PhD, University of Southern California  
(Film and Media Studies)

**Lynne Tatlock** (<http://complit.artsci.wustl.edu/people/lynne-tatlock>)

Hortense and Tobias Lewin Distinguished Professor in the Humanities  
PhD, Indiana University  
(Germanic Languages and Literatures)

**Kedron Thomas** ([http://anthropology.artsci.wustl.edu/thomas\\_kedron](http://anthropology.artsci.wustl.edu/thomas_kedron))

Assistant Professor  
PhD, Harvard University  
(Anthropology)

**Karen Tokarz** ([http://law.wustl.edu/faculty\\_profiles/profiles.aspx?id=448](http://law.wustl.edu/faculty_profiles/profiles.aspx?id=448))

Charles Nagel Professor of Public Interest and Public Service Law  
JD, Saint Louis University  
LLM, University of California, Berkeley  
(Law)

**Corinna Treitel** ([http://history.artsci.wustl.edu/corinna\\_treitel](http://history.artsci.wustl.edu/corinna_treitel))

Associate Professor  
PhD, Harvard University  
(History)

**Akiko Tsuchiya** (<http://rll.wustl.edu/people/tsuchiya>)

Professor  
PhD, Cornell University  
(Romance Languages and Literatures)

**Anika Walke** (<http://history.artsci.wustl.edu/anika-walke>)

Assistant Professor  
PhD, University of California  
(History)

**Gerhild Scholz Williams** (<http://provost.wustl.edu/people/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** (<https://sociology.wustl.edu/people/adia-harvey-wingfield>)

Professor  
PhD, Johns Hopkins University  
(Sociology)

**Colette Winn** (<http://rll.wustl.edu/people/winn>)

Professor  
PhD, University of Missouri-Columbia  
(Romance Languages and Literatures)

## Degree Requirements

### Graduate Certificate in Women, Gender, and Sexuality Studies

Graduate students interested in the certificate should apply for it after consulting both their departmental director of graduate studies and the Women, Gender, and Sexuality Studies certificate chair. The certificate requires the completion of five graduate-level courses, at least two of which must be drawn from home-based Women, Gender, and Sexuality Studies course offerings.

## Writing

The Writing program offers a **Master of Fine Arts (MFA) in Writing** in three genres — creative nonfiction, fiction and poetry. Applicants must apply to each genre separately and will be enrolled in only one. However, through themed craft courses, MFA students may take courses with faculty and students in other genres. The MFA in Writing is a two-year program.

The Writing program, ranked ninth in the country by *Poets & Writers*, is highly selective — we enroll 10 to 15 students each year. There is a low faculty to student ratio — writing courses are generally capped at 12. Students are generously funded, with all incoming students receiving full tuition scholarships plus University Fellowships. Our faculty includes Guggenheim Fellows, National Book Award finalists, and winners of the National Book Critics Circle Award. Graduates of our program have won the PEN/Hemingway Award and the Drue Heinz Literature Prize among other honors.

Each year our reading series brings a diverse group of poets, fiction writers, and nonfiction writers to the department. In addition, the Hurst Professor program brings in six distinguished visitors each year to present their newest work, lecture on the craft of writing, and work one-on-one with our MFA students. Edward P. Jones, Frank Bidart, Joy Williams, Jorie Graham, Aleksandar Hemon, Lucie Brock Broido, George Saunders, Louise Glück, Kelly Link, C.D. Wright, Richard Powers, Claudia Rankine, Deborah Eisenberg, Paul Muldoon, Charles Baxter, Timothy Donnelly, and Lydia Davis are just some of our recent visiting Hurst Professors.

**Contact:** Shannon Rabong  
**Phone:** 314-935-8389  
**Email:** scrabong@wustl.edu  
**Website:** [http://english.artsci.wustl.edu/graduate/writing\\_program](http://english.artsci.wustl.edu/graduate/writing_program)

## Faculty

### Professors

**Mary Jo Bang** ([http://english.artsci.wustl.edu/mary\\_jo\\_bang](http://english.artsci.wustl.edu/mary_jo_bang))  
MFA, Columbia University

**Carl Phillips** ([http://english.artsci.wustl.edu/Carl\\_Phillips](http://english.artsci.wustl.edu/Carl_Phillips))  
MA, Boston University

### Associate Professors

**Danielle Dutton** (<http://english.artsci.wustl.edu/danielle-dutton>)  
PhD, University of Denver

**Edward McPherson** ([http://english.artsci.wustl.edu/Edward\\_Mcpherson](http://english.artsci.wustl.edu/Edward_Mcpherson))  
MFA, University of Minnesota–Twin Cities

### Writers-in-Residence

**Kathryn Davis** ([http://english.artsci.wustl.edu/kathryn\\_davis](http://english.artsci.wustl.edu/kathryn_davis))  
BA, Goddard University

**Kathleen Finneran** ([http://english.artsci.wustl.edu/kathleen\\_finneran](http://english.artsci.wustl.edu/kathleen_finneran))  
BA, Washington University

**Marshall Klimasewiski** ([http://english.artsci.wustl.edu/Marshall\\_Klimasewiski](http://english.artsci.wustl.edu/Marshall_Klimasewiski))  
MFA, Bowling Green State University

### Director of Creative Writing Program

**David Schuman** ([http://english.artsci.wustl.edu/David\\_Schuman](http://english.artsci.wustl.edu/David_Schuman))  
MFA, Washington University

## Degree Requirements

### Master of Fine Arts in Writing

The Writing program leads to the Master of Fine Arts (MFA) in Writing. It is a two-year program, requiring satisfactory completion of 42 semester hours, a thesis, and an oral examination dealing principally with the thesis.

### 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 are acceptable as long as the student has the appropriate

preparation and the permission of the instructor, and the course will enrich the student's writing.

In the first year, students enroll for 24 units: the graduate workshop in their genre (6 units) plus two additional 3-unit courses each semester. In the second year, while teaching, students typically take a total of 18 units: the workshop each semester again (12 units), thesis hours (3 units), and an additional course.

### Thesis

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, or a novel (or most of a novel), or a memoir or other long-form creative nonfiction (CNF) work (or most of one).

### Oral Examination

Near the end of the second year, after the thesis has been submitted in final form, the department will schedule an oral examination, dealing principally with the thesis.

## University College

### Graduate Study

University College administers the Doctor of Liberal Arts, Master of Liberal Arts, Master of Arts, and Master of Science, in coordination with the Graduate School. University College administers the Master of Science in Clinical Research Management in coordination with Washington University School of Medicine. University College also offers a range of graduate-level certificate programs (<http://ucollege.wustl.edu/programs/17>).

To earn the Doctor of Liberal Arts degree (<http://ucollege.wustl.edu/programs/graduate/doctor-liberal-arts>) at Washington University, a student must complete 45 credit hours after earning a relevant master's degree, pass a written and oral comprehensive examination, and write and defend a thesis.

Master's degree programs (<http://ucollege.wustl.edu/programs/10>) in University College consist of 30-36 units of graduate-level courses including, in some cases, a 6-unit master's thesis or a 3-unit directed research project.

Normally, up to 6 units of related graduate-level study, with a grade of B or higher, may be transferred to a graduate program. All other courses must be taken at Washington University. Only courses taken for a letter grade may be applied to a graduate program of study. Courses taken as pass/fail or audit will not count toward a graduate program of study.\* Grades below C- will not count toward a graduate degree program of study. Students must maintain a cumulative grade point average of 3.0 to be eligible to receive a graduate degree.

Please visit the University College website (<http://ucollege.wustl.edu>) or call 314-935-6700 for more detailed

information, requirements and policies concerning specific graduate degree programs.

## Admission

Admission to the Doctor of Liberal Arts program is extremely competitive. Candidates must already hold a master's degree in a relevant subject from an accredited institution of higher learning. The fall application deadline is April 1; the spring application deadline is October 15. Please visit the University College website for more detailed admissions requirements and information about the Doctor of Liberal Arts (<http://ucollege.wustl.edu/programs/graduate/doctor-liberal-arts>).

Admission to master's degree programs is competitive and open on a selective basis to qualified individuals who have earned a baccalaureate degree. University College and the Graduate School review completed applications and make admissions decisions on a rolling basis for master's degree programs. The process typically takes four to six weeks. Accordingly, master's degree applicants should submit materials according to the following schedule in order to ensure a timely decision: November 15 for spring; April 15 for summer; July 15 for fall. Please visit the University College website (<http://ucollege.wustl.edu>) for additional program-specific admission requirements.

## Graduate Degrees in University College

- Doctor of Liberal Arts (DLA) (<http://ucollege.wustl.edu/programs/graduate/doctor-liberal-arts>)
- Master of Arts (AM) in American Culture Studies (<https://ucollege.wustl.edu/programs/graduate/masters-american-culture-studies>)
- Master of Arts (AM) in Biology (<https://ucollege.wustl.edu/programs/graduate/masters-biology>)
- Master of Arts in Education (MAEd) (<https://ucollege.wustl.edu/areas/education/masters>)
- Master of Arts (AM) in Human Resources Management (<https://ucollege.wustl.edu/programs/graduate/masters-human-resources-management>)
- Master of Arts (AM) in International Affairs (<https://ucollege.wustl.edu/programs/graduate/masters-international-affairs>)
- Master of Arts (AM) in Nonprofit Management (<https://ucollege.wustl.edu/programs/graduate/masters-nonprofit-management>)
- Master of Arts (AM) in Statistics (<https://ucollege.wustl.edu/programs/graduate/masters-statistics>)
- Master of Liberal Arts (MLA) (<https://ucollege.wustl.edu/programs/graduate/masters-liberal-arts>)
- Master of Science (MS) in Biology for Science Teachers (<https://ucollege.wustl.edu/node/1278>)

- Master of Science (MS) in Clinical Research Management (<https://ucollege.wustl.edu/programs/graduate/masters-clinical-research-management>)

*AM, MAEd, and MS in Biology degrees are conferred by the Graduate School. MS in Clinical Research Management is conferred by University College.*

\* **Note:** University College students may apply a maximum of 6 units of P/F credit from graduate-level courses in the Olin Business School to a master's degree program in University College. The courses must be authorized by University College and the Graduate School, and the student must have received Pass or High Pass in the Olin School course. Courses with grades of Low Pass are not eligible. This policy applies only to courses completed on a P/F basis in the Olin Business School prior to a student's admission to a University College graduate program of study administered by University College and conferred by the Graduate School. Once admitted to a University College program of study, students who are authorized to take courses in the Olin School and apply them toward their program of study are required to convert P/F to letter grades at the time of registration.

**Website:** <http://ucollege.wustl.edu>

## UCollege - American Culture Studies

### Master of Arts in American Culture Studies

The **Master of Arts in American Culture Studies** addresses the intellectual and moral questions of American identity and belonging that no single disciplinary perspective can comprehensively and satisfyingly resolve. What does it mean to live and work in an American culture devoted to individual success and autonomy and at the same time be a citizen of a nation devoted to collective needs and well-being?

The **Master of Arts in American Culture Studies** provides the instruction, both in specific disciplines and in cross-disciplinary conversations, to help students answer important questions about American society. It also introduces some of the social, political and cultural issues that have shaped American culture and identity. Most fundamentally, it provides a critical skill set that fosters analysis of an array of cultural objects — a place, an event, a work of art, a political institution — from a rich and diverse foundation of knowledge and perspectives.

Students' studies culminate in a self-directed project that allows them to explore an area of personal interest while participating in a multidisciplinary scholarly community. Part of the excitement of this kind of learning is the opportunity to engage in creative, rigorous exchange both with faculty in the humanities and social

sciences at Washington University in St. Louis, and with leading practitioners in the St. Louis professional and policy world.

Studies may span American literature, history, politics, religion, philosophy, art, music and film.

**Contact:** Noah Cohan  
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**Email:** ncohan@wustl.edu  
**Website:** <http://ucollege.wustl.edu/programs/graduate/masters-american-culture-studies>

## UCollege - Biology

University College offers both a Master of Arts in Biology and a Master of Science in Biology for Science Teachers.

### Master of Arts in Biology

The **Master of Arts in Biology** program helps students 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 through evening, weekend, and online courses.

Designed to be adaptable to each individual's unique background and goals, the program 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.

Students in this program have the option of choosing a concentration in neurobiology for deeper, more focused study.

### Master of Science in Biology for Science Teachers

The **Master of Science (MS) in Biology** is a two-year program designed to fit the schedules of working teachers. It includes two summer institutes, three weeks each, in residence at Washington University, along with online course work during the academic years following each summer. Students seeking the MS in Biology must satisfactorily complete 30 units of prescribed course work covering a wide range of scientific topics and methods for teaching them. The program admits new students in alternate years.

**Contact:** Ian Duncan  
**Phone:** 314-935-6719  
**Email:** duncan@wustl.edu  
**Website:** <http://ucollege.wustl.edu/programs/graduate/masters-biology>

## UCollege - Education

University College offers both a Master of Arts in Education—Instructional Process, and Post-Baccalaureate Teacher Certification.

### Master of Arts in Education—Instructional Process

Washington University's Department of Education offers a part-time **Master of Arts** degree focused on an Analysis of Practice for practicing educators in a variety of settings. This Analysis of Practice allows educators to consider multiple and enhanced approaches for data collection, analysis, and reflection on educational issues involving educational assessment data, video microanalysis, learning sciences research, and educational foundation concepts. We offer three strands of study, which each work to enhance the educator's professional development in the particular focus area.

### Post-Baccalaureate Certification

The **Post-Baccalaureate Certification** program provides students who have completed a bachelor's degree with the course work necessary to obtain a Missouri teaching certificate. All course work is available through University College during afternoon and evening hours with the exception of student teaching, which is available during the fall (elementary) or spring (middle school, secondary, and K-12) semester. Required course work is taken for undergraduate credit. Certification through this program is available in the following teaching areas:

- Secondary Education (grades 9-12): biology, chemistry, earth science, English, mathematics, physics, or social science
- Middle School (grades 5-9): English, mathematics, science, or social studies
- K-12: art, dance, world languages (Chinese, French, German, Japanese, Latin, Russian, Spanish)
- Elementary Education (grades 1-6)

**Contact:** Roshonda Ludy  
**Phone:** 314-935-6791  
**Email:** rludy@wustl.edu  
**Website:** <http://ucollege.wustl.edu/areas/education/masters>

## UCollege - Human Resources Management

### Master of Arts in Human Resources Management

Human resources managers are an integral part of the leadership team charged with directing complex organizations

and a diverse workforce. Managing people and organizations requires both functional skills in human resources as well as expertise in strategic planning and organizational development. The **Master of Arts in Human Resources Management** prepares individuals in a variety of employment settings to join other organizational leaders at the table of decision makers.

The Master of Arts in Human Resources Management provides the student with skills and information in key operational areas such as human relations and communications, compensation and benefits, training and development, employee and labor relations, and staffing and retention. Additionally, the program teaches professionals how to contribute to organizational development, change, risk management, and strategic planning.

**Contact:** Jennifer Fickeler  
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**Website:** <http://ucollege.wustl.edu/programs/graduate/masters-human-resources-management>

## UCollege - International Affairs

### Master of Arts in International Affairs

Breathtaking changes in political, economic and social relations have taken place over the past several centuries. Living and working in a rapidly changing global environment presents great opportunities to advance the human condition, promote growth and development, create political liberties, recast bargains between governments and their societies, transform social welfare, and advance the boundaries of knowledge and scientific exploration.

Yet, the same context presents great risks as people fear loss of identity, worry about economic subordination and loss to those beyond their borders, encounter environmental degradation, and confront potential decline in personal and social autonomy. Our heightened economic, political, social, cultural, and environmental interdependence generates serious challenges in areas such as social justice, health, security, development, human rights, social welfare, inequality, diversity and technology. The challenges create the possibility of conflict, but also for cooperation and compromise.

The **Masters of Arts in International Affairs** offers an interdisciplinary approach to understanding global issues. The program draws on teaching and expertise from Washington University faculty and experienced practitioners in the St. Louis region, and it provides knowledge and skills for understanding and working with some of the most difficult international and cross-cultural problems that states, societies, and communities face. Students have the opportunity to tailor their studies to explore topics such as global politics, global economics, development, international security and conflict, international

business, human rights, the role of gender, the environment and sustainability, and issues of regional importance.

Whether students are studying full-time or part-time, a range of on-campus and online courses makes it possible for them to shape their degree according to their interests and schedules.

**Contact:** Andrew Sobel  
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**Website:** <http://ucollege.wustl.edu/programs/graduate/masters-international-affairs>

## UCollege - Liberal Arts

We live today in a rich and varied culture. Every moral, social, political, and cultural question we face demands the broadest consideration we can give it, drawing from the multiplicity of methods and perspectives nurtured and cultivated in the many disciplines of a great university.

### Master of Liberal Arts (MLA)

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 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 relation 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 program provides four optional concentrations in which students may focus a portion of their work: Literary and Historical Studies; Philosophy, Religion, and Ethical Studies; Visual Culture, Arts, and Media Studies; and Science, Technology, and Culture.

The MLA program emphasizes critical thinking and inquiry, close reading, intensive writing, and problem solving, all hallmarks of a liberal arts education and essential skills for a range of professional contexts.

### Doctor of Liberal Arts (DLA)

The **Doctor of Liberal Arts** (DLA) program is designed for the experienced adult learner who wishes to pursue rigorous

interdisciplinary study along with independent, scholarly reading and research. The degree is designed to cultivate interdisciplinary skills, intellectual habits, analytical and critical reasoning, effective writing, and broad-based decision making. This degree neither constitutes a professional credential nor provides training for an academic career.

**Contact:** Stephanie Kirk  
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**Website:** <http://ucollege.wustl.edu/programs/graduate>

## UCollege - Nonprofit Management

### Master of Arts in Nonprofit Management

Nonprofit organizations confront the challenges and opportunities that mission-driven organizations face today in areas such as succession planning, volunteerism, resource development, and competitive funding. The **Master of Arts in Nonprofit Management** addresses these areas, drawing on experienced practitioners in the St. Louis area.

The graduate program in Nonprofit Management provides a range of courses addressing the major responsibilities and challenges of nonprofit and human resources management, preparing students to work effectively in the field and to enhance the management skills of those seeking a career in related fields. Administered jointly by the Graduate School and University College, the program is designed for working adults attending school on a part-time basis.

This program provides students with the skills and resources for leading mission-driven organizations as productive examples of social entrepreneurship. Grounded in the historical context of nonprofit management and philanthropy, students acquire skills in all operational areas of nonprofit management, including financial management, law, grant writing, volunteer management, resource development, research and statistical analysis, and marketing communications. At the strategic level, the program teaches leadership, organization development, strategic planning, marketing communications, and the skills of social entrepreneurship.

**Contact:** Amy Buehler  
**Email:** [abuehler@wustl.edu](mailto:abuehler@wustl.edu)  
**Website:** <http://ucollege.wustl.edu/programs/graduate/masters-nonprofit-management>

## UCollege - Statistics

### Master of Arts in Statistics

The **Master of Arts in Statistics** prepares students to perform in an information-rich, data-driven workforce that requires both general and specialized skills in statistical analysis. The 36-unit program, designed primarily for part-time study, covers essential elements of statistical studies with courses in probability, statistical computation and model building, experimental design, survival analysis, Bayesian statistics, and stochastic processes. Additionally, these courses, along with a required practicum, provide a foundation for further doctoral-level study in mathematics and statistics, or in other academic disciplines such as anthropology, biology, economics, political science, and psychology.

In addition to providing a solid theoretical foundation, the program also offers applied value, providing tools, strategies, and technical skills in areas such as predictive analytics and big data to help professionals in many fields analyze large volumes of data, make reliable and productive business decisions, and use technology efficiently. The program offers flexibility and a wide range of elective and applied courses that emphasize statistical analysis in mathematics, computer science, engineering, clinical investigation, biostatistics, economics and business. Students may choose from a broad-based pool of elective courses across disciplines, or they may organize elective course work and design the required practicum in one of the optional tracks that correspond to strong industry demand for statisticians: Biology and Health; Business and Finance; and Engineering and Materials.

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**Website:** <http://ucollege.wustl.edu/programs/graduate/masters-statistics>

## Degrees Offered

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- American Culture Studies (Certificate) (p. 26)
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## Administration

The staff members of the Graduate School are here to help students complete graduate degrees successfully. They are committed to being of service to students, and they can be of inestimable assistance in navigating a program of graduate study.

Nevertheless, students should always ask questions first of their degree program's administrative faculty and staff. Many of the Graduate School's general policies are carried out by discipline-specific implementation plans, and much of the paperwork that enables a student to proceed must come to the Graduate School from the faculty and staff of the program rather than from the student.

For a listing of the administrative staff of the Graduate School, please refer to the "Administrators" section of this page.

**Website:** <http://graduateschool.wustl.edu/administration>

## Administrators

### Dean and Vice Provost for Graduate Education

**William F. Tate** (<http://graduateschool.wustl.edu/staff/william-f-tate-iv>)

Edward Mallinckrodt Distinguished University Professor in Arts & Sciences

### Staff of the Graduate School

**Shea Ballantine** (<http://graduateschool.wustl.edu/staff/shea-ballantine>)

Marketing and Communication Specialist

**Bridget Coleman** (<http://graduateschool.wustl.edu/staff/bridget-coleman>)

Admissions and Systems Specialist

**Patti Curtis** (<http://graduateschool.wustl.edu/staff/patti-curtis>)

Administrative Assistant to Dean Tate; Student Funding Coordinator

**Amy Gassel** (<http://graduateschool.wustl.edu/staff/amy-gassel>)

Assistant Director, Student Recruiting and Systems Training

**Pat Howard** (<http://graduateschool.wustl.edu/staff/pat-howard>)

Assistant Dean; Registrar

**Lynn Lowry** (<http://graduateschool.wustl.edu/staff/lynn-lowry>)

Program Coordinator

**Ashley Macrander** (<http://graduateschool.wustl.edu/staff/ashley-macrander>)

Assistant Dean for Graduate Student Affairs

**Angie Mahon** (<http://graduateschool.wustl.edu/staff/angie-mahon>)

Assistant Registrar; Engineering Student Coordinator

**Kimberly McCabe** (<http://graduateschool.wustl.edu/staff/kim-mccabe>)

Graduate Student Leadership Coordinator

**Shawn Miller** (<http://graduateschool.wustl.edu/staff/shawn-miller>)

Finance Director

**Diana Hill Mitchell** (<http://graduateschool.wustl.edu/staff/diana-hill-mitchell>)

Associate Dean; Director of the Olin Fellowship Program

**Thi Nguyen** (<http://graduateschool.wustl.edu/staff/thi-nguyen>)

Associate Dean for Graduate Career and Professional Development

**Sheri Notaro** (<http://graduateschool.wustl.edu/staff/sheri-notaro>)

Associate Dean; Director of the Chancellor's Graduate Fellowship Program

**Rachel Pepe** (<http://graduateschool.wustl.edu/staff/rachel-pepe>)  
Operations Manager

**Janna Schmitt** (<http://graduateschool.wustl.edu/administration>)  
Payroll and Accounting Coordinator

**Susan Shannon** (<http://graduateschool.wustl.edu/staff/susan-shannon>)  
Accounting & Payroll Assistant

**Angelina Sylvain** (<http://graduateschool.wustl.edu/staff/angelina-sylvain>)  
Director, Enrollment and Assessment

## Admissions

### Eligibility

Washington University encourages and gives full consideration to all applicants for admission and financial aid 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 Graduate School 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 Graduate School's degree programs are encouraged and welcomed. To the greatest extent possible, students with disabilities are integrated into the student population as equal members.

### Application Process

Degree programs set their own application deadlines, which must be no later than January 15. Many deadlines are much earlier; applicants should check 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; students who do not matriculate that year must normally reapply. Admitted students can request a deferral of admission for up to one year, but such special requests require approval both of the admitting program and of the Graduate School. 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.

The application (<http://graduateschool.wustl.edu/apply>) is available online through the Graduate School website.

Applications are ready for final consideration after the following items have been submitted:

1. The application.
2. 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. Official transcripts will be required before an offer of admission will be made.
3. Official TOEFL scores (for international applicants whose native language is not English).
4. Three reference forms and letters of recommendation completed by persons closely acquainted with the applicant, preferably those who have recently taught the student in relevant subjects.
5. Application fee or fee waiver.
6. Any additional material or 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.

Students may be admitted to study for the PhD degree directly from baccalaureate study or after undertaking other graduate or professional education, whether at Washington University or at another accredited institution.

### 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 score reports from the Test of English as a Foreign Language (TOEFL). The test should be taken in time for results to reach Washington University directly from ETS before the application deadline.

To be eligible for a TOEFL waiver the applicant must have completed a full-time bachelor's or master's degree from a regionally accredited university located in the United States. Please note that the entire program of study must have been completed at the institution.

### Categories of Admission

Students are admitted to the Graduate School as full-time candidates for a specific degree program. 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 a degree program. 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 advisers and are accorded the same privileges as degree candidates. Applicants for SNCD study in the Graduate School should follow all application procedures outlined in the section headed "Application Process." Continuation as a Student Not Candidate for a Degree is subject to the same academic and other standards that apply to degree candidates. In special cases, SNCD students might be eligible for financial aid.

## Unclassified Graduate Student

A student who wishes to enroll for selected graduate-level courses without admission to the Graduate School is generally permitted to do so by registering as an Unclassified Graduate Student with the registrar of the Graduate School. 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 hours 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 in 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 Graduate School dean for final approval.

## Policies

Graduate students are governed by policies established by the university, the Graduate School, and the student's department, division or program. Therefore, the policies identified here, and elsewhere in this *Bulletin*, cannot be a complete list. However, every attempt has been made to identify the location of those policies which affect most or all students in the Graduate School.

In this *Bulletin*, the page University Policies (p. 8) covers many of the policies that apply to both graduate and undergraduate students, under the headings of nondiscrimination, student health, student conduct, statement of intent to graduate, and student academic records and transcripts. In addition, it refers to the university's Compliance and Policies (<https://wustl.edu/about/compliance-policies>) page. Graduate students should follow that page's links to Information Technology, Computers and Internet Policies; and to Intellectual Property and Research Policies. Most of the former, and many of the latter, will apply to all graduate students.

The Graduate School website includes a Policies & Procedures (<http://graduateschool.wustl.edu/policies-procedures>) page with links to the full texts of the following policies:

- Academic and Professional Integrity Policy for Graduate Students
- Alcohol Service at Events Sponsored by Graduate Student Organizations
- Dissenting Vote(s) at a Dissertation Defense
- Involuntary Leave Policy
- New Child Leave Policy
- Part-time Employment Policy
- Policy on Probation and Dismissal for Academic Reasons
- Student Grievance Procedures
- Time Off Policy

- Transfer of Credit Policy
- Washington University Policy on Consensual Faculty-Student Relationships

Please note that the majority of these policies cover the same topics as quite different versions, found elsewhere in the *Bulletin* and/or on the university's website, but applicable only to undergraduate students. Accessing these documents through the Graduate School website is the best way to guarantee finding the relevant policy for graduate students.

## 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 the schools.

- 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. 157).
- The Skandalaris Center (p. 158) offers co-curricular programming and practical, hands-on training and funding opportunities to students and faculty in all disciplines and schools.

## 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; however, 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, University College and the Summer School. The Washington University schools that are open to participation in the Inter-University Exchange program may have specific limitations or requirements on participation; details are available in those offices.

**The following provisions apply to all course work taken by Washington University students attending Saint Louis University or the University of Missouri-St. Louis through the Inter-University Exchange program:**

- Such courses can be used in 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 GPA, 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 adviser, 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/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 in order 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 Inter-University Exchange application form. Forms are available from the Office of the University Registrar and on its website (link below).
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 department chair) at SLU or UMSL, preferably in person.
4. The student also must obtain approval signatures of their major adviser 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 (<http://skandalaris.wustl.edu>) is the place on campus *Where Creative Minds Connect*.

### Mission

The Skandalaris Center aims to inspire and develop **creativity, innovation, and entrepreneurship** at Washington University in St. Louis.

### Who We Serve

Our initiatives serve all Washington University students, alumni, faculty, and staff and sometimes the community. We call this the **SC Network**.

### Our Initiatives

Our initiatives are divided into three parts:

1. **Get Connected** (p. 158)
2. **Get Trained** (p. 158)
3. **Get Funded** (p. 158)

### Get Connected

A great way to get started in creativity, innovation, and entrepreneurship at Washington University is to get connected with peers and various resources:

#### Join a Student Group or Fellowship

There are 14 student organizations committed to various aspects of creativity, innovation, and entrepreneurship. Some are limited to undergraduate or graduate student participation, and some support all.

Visit our Student Organizations (<https://skandalaris.wustl.edu/get-connected/student-orgs>) webpage.

#### Join the Skandalaris Center Email List

The email newsletter is the most up-to-date and complete record of upcoming opportunities.

Join the email list (<https://skandalaris.wustl.edu/get-connected/stay-connected-with-skandalaris>).

### Get Trained

The Skandalaris Center offers many programs that provide real-world, practical training in creativity, innovation, and entrepreneurship. Below are a few program examples:

1. **InSITE Fellowship** (<http://skandalaris.wustl.edu/training/insite-fellowship>)  
The InSITE Fellowship is a prestigious fellowship available to graduate students who demonstrate a passion and drive for innovation, entrepreneurship, and/or venture capital. A nationally recognized fellowship, this is an opportunity for graduate students in all schools to work with local entrepreneurs and venture capitalists (VCs) on consulting projects. In addition to connecting with local startups and VCs, fellows will have the opportunity to attend national conferences, including SXSW, and host networking events on campus.  
Washington University is among peer schools such as Stanford, MIT, Harvard, NYU, Columbia, and University of Pennsylvania, as it is one of the first schools in the Midwest, along with University of Chicago, to launch the InSITE Fellowship.
2. **Meet & Eats** (<https://skandalaris.wustl.edu/training/meet-eats>)  
"Meet & Eats" are irregularly occurring talks intended to help expose students to a variety of creators, innovators, and entrepreneurs. The topic and/or industry changes every time, but one thing remains consistent: We buy you food!
3. **Hatchery** (<http://skandalaris.wustl.edu/training/hatchery>)  
Various schools at Washington University offer entrepreneurial training for credit. One such course is The Hatchery (Business Planning for New Enterprises). It is offered by the Olin Business School in both the fall and spring semesters and is open to all students at the university.  
Students form teams around a commercial or social venture idea proposed by a student or community entrepreneur. The deliverables for the course include two presentations to a panel of judges and a complete business plan. The deliverables in the course are similar to the deliverables in the Skandalaris Center's business plan competitions and can be a valuable first step toward competitions and funding for a new venture.

### Get Funded

The Skandalaris Center offers three business plan competitions for the Washington University community:

**LEAP Inventor Challenge** (<https://skandalaris.wustl.edu/funding/leap>)

The LEAP Inventor Challenge awards funding to those with translational research and inventions with the goal of advancing

Washington University in St. Louis's intellectual property toward commercialization.

- **Who Can Apply:** Washington University faculty, postdoc, graduate student, and staff research teams
- **Award:** Award amounts vary

**The Skandalaris Center Cup (SC Cup)** (<http://skandalaris.wustl.edu/funding/sc-cup>)

The SC Cup provides expert mentorship to scalable, for-profit ventures to ready them for commercializing their idea, launching, and pitching to investors.

- **Who Can Apply:** Washington University students, postdocs, and recent alumni
- **Award:** Up to \$5K, six months of mentorship

**Suren G. Dutia and Jas K. Grewal Global Impact Award (GIA)** (<http://skandalaris.wustl.edu/funding/global-impact-award>)

GIA awards scalable, impactful, quick-to-market Washington University-affiliated startups.

- **Who Can Apply:** Washington University students, postdocs, residents, and recent alumni
- **Award:** Up to \$50K

## Learn More

Please contact the Skandalaris Center (<https://skandalaris.wustl.edu/contact-us>) for additional information about all programs. We're excited to hear from you!

**Contact:** Jessica Stanko  
**Phone:** 314-935-9134  
**Email:** [sc@wustl.edu](mailto:sc@wustl.edu)  
**Website:** <http://skandalaris.wustl.edu>

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