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About This Bulletin

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

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 2016-17 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:

- Art (PDF) (http://bulletin.wustl.edu/grad/Bulletin_2016-17_grad_art.pdf)
- Arts & Sciences (PDF) (http://bulletin.wustl.edu/grad/Bulletin_2016-17_graduate_school.pdf)
- University College (undergraduate and graduate) (PDF) (http://bulletin.wustl.edu/grad/Bulletin_2016-17_university_college.pdf)

The degree requirements and policies in the 2016-17 Bulletin apply to students entering Washington University during the 2016-17 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 (September 30, 2016). 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). Questions concerning the Bulletin may be addressed to bulletin_editor@wustl.edu.

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

- The Brown School (http://brownschool.wustl.edu)
- Olin Business School (http://olin.wustl.edu)
- School of Law (http://law.wustl.edu/academics)
- School of Medicine (http://bulletinoftheschoolofmedicine.wustl.edu)
About WUSTL

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 page (http://wustl.edu/about/facts) of our website.

Enrollment by School
For enrollment information, please visit the University Facts page (http://wustl.edu/about/facts/#students) 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 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 are detailed on the university website (http://wustl.edu/about/leadership).

Academic Calendar

Fall Semester 2016

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Description</th>
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<tbody>
<tr>
<td>August 29</td>
<td>Monday</td>
<td>Classes begin</td>
</tr>
<tr>
<td>September 5</td>
<td>Monday</td>
<td>Labor Day holiday</td>
</tr>
<tr>
<td>October 15-18</td>
<td>Saturday-Tuesday</td>
<td>Fall Break</td>
</tr>
<tr>
<td>November 23-27</td>
<td>Wednesday-Sunday</td>
<td>Thanksgiving Break</td>
</tr>
<tr>
<td>December 9</td>
<td>Friday</td>
<td>Last day of classes</td>
</tr>
<tr>
<td>December 12-14</td>
<td>Monday-Wednesday</td>
<td>Reading Days</td>
</tr>
<tr>
<td>December 15-21</td>
<td>Thursday-Wednesday</td>
<td>Final Examinations</td>
</tr>
</tbody>
</table>

Spring Semester 2017

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 16</td>
<td>Monday</td>
<td>Martin Luther King Jr. holiday</td>
</tr>
<tr>
<td>January 17</td>
<td>Tuesday</td>
<td>Classes begin</td>
</tr>
<tr>
<td>March 12-18</td>
<td>Sunday-Saturday</td>
<td>Spring Break</td>
</tr>
<tr>
<td>April 28</td>
<td>Friday</td>
<td>Last day of classes</td>
</tr>
<tr>
<td>May 1-3</td>
<td>Monday-Wednesday</td>
<td>Reading Days</td>
</tr>
<tr>
<td>May 4-10</td>
<td>Thursday-Wednesday</td>
<td>Final Examinations</td>
</tr>
<tr>
<td>May 19</td>
<td>Friday</td>
<td>Commencement</td>
</tr>
</tbody>
</table>
Summer Semester 2017

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 22</td>
<td>Monday</td>
<td>First Summer Session begins</td>
</tr>
<tr>
<td>May 29</td>
<td>Monday</td>
<td>Memorial Day holiday</td>
</tr>
<tr>
<td>July 4</td>
<td>Tuesday</td>
<td>Independence Day holiday</td>
</tr>
<tr>
<td>August 17</td>
<td>Thursday</td>
<td>Last Summer Session ends</td>
</tr>
</tbody>
</table>

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.** Located on the first floor of Gregg Residence House on the South 40, Cornerstone is the hub of academic support at Washington University. We provide undergraduate students with help in a variety of forms, including course-specific structured study groups, residential academic resources, and intensive intersession review programs in gateway courses such as chemistry and calculus. Other services include workshops on study skills, time management, and note-taking, and walk-in help desks for fundamental courses like calculus, physics and writing. Cornerstone also offers final exam work sessions and fee-based graduate and professional school entrance exam preparation courses. Additionally, Cornerstone administers TRiO, a federally funded program that offers advising, leadership development, financial assistance, and other support to undergraduate students who are low-income, the first in their family to go to college, and/or have a documented disability. On Sundays and weekday evenings, we offer flexible space where students can study, work on class projects, or relax. Most services are free, and each year, more than 2,000 students participate in one or more of our programs. For more information, visit our website (http://cornerstone.wustl.edu) or call 314-935-5970.

**Disability Resources.** Cornerstone is also home to Disability Resources, which assists students with disabilities and students with suspected disabilities by providing guidance and accommodations to ensure equal access to our campus, both physically and academically. Disability Resources serves both undergraduate and graduate students enrolled in the schools on the Danforth Campus. Students enrolled as students in the School of Medicine should contact their Program Director or their Program's Student Affairs staff member. Students enrolled in the Division of Biology & Biomedical Sciences (DBBBS) are considered graduate students in Arts & Sciences and are served by Disability Resources. Students may visit our website (http://disability.wustl.edu) or call Cornerstone at 314-935-5970 for more information.

**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. For more information, visit our website (http://oiss.wustl.edu) or call 314-935-5910.

**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 are preferred and can be made online (http://writingcenter.wustl.edu).

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

**Student Health Services**

Student Health Services (SHS) provides medical and mental health care for undergraduate and graduate students. Student Health Services 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 our 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 SHS 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. Student Health Services' 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. Student Health Services accepts most health insurance plans and will be able to bill the plan according to plan benefits when care is accessed at SHS. The student health insurance plan requires a referral any time care is not provided at SHS. Call 314-935-6666 or visit our website (http://shs.wustl.edu) to schedule an appointment 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 SHS 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 SHS lab provides full laboratory services. Approximately 20 tests can be performed in the SHS lab. The remainder of all testing that is ordered by SHS is completed by LabCorp. LabCorp serves as our reference lab and is on the student health insurance plan as a preferred provider. The SHS lab can collect any test ordered by our 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. 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 are available online (http://shs.wustl.edu). Failure to complete the required forms will delay registration and will prevent entrance into housing assignment. Please visit our website (http://shs.wustl.edu) for complete information about requirements and deadlines.

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 her or his 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 (http://shs.wustl.edu) to schedule an appointment.

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

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 can be found online (http://shs.wustl.edu) after June 1 of each year. Student Health Services 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 our website (http://shs.wustl.edu).

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 7:00 p.m. to 4:00 a.m. seven days a week. The shuttle leaves from both the Mallinckrodt Center and the Brookings Drive steps 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.

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. 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, Safety and Security on the Danforth Campus — A Guide for Students, Faculty and Staff, 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, Campus Box 1038, One Brookings Drive, St. Louis, MO 63130-4899, 314-935-9011.

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, with which you should be familiar. Web links to key policies and procedures are available on the University Registrar’s 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, age, religion, sex, sexual orientation, gender identity or expression, national origin, veteran status, disability or genetic information. Inquiries about compliance with and response to inquiries concerning Title IX should be addressed to the university’s Vice Chancellor for Human Resources, Washington University in St. Louis, Campus Box 1184, One Brookings Drive, St. Louis, MO 63130. The university has designated the Title IX Coordinator identified below to coordinate its compliance with and response to inquiries concerning Title IX. You may also submit a complaint or inquiry regarding Title IX by contacting 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. A copy of the Policy on Sexual Harassment (http://hr.wustl.edu/policies/pages/sexualharassment.aspx) is available on the Human Resources website.

For more information or to report a violation under either the Policy on Discrimination and Discriminatory Harassment or the Sexual Harassment policy, please contact:

Discrimination and Harassment Response Coordinators

Danforth Campus: Apryle Cotton, 314-935-8095, apryle.cotton@wustl.edu

School of Medicine Campus: Legail Chandler, 314-362-4900, legal_chandler@wustl.edu

Title IX Coordinator:

All campuses: Jessica Kennedy, 314-935-3118, jw kennedy@wustl.edu

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 Student Health Services. 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 Student Health Services, 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 Student Health Services (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 Student Health Services. Student information is treated securely and confidentially.

**Student Conduct**

The University Student Judicial Code addresses conduct expectations and discipline procedures for university students. The primary purpose of the behavior expectations set forth in the code is the protection of the campus community and the maintenance of an environment conducive to learning and inquiry.

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 campus-wide University Judicial Board or the University Sexual Assault Investigative 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 Judicial Code are governed by the procedures found in the University Sexual Assault Investigative 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 Judicial Administrator.

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

For a complete copy of the University Student Judicial Code, visit the university Academic Policies webpage (https://wustl.edu/about/compliance-policies/academic-policies).

**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 his or her 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 his or her own, regardless of the circumstances.
- Refer to, study from or copy archival files (e.g., old tests, homework, solutions manuals or backfiles) that were not approved by the instructor.
- Copy another’s work, or to permit another student to copy his or her work.
- Submit work as a collaborative effort if he or she 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 his or her 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 his or her 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 his or her 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 teaching assistant 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. Teaching assistants 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, he or she 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 University Student Judicial Code.

**Student rights and responsibilities in a hearing**

A student accused of an academic integrity violation — whether by a professor, teaching/graduate assistant, 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 Judicial 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 University Judicial 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, he or she may appeal to the University Judicial Board within 14 days of the original decision. Appeals are governed by Section VII C of the University Student Judicial 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 University Judicial Programs, who shall maintain a record of each incident.

Multiple offenses
When a student is formally accused of academic misconduct and a hearing is to be held by an academic integrity officer, a committee, or the University Judicial Board, the person in charge of administering the hearing shall query the director of Judicial Programs about the student(s) accused of misconduct. The director shall provide any information in his or her 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 (http://www.wustl.edu).

Transcript requests may be submitted to the Office of the University Registrar through WebSTAC. Instructions and additional information are available on the University Registrar website (http://registrar.wustl.edu).

University Affiliations
Washington University is accredited by the Higher Learning Commission (http://ncahlc.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 Center for Academic Integrity and the American Association of College Registrars.

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 (1921) (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. 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, and the Clinical Legal Education Association.

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 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, 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

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St. Louis, MO 63130-4899  
314-935-6880  
Fax: 314-935-4887  
Website: http://graduateschool.wustl.edu  
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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 published 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 non-consecutive 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, and non-resident status will no longer be available to indicate part-time status. 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 units of course work. The 72-unit calculation includes course work 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 work begins 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 course work.

**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 course work 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) 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, which give instructions regarding the format of the dissertation, are available on the Graduate School’s Policies and Guides (http://graduateschool.wustl.edu/policies-and-guides) page; 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 his or her 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 his or her 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 online to the Graduate School. The submission of the dissertation has been accepted by the Graduate School upon the request of the degree program. The student is responsible for making the full text of the dissertation accessible to the Graduate School or by his or her designee, regardless of whether they meet the normal criteria.

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 re-file 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 sexual discrimination 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 Sexual Harassment (http://hr.wustl.edu/policies/pages/sexualharassment.aspx) webpage for more information.

Time Off for Graduate Students Who Are Engaged in Research

The Graduate Council approved the following policy in 2002:

Students working toward Arts & Sciences graduate degrees are entitled to all official university holidays. (To the extent that responsibilities essential to the maintenance of research, such as replenishing liquid nitrogen stocks or feeding laboratory animals, must be done on university holidays, graduate students may be required to share in this responsibility.) Supervisors should approve other planned absences, and unplanned absences should be reported to them. "Supervisors" in the
graduates are Program Directors, and Research Rotation or Dissertation Advisors, as appropriate. The total amount of excused absence should be consistent with that of academic employees in the same area. (Assistantship or stipend payments are generally not subject to reduction as they represent agreed-upon financial aid; however, a student whose absences interfere with academic responsibilities may have his or her assistantship or stipend reduced or eliminated.) Decisions regarding the granting of time off will not be based upon the existence of or source(s) of funding. The Program Director or Department Chair should address disagreements between supervisors and students over absences. If the Director cannot resolve the dispute, the dean of the Graduate School, or his/her designee, will serve as the final arbiter.

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 absencia. Leaves of absence must be endorsed by the degree program and approved by the Graduate School for up to one year. Extensions must be re-approved.

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 Student Health Services 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). 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 his or her 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 Course Work

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)
- Film and Media Studies (p. 79)
- Language Instruction (p. 113)
- Latin American Studies (p. 91)
- Translation Studies (p. 46)
- Urban Studies (p. 122)
- Women, Gender, and Sexuality Studies (p. 124)

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 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 (http://graduateschool.wustl.edu/forms) 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 assistantship pay or fellowship 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.

Teaching Assistantships

Most PhD programs permit graduate students to work as teaching assistants. The duties of a teaching assistant vary widely across the disciplines. They may include assisting faculty in the preparation, instruction and grading of an undergraduate course; tutorial responsibilities; monitoring the laboratory segment of an undergraduate course; and, in some instances, full course responsibility. Teaching assistants are highly valued members of the Washington University instructional team. They are customarily trained by their program in the pedagogical skills required for their discipline. In addition, the Washington University Teaching Center conducts an annual university-wide orientation for all new teaching assistants, consults with the faculty on program-specific training, sponsors workshops on teaching, and helps instructors learn to use multimedia options in university classrooms. To recognize outstanding teaching by teaching assistants, the Dean's Awards for Teaching Excellence are given each spring. Awards include a certificate of recognition and a cash prize.

International students are required to pass a special pedagogy/oral proficiency examination before serving as teaching assistants. Students often find the standards for reading, writing, and speaking English required of teaching assistants to be higher than the standards they previously met for admission. A comprehensive array of courses in English as a second language is available for international students who would benefit from it. Tuition remission for one such course per semester is usually available until students complete their credit hour requirement.

Domestic students who have demonstrated financial need according to certain federally specified criteria may be eligible for teaching assistantships supported by the Federal Work Study program. Eligibility for Federal Work Study can be determined only by analysis of detailed financial information that students being appointed as teaching assistants will be asked to provide.

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 without requiring duties other than satisfactory academic progress, 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 university-wide fellowships: the Chancellor's Graduate Fellowships (http://pages.wustl.edu/cgfip) and the Mr. and Mrs. Spencer T. 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. Some funds are available through the Perkins Direct Student Loan Program. Stafford loans can be arranged for a larger number of graduate students. Applicants for these loans are required to submit both the Free Application for Federal Student Aid (FAFSA) and the Washington University Family Financial Profile (FFP). 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 Financial Information (http://graduateschool.wustl.edu/prospective_students/financial-information) pages.

**Financial Costs**

**Tuition Charges and Refunds**

The maximum tuition fee is the equivalent of 12 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) 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 Student Health Services, 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 Student Health Services. 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. 128) in its section of this Bulletin.

- Undergraduate students at Washington University may apply for the accelerated AB/AM program, in which graduation with an 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 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 course work 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 work begins 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 

\[ A = 4, \ B = 3, \ C = 2, \ \text{A plus adds} \ 0.3 \ \text{to the value of a grade, whereas a minus subtracts} \ 0.3 \ \text{from the value of a grade.} \]

#### 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) 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 his or her designee.

A Master's Thesis Guide and a Template, which give instructions regarding the format of the thesis, are available on the Graduate School's Policies and Guides (http://graduateschool.wustl.edu/policies-and-guides) page; 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 re-file 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 sexual discrimination 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 Sexual Harassment webpage for more information.

**Time Off for Graduate Students Who Are Engaged in Research**

The Graduate Council approved the following policy in 2002: Students working toward Arts & Sciences graduate degrees are entitled to all official university holidays. (To the extent that responsibilities essential to the maintenance of research, such as replenishing liquid nitrogen stocks or feeding laboratory animals, must be done on university holidays, graduate students may be required to share in this responsibility.) Supervisors should approve other planned absences, and unplanned absences should be reported to them. "Supervisors" in the graduate years are Program Directors, and Research Rotation or Dissertation Advisors, as appropriate. The total amount of excused absence should be consistent with that of academic employees in the same area. (Assistantship or stipend payments are generally not subject to reduction as they represent agreed-upon financial aid; however, a student whose absences interfere with academic responsibilities may have his or her assistantship or stipend reduced or eliminated.) Decisions regarding the granting of time off will not be based upon the existence of or source(s) of funding. The Program Director or Department Chair should address disagreements between supervisors and students over absences. If the Director cannot resolve the dispute, the dean of the Graduate School, or his/her designee, will serve as the final arbiter.

**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 Student Health Services 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 Student Health Services 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 Student Health Services (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). 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 his or her 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 Accelerated AB/AM Program webpage 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. Students in some master's programs may be able to obtain work as an instructional aide.

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. Some funds are available through the Perkins Direct Student Loan Program. Stafford loans can be arranged for a larger number of graduate students. Applicants for these loans are required to submit both the Free Application for Federal Student Aid (FAFSA) and the Washington University Family Financial Profile (FFP). 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 Financial Information (http://graduateschool.wustl.edu/prospective_students/financial-information) pages.

Instructional Aides

These are awarded to eligible students based on curricular needs of departments and programs and are not guaranteed in advance. Students can be assigned to assist a faculty member in teaching a course. The duties of instructional aides vary widely across the disciplines. They may include assisting faculty in the preparation, instruction and grading of an undergraduate course, in monitoring the laboratory segment of an undergraduate course, or in tutorial responsibilities.

Financial Costs

Tuition Charges and Refunds

The maximum tuition fee is the equivalent of 12 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) 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 Student Health Services, 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 Student Health Services. 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.

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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 work 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 graduate certificate programs 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
Phone: 314-935-5569
Email: gallinat@wustl.edu
Website: 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 page (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 of course work 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 work in the home department, to be determined in consultation with the graduate director.
  - Routine consultation with an AMCS faculty adviser outside the host department, in addition to the student’s principal PhD adviser.
  - Completion of a PhD dissertation in an Americanist 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 fall; two Multi-Disciplinary (MD) courses, which foreground explicit conversation between field-specific discourses and are often team-taught; 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 teaching assistantships 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 teaching assistantship, 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) webpage.

Anthropology

The graduate program in Anthropology at Washington University is a PhD program designed to train 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 Physical 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 Physical 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: 314-935-5181 or 314-935-7770 or 314-935-5252

Website: http://anthropology.artsci.wustl.edu/graduate

Faculty

Chair

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PhD, Harvard University

Endowed Professors

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Margaret Bush Wilson Professor in Arts & Sciences
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Dunbar-Van Cleve Professor in Arts & Sciences
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Henry Luce Professor of Collective and Individual Memory
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Gayle J. Fritz (http://anthropology.artsci.wustl.edu/fritz_gayle)
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PhD, Michigan State University

Glenn D. Stone (http://anthropology.artsci.wustl.edu/stone_glenn)
PhD, University of Arizona

David Strait (http://anthropology.artsci.wustl.edu/strait_david)
PhD, State University of New York–Stony Brook

Associate Professors

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Heather O’Leary
PhD, University of Minnesota

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
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PhD, University of Michigan

Pedro C. Cavalcanti
PhD, University of Warsaw

James M. Cheverud (http://anthropology.artsci.wustl.edu/cheverud_james)
PhD, University of Wisconsin-Madison

G. Edward Montgomery
PhD, Columbia University

Patty Jo Watson (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 Graduate School Bulletin General Requirements (p. 14) section. 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 he or she is 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 course work 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 his or her 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), Physical Anthropology (http://anthropology.artsci.wustl.edu/graduate/physical), 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).

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 training 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.** Students entering in fall 2010 or after must fulfill the following teaching requirements:
   a. Attendance at five Teaching Center or anthropology department Teaching/Professional workshops
   b. The mandatory campus-wide TA Orientation counts as one workshop toward this fulfillment
   c. Four professional presentations (at professional conferences or formal talks in the department or elsewhere on campus)
   d. Participation as a Teaching Assistant in at least one course taught by an anthropology department faculty member
   e. Teaching a course at Washington University, University College, or another accredited institution (or demonstration of equivalent experience by petition to the Graduate Committee of the Department)
   f. Meet with the Department Tutor at least twice (in second and third year)
   g. **Note:** Students entering the program in fall 2007, 2008, 2009 have the option of following the previous system (14 units of basic teaching; 4 units of advanced teaching, such as presenting papers at professional meetings) or the new system outlined above.

5. **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_Antropology.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 her or his 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 (available on the Graduate School's Policies and Guides page (http://graduateschool.wustl.edu/policies-and-guides)) for the Graduate School requirements regarding a dissertation that includes previously written materials.

Miscellaneous

1. Four-Year Milestone — Filing Notice of Title, Scope, and Procedure of Dissertation Form. At the end of their fourth year of full-time study, students are expected to have completed all the PhD requirements except for the dissertation. Students who cannot identify three faculty members who are willing to serve on their committee are not considered to be making satisfactory academic progress. Students in their fourth year of full-time study are required to submit the “Notice of Title, Scope, and Procedure of Dissertation” form to the graduate school by the beginning of the fifth year of full-time enrollment in the Graduate School.

2. Changing Academic Advisers and Committees. Students may change advisers and committee members at any time in their graduate career by finding new faculty members willing to take on such duties and by informing the chair of the department in writing. Any faculty member who opposes such changes may raise objections with the faculty committee responsible for the oversight of the status and progress of students.

Specific Subfield Requirements

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

- Archaeology (http://anthropology.artsci.wustl.edu/graduate/archaeology)
- Physical Anthropology (http://anthropology.artsci.wustl.edu/graduate/physical)
- 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, Medieval 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 teaching assistants or instructors of record) as part of their professional preparation.

Our faculty train 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 training 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, 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

Assistant Professors

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

Kristina Kleutghen (http://arthistory.artsci.wustl.edu/people/kristina-kleutghen)
David W. Mesker Career Development Professor
PhD, Harvard 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

Affiliated Faculty

David Freidel (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)
Rebecca & John Voyles Professor of Architecture
PhD, Princeton University

Professors Emeriti

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 Cakmak
PhD, University of Michigan

David Conradsen
MA, University of Delaware

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

Sam Kelly
PhD, Oxford University

Eric Lutz
PhD, University of California, Santa Barbara

Judith Mann
PhD, Washington University

Melissa Wolfe
PhD, Ohio State University

Elizabeth Wyckoff
PhD, Columbia University

Guest Scholar, Pulitzer Foundation

Tamara Schenkenberg
PhD, University of Wisconsin–Madison

Cara Starke
Director
MA, Williams College

Degree Requirements

Applicants for admission 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**

There are 2 options: Thesis and Non-Thesis. Both entail 36 credit hours over four semesters. All students must take the required graduate seminar, Methods in Art History, and pass a reading proficiency exam in a modern foreign language (or exempt this requirement through graded course work in the language). Students in ancient art and Asian art may have additional language requirements. The Thesis option culminates in an oral defense of the AM thesis before a committee. The Non-Thesis option culminates in a written exam based on AM course work.

**PhD in Art History and Archaeology**

**Requirements for the PhD degree**

In addition to the AM Thesis option requirements completed at Washington University, over the next two years a PhD student takes additional course work (normally 24 credit hours); demonstrates reading proficiency in a second modern foreign language; prepares for and passes a Comprehensive Exam; prepares and defends a Dissertation Prospectus; and begins dissertation research. Students in ancient art and Asian art may have additional language requirements.

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

- completed all course work;
- determined a three-person Research Advisory Committee for the dissertation;
- passed the Comprehensive Exam in the major area and one minor area;
- prepared and 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, with a thesis, from another university will normally need to add one semester of course work to the post-AM requirements above.

**Biology & Biomedical Sciences**

The Division of Biology & Biomedical Sciences at Washington University offers exceptional doctoral training at one of the nation's preeminent biomedical research centers. The Division includes 12 doctoral programs:

- Biochemistry
- Computational & Molecular Biophysics
- Computational & Systems Biology
- Developmental, Regenerative & Stem Cell Biology
- Evolution, Ecology & Population Biology
- Human & Statistical Genetics
- Immunology
- Molecular Cell Biology
- Molecular Genetics & Genomics
- Molecular Microbiology & Microbial Pathogenesis
- Neurosciences
- Plant & Microbial Biosciences

A collaborative, interdisciplinary approach to research and education is a hallmark of Washington University and the Division. As a university-wide consortium, the Division transcends departmental lines and removes traditional boundaries of scientific fields. Faculty and graduate students regularly cross disciplines, devising novel questions and approaches that might otherwise go unexplored. The Division currently consists of 650 graduate students and over 475 faculty members from 34 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.mobot.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.

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 program faculty members. (http://dbbs.wustl.edu/divprograms/devbio/Pages/Faculty.aspx)


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 program faculty members. (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, Mammalian genetics, systems biology
Visit our website for information about program faculty members. (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 program faculty members. (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 program faculty members. (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 program faculty members. (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, comparative genomics, microbiome and host interactions, virology, bacteriology, mycology, parasitology
Visit our website for information about program faculty members. (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 program faculty members. (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 program faculty members. (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 his or her individual needs. Each of the 12 programs establishes its own degree requirements.

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

**Course Work**
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 course work is 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 his or her 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 training. 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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Degree Requirements

PhD in Business Administration

PhD students must complete 72 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

- Course work 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
- 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.

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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

Joseph J.H. Ackerman (http://www.chemistry.wustl.edu/faculty/ackerman)
William Greenleaf Eliot Professor
PhD, Colorado State University

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

Jacob Schaefer (http://www.chemistry.wustl.edu/faculty/schaefer)
Charles Allen Thomas Professor of Chemistry
PhD, University of Minnesota

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

Professors

John R. Bleeke (http://www.chemistry.wustl.edu/faculty/bleeke)
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)
PhD, University of Minnesota

Sophia E. Hayes (http://www.chemistry.wustl.edu/people/primary-faculty/sophia-e-hayes)
PhD, University of California, Santa Barbara

J. Dewey Holten (http://www.chemistry.wustl.edu/faculty/holten)
PhD, University of Washington

Ronald A. Lovett (http://www.chemistry.wustl.edu/faculty/lovett)
PhD, University of Rochester

Liviu Mirica (http://www.chemistry.wustl.edu/faculty/mirica)
PhD, Stanford University
Kevin D. Moeller (http://www.chemistry.wustl.edu/faculty/moeller)
PhD, University of California, Santa Barbara

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.)

Gary Patti (http://www.chemistry.wustl.edu/faculty/patti)
PhD, Washington University

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

Bryce Sadler (http://www.chemistry.wustl.edu/faculty/sadler)
PhD, University of California, Berkeley

Timothy Wencelwicz (http://www.chemistry.wustl.edu/faculty/wencelwicz)
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, passing four cumulative exams within the first four semesters (at least two of which should be in the student's chosen subdiscipline), and annual recertification in laboratory safety.

Almost all students serve as teaching assistants in their first two years and must perform satisfactorily in their TA duties. 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 antiquity via the languages and literatures, the history, and the art and architectural remains. The Master of Arts in Classics is ideal preparation either for PhD work or for a career in secondary teaching, and has a strong placement record in both areas. The Doctor of Philosophy program prepares candidates primarily for careers in research and university teaching. Both programs provide rigorous training 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 training 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 Wulfing Coin Collection, an internationally recognized resource that can be applied to studies in numismatics, history, economics, and art; a small collection of papyri housed in Olin Library; and a departmental archive of epigraphical and papyrological materials.

Contact: Catherine Keane
Phone: 314-935-5123
Email: classics@wustl.edu
Website: https://classics.artsci.wustl.edu

Faculty

Chair and Endowed Professor

Timothy Moore (https://classics.artsci.wustl.edu/moore)
John and Penelope Biggs Distinguished Professor of Classics; Department Chair
PhD, University of North Carolina
Professor Moore's work concentrates on several areas of classical antiquity, including the comic theatre of Greece and Rome, Greek and Roman music, and Roman historiography. Current projects include a book on music in Roman tragedy, articles on the history and performance of Roman comedy, and a long-range project on the influence on the modern world of the Roman historian Livy. He also has interests in the history of theatre, especially American musical theatre and Japanese Kyogen comedy.

Professor

Catherine Keane (https://classics.artsci.wustl.edu/keane)
Director of Graduate Studies
PhD, University of Pennsylvania
Professor Keane's research and teaching interests range broadly over Greek and Roman literature and culture, but center on the comic genres and their engagement with moral, social, and literary problems. Her research focuses on the Roman verse satirists Lucilius, Horace, Persius, and Juvenal.

Associate Professors

William Bubelis (https://classics.artsci.wustl.edu/bubelis)
Director of Undergraduate Studies; Curator of the Wulfing Coin Collection
PhD, University of Chicago
Greek history and epigraphy (especially Athens and the Peleponnese, and Northern Greece); Economic history and numismatics (particularly taxation and fiscal behavior, banking, numeracy); Ancient religion and its institutional dimensions, especially as they intersect with economics; Attic oratory and historiography; the political economy of the ancient Near East (especially Iron Age Mesopotamia, Cyprus, and the Achaemenid Empire)

Zoe Stamatopoulou (http://classics.artsci.wustl.edu/zoe-stamatopoulou)
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, Ipyric 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

Karen Acton (https://classics.artsci.wustl.edu/karen-acton)
PhD, University of Michigan
The history of Rome, especially in the late Republic and early Empire; Roman historiography; Roman numismatics

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

Luis Alejandro Salas (https://classics.artsci.wustl.edu/luis-salas)
PhD, University of Texas
Greek and Roman medicine, philosophy, and intellectual history; medical and philosophical sectarianism; Galen of Pergamum; Aristotelian psychology; Greek prose

Lecturers

Kathleen Gibbons (http://classics.artsci.wustl.edu/kathleen-gibbons)
PhD, University of Toronto
Kathleen Gibbons' research explores early Christian participation in ancient philosophical discussions, especially with respect to Clement of Alexandria’s engagement with debates about metaphysics, cosmology and autonomy in the context of his theorization of the Mosaic law. Her other work explores how early Christian philosophical discourse intersected with their discussions of astrology, ethnography and asceticism.

Kristin Mann (http://classics.artsci.wustl.edu/kristin-mann)
PhD, University of California, Los Angeles
Kristin Mann's main research interests are the Greek and Latin fable collections, the literature and culture of the early Roman Empire, and the ancient Greek novel. Her dissertation, The Fabulist in the Fable Book, examines how the presence of the fabulist in the fable book — his biography, his self-characterizations, and his statements of purpose — combine to form a hermeneutic frame through which the fables may be interpreted. She is currently working on an article on the pedagogical purpose of the poetic quotations in Seneca’s Epistulae Morales.
Kathryn Wilson (http://classics.artsci.wustl.edu/kathryn-wilson)  
PhD, University of Pennsylvania  
Kathryn 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  
Merritt Sale (http://classics.artsci.wustl.edu/sale)  
PhD, Cornell 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 planning 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.

Course work: 36 units, including:
Specific required courses: 6 units
Classics 502 Research and Publication on the Greco-Roman World (3 units) - a proseminar on materials and methods of the profession
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)
All units must be at the 400 level or above.
At least 6 units in Greek (L09) (one or more options is offered every semester)
At least 6 units in Latin (L10) (one or more options is offered every semester)
Most remaining courses will be in Greek, Latin, and Classics. With the guidance of the Director of Graduate Studies, students may take 3 units of course work 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 course work 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. The examination will require the student to demonstrate competence in translation and interpretation, as well as knowledge of the relevant scholarship.

PhD in Classics
The Classics PhD requires 72 graduate units of course work 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. 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.

Course work: 54 units, including:
Specific required courses: 9 units
Classics 502 Research and Publication on the Greco-Roman World (3 units) - a proseminar on materials and methods of the profession
Classics 510 Comparative Greek and Latin Grammar (3 units) (offered every two years, alternating with Classics 502)
Classics 515: A course in Classics pedagogy (3 units) (to be offered every two years)
Other course requirements: 27 units
At least 12 units in Greek (L09) (one or more options is offered every semester)
At least 12 units in Latin (L10) (one or more options is 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

**Modern language competence**
- German and French, or German and Italian; the requirement may be fulfilled by course work or examination in each case.

**Dissertation requirements**
- Dissertation prospectus
- Dissertation colloquium
- Dissertation
- Dissertation defense

**Comparative Literature**
The Comparative Literature program at Washington University offers an AM; a 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 and public intellectuals from around the world who wish to enhance their career by coupling it with academic training in comparativist 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.

**Contact:** Rebecca O'Laughlin  
**Phone:** 314-935-5170  
**Email:** complit@wustl.edu  
**Website:** http://complit.artsci.wustl.edu  

**Faculty**

**Director**
- **Lynne Tatlock**  
- Hortense and Tobias Lewin Distinguished Professor in the Humanities  
- PhD, Indiana University

**Endowed Professors**
- **Robert E. Hegel**  
- Liselotte Dieckmann Professor of Comparative Literature in Arts & Sciences and Professor of Chinese  
- PhD, Columbia University
- **Paul Michael Lützeler**  
- Rosa May Distinguished University Professor in the Humanities  
- PhD, Indiana University
- **Timothy Moore**  
- John and Penelope Biggs Distinguished Professor of Classics  
- PhD, University of North Carolina
- **Gerhild Scholz Williams**  
- Barbara Schaps Thomas and David M. Thomas Professor in the Humanities; Associate Vice Chancellor for Academic Affairs  
- PhD, University of Washington

**Professors**
- **Nancy E. Berg**  
- PhD, University of Pennsylvania
- **Matt Erlin**  
- PhD, University of California, Berkeley
- **Robert K. Henke**  
- PhD, University of California, Berkeley
- **Joseph Loewenstein**  
- PhD, Yale University
- **Marvin H. Marcus**  
- PhD, University of Michigan
- **Stamos Metzidakis**  
- PhD, Columbia University
Anca Parvulescu (http://complit.artsci.wustl.edu/people/anca-parvulescu)
PhD, University of Minnesota

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)
PhD, University of Virginia

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

Jennifer Kapczynski (http://german.wustl.edu/people/kapczynski-jennifer)
PhD, University of California, Berkeley

Catherine Keane (http://classics.artsci.wustl.edu/keane)
PhD, University of Pennsylvania

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

Tabea Linhard (http://complit.artsci.wustl.edu/people/tabea-linhard)
PhD, Duke University

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

Jessica Rosenfeld (http://english.artsci.wustl.edu/Jessica_Rosenfeld)
PhD, University of Pennsylvania

Assistant Professors

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

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

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

Lecturers

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

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

Professors Emeritae

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

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

Degree Requirements

PhD in Comparative Literature

The PhD in Comparative Literature program requires 60 units of course work plus a dissertation. Course distribution includes at least 12 core credits in comparative literature seminars, including CompLit 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 course work, 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 66 units of course work, 12 of which must be core courses in Comparative Literature, including CompLit 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 work, including CompLit 502 and three additional courses in Comparative Literature on the graduate level. The remaining 24 units of graduate course work may be pursued in Comparative Literature or in affiliated departments or programs. Students desiring to be admitted to the PhD should plan their course of study so as to build a solid foundation for the PhD. 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 funded by teaching assistantships teach in Comparative Literature and/or in one of our allied programs, including language instruction. In order to be qualified to serve as a teaching assistant 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 units of course work 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 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.coca-stl.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
Website: http://pad.artsci.wustl.edu/MFA

Faculty

Dance

Mary-Jean Cowell (http://pad.artsci.wustl.edu/maryjean_cowell)
Associate Professor
PhD, Columbia University
Modern dance technique; theory and composition; dance history and ethnology

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 (christine-knoblauch-oneal)
Professor of the Practice
PhD, Texas Women's University
Ballet; applied anatomy; musical theater; performance studies

David Marchant (david-marchant)
Professor of the Practice
MFA, University of Iowa
Modern dance; composition; improvisation, Alexander Technique; somatic studies

Cecil Slaughter (cecil-slaughter)
Professor of the Practice
MFA, University of Iowa
Horton modern dance technique

Theater Studies

Pannill Camp (pannill_camp)
Associate Professor
PhD, Brown University
18th-century French theater; dramatic theory; theater architecture

Robert Henke (robert_henke)
Professor
PhD, University of California, Berkeley
Ancient and Renaissance theater and performance; comparative literature; dramatic theory

Paige McGinley (paige-mcginley)
Assistant Professor
PhD, Brown University
20th-century theater and performance; race, ethnicity and performance; American studies

Henry I. Schvey (henry-i-schvey)
Professor
PhD, Indiana University
Modern American and European drama; Shakespeare in production; expressionism and the arts; Tennessee Williams

Julia Walker (julia-walker)
Associate Professor
PhD, Duke University
Theatrical modernism; performance theory; history of acting

Acting and Directing

Ron Himes (ron-himes)
Henry E. Hampton Jr. Artist-in-Residence
BA, Washington University
African-American theater

Jeffery Matthews (jeffery-mathews)
Professor of the Practice
MFA, Virginia Commonwealth University
Acting; directing; voice and speech

Annamaria Pileggi (annamaria-pileggi)
Professor of the Practice
MFA, Brandeis University
Acting; movement; musical theater; robotics and expressive simulation; theatre for social change

Andrea Urice (andrea-urice)
Senior Lecturer
MFA, University of Virginia
Directing; acting; creative studies

William Whitaker (william-whitaker)
Professor of the Practice
MFA, Florida Atlantic University
Acting; directing

Design and Technical Theater

Bonnie Kruger (bonnie-kruger)
Professor of the Practice
MFA, University of Illinois
Costume design; history and construction; rendering; baroque opera

Robert Mark Morgan (robert-mark-morgan)
Senior Lecturer
MFA, San Diego State University
Scenic design

Sean Savoie (sean-savoie)
Senior Lecturer
MFA, University of Cincinnati-College Conservatory of Music
Lighting design; production management

Playwriting

Carter W. Lewis (carter-w-lewis)
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 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 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 478 The Eye of the Mask: A Multicultural History of the Theater through Mask Making and Design (3 units)
Dance 506 Topics in Contemporary Arts Practice Research (3 units)
Dance 507 Problems 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. At least 3 units must be in a 500-level class. 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. 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. 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.

**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 training has a strong research emphasis that begins immediately upon arrival. Graduate work emphasizes modern, quantitative approaches to studying earth, planetary, and environmental systems. Graduate study may involve field and laboratory work 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.

**Faculty**

**Chair**

Viatcheslav S. Solomatov
PhD, Moscow Institute of Physics and Technology

**Endowed Professors**

Raymond E. Arvidson
James S. McDonnell Distinguished University Professor
PhD, Brown University

Bradley L. Jolliff
Scott Rudolph Professor of Earth and Planetary Sciences
PhD, South Dakota School of Mines and Technology

Douglas A. Wiens
Robert S. Brookings Distinguished Professor
PhD, Northwestern University

**Professors**

Robert E. Criss
PhD, California Institute of Technology

Robert F. Dymek
PhD, California Institute of Technology

M. Bruce Fegley
PhD, Massachusetts Institute of Technology

William B. McKinnon
Bill_McKinnon)
PhD, California Institute of Technology

Jill D. Pasteris
PhD, Yale University

Jennifer Smith
Dean of the College of Arts & Sciences
PhD, University of Pennsylvania

William Hayden Smith
PhD, Princeton University

Michael E. Wysession
PhD, Yale University

**Associate Professors**

Jeffrey G. Catalano
PhD, Stanford University

David A. Fike
PhD, Massachusetts Institute of Technology

Philip A. Skemer
PhD, Yale University

**Assistant Professors**

Alexander S. Bradley
PhD, Massachusetts Institute of Technology

Michael Krawczynski
PhD, Massachusetts Institute of Technology

Rita Parai
PhD, Harvard University

Kun Wang
PhD, Washington University

**Professors Emeriti**

Ghislaine Crozaz
PhD, Université Libre de Bruxelles

Harold L. Levin
PhD, Washington University

Roger J. Phillips
PhD, University of California, Berkeley

Frank A. 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 Advisor 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 training and 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 AM in Chinese and Japanese, and the 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
Professor
PhD, Columbia University
Japanese literature

Endowed Professor
Robert Hegel
Liselotte Dieckmann Professor of Comparative Literature
PhD, Columbia University
Chinese literature

Professors
Beata Grant
PhD, Stanford University
Chinese; religious studies

Marvin H. Marcus
PhD, University of Michigan
Japanese literature

Associate Professors
Lingchei Letty Chen
PhD, Columbia University
Chinese language

Ji-Eun Lee
PhD, Harvard University
Korean literature
Jamie Newhard
PhD, Columbia University
Japanese literature

Assistant Professor
Zhao Ma
PhD, Johns Hopkins University
Chinese history

Professor of the Practice
Virginia S. Marcus
MA, University of Michigan, New York University
Japanese language

Senior Lecturers
Shino Hayashi
MA, University of Wisconsin, University of Minnesota
Japanese language

Mijeong Mimi Kim
EdD, University of San Francisco
Korean language

Xia Liang
MA, Beijing Normal University
Chinese language

Judy Zhijun Mu
PhD, University of Illinois at Urbana-Champaign
Chinese language

Wei Wang
MA, University of Minnesota, Beijing Language and Culture University
Chinese language

Fengtao Wu
MA, Indiana University Bloomington
Chinese language

Lecturers
Wenhui Chen
MA, National Taiwan Normal University
Chinese language

Insung Ko
PhD, University of Hawaii at Manoa
Korean language

Ke Nie
MA, Capital Normal University
Chinese language

Jingyi Wang
MA, Capital Normal University
Chinese language

Kanako Yao
MA, 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 training may be applied.
2. At least two semesters of literary history courses.
3. A research proseminar, preferably in the first year of study.
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 training in 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. Unless the student has taken graduate-level course work in the relevant research language(s) or demonstrated sufficient competence in other ways, language competence examinations will be required by the end of course work. All students gain teaching experience in both language and literature. Students may serve as teaching assistants in lower-level Chinese or Japanese courses; advanced graduate students may serve as instructors of a course which includes Chinese or Japanese texts.
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 course work, 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 & area studies. The program offers the AM in East Asian Studies, a broad-ranging study of East Asia across regional, historical, and disciplinary boundaries. Students may pursue language training in Chinese, Japanese, or Korean.

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Faculty

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Associate Professor
PhD, Columbia University
History; International and Area Studies

Endowed Professor
Robert E. Hegel (http://ealc.wustl.edu/people/hegel_robert-e)
Lieselotte Dieckmann Professor of Comparative Literature
PhD, Columbia University
East Asian Languages and Cultures

Professors
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Beata Grant (http://ealc.wustl.edu/people/grant_beata)
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East Asian Languages and Cultures

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PhD, Columbia University
East Asian Languages and Cultures
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East Asian Languages and Cultures
Steven B. Miles (http://history.artsci.wustl.edu/steve_miles)
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History
Jamie Newhard (http://ealc.wustl.edu/people/jamie-newhard)
PhD, Columbia University
East Asian Languages and Cultures

Assistant Professors
Kristina Kleutghen (http://arthistory.artsci.wustl.edu/people/kristina-kleutghen)
David W. Mesker Career Development Professor of Art History
PhD, Harvard University
Art History
Seng Kuan (http://www.samfox.wustl.edu/portfolios/faculty/seng_kuan)
PhD, Harvard University
Architecture
Diane Lewis (http://fms.artsci.wustl.edu/people/diane-wei-lewis)
PhD, University of Chicago
Film and Media Studies
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PhD, Johns Hopkins University
East Asian Languages and Cultures
Priscilla Song (http://anthropology.artsci.wustl.edu/song_priscilla)
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Anthropology
Professor of the Practice
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MA, University of Michigan, New York University
East Asian Languages and Cultures

Senior Lecturers
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East Asian Languages and Cultures
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EdD, University of San Francisco
East Asian Languages and Cultures
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MA, Beijing Normal University
East Asian Languages and Cultures
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MA, University of Minnesota, Beijing Language and Culture University
East Asian Languages and Cultures
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MA, University of Indiana Bloomington
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Wenhui Chen (http://ealc.wustl.edu/people/chen_wenhui)
MA, Taiwan Normal University
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PhD, Nagoya University
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Insung Ko (http://ealc.wustl.edu/people/insung-ko)
PhD, University of Hawaii at Manoa
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Ke Nie (http://ealc.wustl.edu/people/nie_ke)
MA, Capital Normal University
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)
MA, 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 training 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 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 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 training 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 PhD degree in economics. At this time, we do not offer a terminal AM in our program.

The department offers students financial support while in good academic standing.
Contact: Sonya Woolley  
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Email: woolley@wustl.edu  
Website: http://economics.wustl.edu/graduate

Faculty
Co-Chairs
John Nachbar (http://economics.wustl.edu/nachbar)  
Professor, Department Chair  
PhD, Harvard University  
Economic theory
Marcus Berliant (http://economics.wustl.edu/berliant)  
Professor, Department Associate Chair  
PhD, University of California, Berkeley  
Public finance; mathematical economics; urban economics

Endowed Professors
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)  
Joseph Gibson Hoyt Distinguished Professor in Arts & Sciences  
PhD, University of Rochester  
Economic theory; economic growth; macroeconomics
Steven 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)  
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)  
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)  
Hennrich 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)  
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)  
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)  
PhD, Cornell University  
Macroeconomics; monetary and international economics
Robert Parks (http://economics.wustl.edu/people/parks)  
PhD, Purdue University  
Econometrics; public finance
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
Sukkoo Kim (http://economics.wustl.edu/people/sukkoo_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
Yongsok Shin (http://economics.wustl.edu/people/Yongsok_Shin)
PhD, Stanford University
Macroeconomics; economic growth

Jonathan Weinstein (http://economics.wustl.edu/people/jonathan-weinstein)
PhD, Massachusetts Institute of Technology

Assistant Professors
Ian Fillmore (https://economics.wustl.edu/people/ian-fillmore)
PhD, University of Chicago

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 multi-dimensional human capital and their implications for occupational mobility and wage growth

Degree Requirements
PhD in Economics

General Course Requirements
The PhD in Economics takes five years to complete and requires at least two years of course work in 500-level classes with a 3.0 grade point average. Students may transfer up to 24 units of graduate work completed elsewhere but are advised to make such a transfer only after consultation with the Director of Graduate Studies.

Course work 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
• Econ 501 Macroeconomics I/Econ 502 Macroeconomics II
• Econ 503 Microeconomics I/Econ 504 Microeconomics II
• Econ 511 Quantitative Methods I/Econ 5161 Applied Econometrics
• Econ 512 Quantitative Methods in Economics II

Year 2
• Preliminary exams in late August, retake preliminary exams (if necessary) in December
• Field courses
• Research paper proposal

Year 3
• Complete research paper
• Field courses
• Dissertation proposal

Year 4
• Work on 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 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 joint degree program with the Brown School. The teacher education program principles are commitment to equitable and just education for all students; knowledge of both the subject(s) to be taught and best practices in pedagogy; 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. 130) page of this Bulletin.

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**Faculty**

**Chair**  
Cindy Brantmeier  
Professor of Education and Applied Linguistics  
PhD, Indiana University Bloomington

**Associate Chair**  
Odis Johnson Jr.  
Associate Professor and Director of Graduate Studies  
PhD, University of Michigan, Ann Arbor

**Endowed Professor**  
William F. Tate  
Edward Mallinckrodt Distinguished University Professor in Arts & Sciences  
PhD, University of Maryland, College Park

**Professor**  
Carol Camp Yeakey  
PhD, Northwestern University

**Associate Professors**

Garrett A. Duncan  
PhD, The Claremont Graduate School

Mary Ann Dzuback  
PhD, Columbia University

Rowhea Elmesky  
PhD, Florida State University

**Assistant Professors**

Ebony Duncan  
PhD, Vanderbilt University

Michelle Purdy  
PhD, Emory University

**Degree Requirements**

**Master of Arts in Education**

The MAEd program for students seeking elementary teacher certification requires 48 credit hours in Professional Education course work, which includes 8 credit hours of student teaching during the final semester. The course work is typically completed in three semesters. The first fall semester consists of foundation courses in education, including educational psychology and teaching reading course work. 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. The second fall (and final semester) includes 12 weeks of student teaching, as well as courses for reading and creating a teaching portfolio. If students successfully complete the program and the state-mandated certification assessments, then they will be eligible for initial teacher certification in Missouri for elementary education grades 1-6.

**Master of Arts in Teaching**

The MAT program for students seeking secondary teacher certification requires at least 30 credit hours in Professional Education course work plus 12 graduate credit hours in their teaching subject area. The course work is typically completed in three semesters. The first fall semester includes foundation courses in educational psychology as well as a Curriculum & Instruction course and the field experience seminar requiring 50 hours of school observation. Spring semester consists of 12-14 weeks of student teaching (8 credit hours), as well as courses for reading in the content area and creating a teaching portfolio. The final fall semester includes course work in the chosen subject area, as well as remaining education courses required for certification. If students successfully complete the program and the state-mandated certification assessments, then
other programs. Students encounter a diversity of disciplinary

opportunities to work closely with many of the faculty in the
department within Arts & Sciences is that students have multiple
of the professional educator. An advantage of a small
defended, usually between the fifth and seventh year of study.
writing for the dissertation. A dissertation is then completed and
year, before they continue with the bulk of their research and
have a dissertation proposal approved, generally by the fourth
submitting a Qualifying Portfolio of written work before moving
to the dissertation phase of the program. Students must
major strand of study and additional concentrations. By the
history, methodology, and doctoral seminars, as well as in their
students apply for a subject in which they have completed (or will complete) a bachelor's degree (or the course work equivalent to an undergraduate major).

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 course work 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 coursework 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 training 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://engineering.wustl.edu/our-school/why-wash-u-engineering/Pages/Improving-Medicine-Health.aspx), 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. 59)
• Computer Science & Engineering (p. 62)
• Electrical & Systems Engineering (p. 64)
• Energy, Environmental & Chemical Engineering (p. 67)
• Materials Science & Engineering (p. 70)
• Mechanical Engineering & Materials Science (p. 74)

Biomedical Engineering

Modern biomedical engineers face a far different world than those trained even two decades ago. Explosive advances in our ability to probe and understand molecular and cellular processes and their interconnections now make it imperative that the powers of engineering be brought to bear at ever smaller, as well as at systemwide, levels. This will not only produce new discoveries at the most fundamental levels but also accelerate the translation of these discoveries into practical applications.

Our vision is that future leaders and lasting impact will arise from successfully integrating engineering concepts and approaches across molecular to whole body levels. Moreover, those also trained to integrate the analytical, modeling and systems approaches of engineering with the complex, and sometimes overwhelming, descriptive details of biology will be uniquely positioned to address new and exciting opportunities. We are committed to educating and training the next generation of biomedical engineers with this vision in mind. Consequently, we have leveraged our existing strengths to build our department around the five research programs representing some of the most exciting frontiers: Biomaterials/Tissue Engineering; Cardiovascular Engineering; Imaging; Molecular, Cellular and Systems Engineering; and Neural Engineering. These areas provide exciting training opportunities for students with a variety of backgrounds and interests.
Students seeking the **PhD in Biomedical Engineering** focus on five overlapping research programs that represent frontier areas of biomedical engineering and leverage the existing strengths of our current faculty and resources. Our core and more than 90 affiliated faculty work together in a number of interdisciplinary research centers and pathways offering students the opportunity to work in a diverse and rich spectrum of BME research areas. 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:** Karen Teasdale  
**Phone:** 314-935-6164  
**Email:** teasdalek@wustl.edu  
**Website:** [http://bme.wustl.edu/graduate](http://bme.wustl.edu/graduate)

**Faculty**

**Chair**

Steven C. George  
Elvera and William Stuckenberg Professor and Chair  
MD, University of Missouri  
PhD, University of Washington in Seattle  
Tissue engineering; microphysiological systems; vascularizing engineered tissues

**Endowed Professors**

Rohit V. Pappu  
Edwin H. Murty Professor of Engineering  
PhD, Tufts University  
Macromolecular self assembly and function; computational biophysics

Yoram Rudy  
Fred Saigh Distinguished Professor of Engineering  
PhD, Case Western Reserve University  
Cardiac electrophysiology; modeling of the cardiac system

Lori A. Setton  
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

**Professors**

Larry A. Taber  
Dennis and Barbara Kessler Professor of Biomedical Engineering  
PhD, Stanford University  
Mechanics of growth and development; cardiac mechanics

Lihong Wang  
Gene K. Beare Distinguished Professor of Biomedical Engineering  
PhD, Rice University  
Biophotonics and multimodality optical imaging

**Associate Professors**

Dennis L. Barbour  
MD, PhD, Johns Hopkins University  
Auditory physiology; sensory cortex neurocircuitry; novel perceptual diagnostics and therapeutics

Vitaly Klyachko  
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

Jan Bieschke (https://engineering.wustl.edu/Profiles/Pages/Jan-Bieschke.aspx)  
PhD, Max Planck Institute for Biophysical Chemistry/University of Braunschweig  
Single molecule fluorescence and other biophysical methods to probe the mechanistic underpinnings of protein misfolding

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

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

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

Lecturer

Patricia Widder  
MS, Washington University

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 sciences
- One graduate-level course in mathematics
- One graduate-level course in computer science 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 and core curriculum courses.

The core requirements represent 6-7 courses, with a total of 9 graduate courses required for the PhD. Up to 9 units of BME 601C Research Rotation (https://courses.wustl.edu/CourseInfo.aspx?sch=E&dept=E&crs=601C) and/or BME 501C Graduate Seminar (https://courses.wustl.edu/CourseInfo.aspx?sch=E&dept=E&crs=501C) may be counted toward the 36 units of graduate course work required for the PhD. Up to two 400-level courses may be counted toward the 9 courses of graduate course work required for the PhD (not including independent study courses, journal clubs or seminar-based courses). Graduate courses may be transferred in (up to 24 units) 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 two or three laboratory rotations in the first year. At the end of that year, they take their oral qualifying exam consisting of a 15-20 minute 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, perform their one-semester teaching assistantship, and begin their thesis research. By the end of the third year, students must complete their thesis proposal. Students must also complete one accepted first author publication and complete a dissertation.

Students pursuing the combined MD/PhD in Biomedical Engineering must complete the degree requirements for 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, his or her academic adviser, and the director of graduate 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 course work, research, and teaching. The course work is 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 prior training 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

**Endowed Professors**

Aaron Bobick (https://engineering.wustl.edu/Profiles/Pages/Aaron-Bobick.aspx)  
James M. McKeel 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

Chenyang Lu (https://engineering.wustl.edu/Profiles/Pages/Chenyang-Lu.aspx)  
Fullgraf Professor in the Department of Computer Science & Engineering  
PhD, University of Virginia  
Real-time and embedded systems, wireless sensor networks, mobile computing

**Professors**

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

Shantanu Chakrabartty (https://engineering.wustl.edu/Profiles/Pages/Shantanu-Chakrabartty.aspx)  
PhD, Johns Hopkins University  
Analog computing techniques, self-powered sensors, floating-gate circuits, biosensors and bioelectronics

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  
Distributed real-time embedded systems, middleware, formal models and analysis of concurrency and timing
Raj Jain  (https://engineering.wustl.edu/Profiles/Pages/Raj-Jain.aspx)
PhD, Harvard University
Wireless networks, network security, next generation internet, sensor networks, telecommunications networks, performance analysis, traffic management, quality of service

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

Robert Pless  (https://engineering.wustl.edu/Profiles/Pages/Robert-Pless.aspx)
PhD, University of Maryland
Computer vision, medical imaging, sensor network algorithms, citizen science

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 Endowed Professor

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

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

William D. Richard  (https://engineering.wustl.edu/Profiles/Pages/William-Richard.aspx)
PhD, University of Missouri-Rolla
Ultrasonic imaging, medical instrumentation, computer engineering

Assistant Professors

Yasutaka Furukawa  (https://engineering.wustl.edu/Profiles/Pages/Yasutaka-Furukawa.aspx)
PhD, University of Illinois at Urbana-Champaign
Computer vision and computer graphics

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

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

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

Benjamin Moseley  (https://engineering.wustl.edu/Profiles/Pages/Ben-Moseley.aspx)
PhD, University of Illinois at Urbana-Champaign
Design and analysis of algorithms, online and approximation algorithms, parallel computing, large data analysis, green computing and algorithmic applications

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

Professor of the Practice

Dennis Cosgrove
BS, University of Virginia
Programming environments and parallel programming

Research Faculty

Sharlee Climer
PhD, Washington University
Computational biology, artificial intelligence, mathematical modeling, combinatorial optimization, pattern recognition
Lecturers

Ruth Miller (https://cse.wustl.edu/faculty/Pages/Ruth-Miller.aspx)
PhD, University of Houston
Data mining, database, bioinformatics

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 acting as a teacher or course TA, 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 on our website (https://cse.wustl.edu/graduate/current-students/Pages/phd-students.aspx).

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.
Faculty

Chair

Arye Nehorai [Link](https://engineering.wustl.edu/Profiles/Pages/Arye-Nehorai.aspx)
Eugene and Martha Lohman Professor of Electrical Engineering
PhD, Stanford University
Signal processing, imaging, biomedicine, communications

Associate Chair

Hiroaki Mukai [Link](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

Endowed Professors

R. Martin Arthur [Link](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

Joseph A. O’Sullivan [Link](https://engineering.wustl.edu/Profiles/Pages/Joseph-OSullivan.aspx)
Samuel C. Sachs Professor of Electrical Engineering
Dean, UMSL/WUSTL 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 [Link](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

Professor

Heinz Schaettler [Link](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 [Link](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

Robert E. Morley Jr. [Link](https://engineering.wustl.edu/Profiles/Pages/Robert-Morley.aspx)
DSc, Washington University
Computer and communication systems, VLSI design, digital signal processing

Assistant Professors

ShiNung Ching [Link](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 [Link](https://engineering.wustl.edu/Profiles/Pages/Zachary-Feinstein.aspx)
PhD, Princeton University
Financial engineering, operations research, variational analysis

Humberto Gonzalez [Link](https://engineering.wustl.edu/Profiles/Pages/Humberto-Gonzalez.aspx)
PhD, University of California, Berkeley
Cyber-physical systems, hybrid dynamical systems, optimization, robotics

Matthew D. Lew [Link](https://engineering.wustl.edu/Profiles/Pages/Matthew-Lew.aspx)
PhD, Stanford University
Microscopy, biophotonics, computational imaging, nano-optics

Jung-Tsung Shen [Link](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
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
BSEE, Virginia Tech

**Senior Lecturer**

Martha Hasting
PhD, Saint Louis University

**Lecturers**

Randall Brown
PhD, Washington University

Randall Hoven
MSEE, Johns Hopkins University
MS, Washington University
Sensor/data fusion, Kalman filters, navigation, target tracking

Vladimir Kurenok
PhD, Belarus State University (Minsk, Belarus)

Tsitsi Madziwa-Nussinov
PhD, University of California, Los Angeles

Jason Trobaugh
DSc, Washington University

Jinsong Zhang
PhD, University of Miami
Wireless communication systems, wireless sensor networks, target tracking/data fusion, machine learning/pattern classification

**Research Professor**

Julius Goldstein
PhD, University of Rochester
Auditory system, hearing perception, modeling auditory perception.

**Research Associate Professor**

David Corman
PhD, University of Maryland
Cyber Physical Systems (CPS), security for CPS, unmanned systems, manufacturing

**Research Assistant Professor**

Scott Marrus
MD, PhD, Washington University School of Medicine
Cardiac electrophysiology
Professors Emeriti

William M. Boothby
PhD, University of Michigan
Differential geometry and Lie groups, mathematical system theory

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

Marvin J. Fisher
PhD, University of Illinois
Energy conversion, power electronics

Robert O. Gregory
DSc, Washington University
Electronic instrumentation, microwave theory, circuit design

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 units of course work 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 course work.
• 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 and 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: Course work and written qualifying examination
• Year 2: Course work, preliminary research, research advisory committee selection
• Year 3: Course work 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 Advanced Renewable Energy and Sustainability (I-CARES (http://icares.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 National Nanotechnology Infrastructure Node (http://nano.wustl.edu), and the Solar Energy Research Institute for India and the United States (SERIIUS (http://www.seriius.org)).

Contact: Rose Baxter
Email: rbaxter@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

Professors

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

Vijay Ramani
PhD, University of Connecticut, Storrs
Electrochemical engineering, energy conversion

Associate Professors

John Fortner (https://engineering.wustl.edu/Profiles/Pages/John-Fortner.aspx)
I-CARES Career Development Assistant 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

Young-Shin Jun (https://engineering.wustl.edu/Profiles/Pages/Young-Shin-Jun.aspx)
Harold D. Jolley Career Development Associate Professor
PhD, Harvard University
Aquatic processes, molecular issues in chemical kinetics, environmental chemistry, surface/physical chemistry, environmental engineering, biogeochemistry, nanotechnology

Yinjie Tang (https://engineering.wustl.edu/Profiles/Pages/Yinjie-Tang.aspx)
Francis Ahmann Career Development Associate Professor
PhD, University of Washington, Seattle
Metabolic engineering, bioremediation

Jay R. Turner (https://engineering.wustl.edu/Profiles/Pages/Jay-Turner.aspx)
DSc, Washington University
Air quality planning and management; aerosol science and engineering, green engineering

Brent Williams (https://engineering.wustl.edu/Profiles/Pages/Brent-Williams.aspx)
Raymond R. Tucker Distinguished I-CARES Career Development Assistant Professor
PhD, University of California, Berkeley
Aerosols, global climate issues, atmospheric sciences
Assistant Professors

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

Cynthia Lo (https://engineering.wustl.edu/Profiles/Pages/Cynthia-Lo.aspx)
PhD, Massachusetts Institute of Technology
Solar energy conversion, materials, environmental interfaces, catalysis, computational chemistry and molecular modeling

Tae Seok Moon (https://engineering.wustl.edu/Profiles/Pages/Tae-Seok-Moon.aspx)
PhD, Massachusetts Institute of Technology
Metabolic engineering and synthetic biology

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

Fuzhong Zhang (https://engineering.wustl.edu/Profiles/Pages/Fuzhong-Zhang.aspx)
PhD, University of Toronto
Metabolic engineering, protein engineering, synthetic and chemical biology

Research Associate Professor

Tianxiang Li
PhD, University of Kentucky
Combustion and applications in energy, pollutant control, biofuel synthesis, flame synthesis of nano-materials

Research Assistant Professors

Su Huang
PhD, University of Washington, Seattle
Photovoltaic materials and devices, nonlinear optical materials for photonic devices

Benjamin Kumfer
DSc, Washington University
Advanced coal technologies, biomass combustion, aerosol processes and health effects of combustion-generated particles

Lecturer

Janie Brennan
PhD, Purdue University
Biomaterials, synthetic biology, engineering education

Joint Faculty

Steven George (https://engineering.wustl.edu/Profiles/Pages/Steven-George.aspx)
Elvera and William Stuckenber Professor
Chair, Department of Biomedical Engineering
PhD, University of Washington, Seattle
Tissue engineering; microphysiological systems; vascularizing engineered tissues

Himadri Pakrasi
PhD, University of Missouri-Columbia
Systems biology, photosynthesis, metal homeostasis

Nathan Ravi (http://ophthalmology.wustl.edu/Faculty/Ravi_N.aspx)
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

Nicholas J. Nissing
BS, Washington University
Product development and process design

Research Associate

Raymond Ehrhard
BS, University of Missouri-Rolla
Water and wastewater treatment technologies, process energy management

Professor of Practice

James Harlan
PhD, Harvard University, Kennedy School of Government
Technology development economics and venture finance

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 course work 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 project. During the doctoral program, students must satisfy their fundamental and advanced teaching requirements by serving as a teaching assistant or assist in some teaching activity in the department for two or three semesters, by attending one of the TA-training workshops offered by 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 webpage.

Materials Science & Engineering

The Institute of Materials Science and Engineering (IMSE) at Washington University in St. Louis offers a truly interdisciplinary PhD in Materials Science & Engineering. Materials Science & Engineering is the interdisciplinary field focused on the development and application of new materials with desirable properties and microstructures. Disciplines in the physical sciences (chemistry, physics, etc.) and engineering fields (mechanical engineering, electrical engineering, biomedical engineering, etc.) frequently play a central role in developing the fundamental knowledge that is needed for materials studies. The discipline of Materials Science & Engineering integrates this knowledge and uses it to design and develop new materials and to match these 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 more than 30 research groups in Arts & Sciences, the School of Engineering & Applied Science, and the Medical School. The IMSE works to integrate and expand the existing materials interests at Washington University by establishing and 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:

- Plasmonics, Photonics, and Materials for Sensors and Imaging (http://imse.wustl.edu/research-plasmonics)
- Computational Materials Science (http://imse.wustl.edu/research-computational)
- Energy Harvesting and Storage (http://imse.wustl.edu/research-energy)
- Structure, Properties, and Phase Transformations of Complex Materials (http://imse.wustl.edu/research-glasses)
- Environmental Technologies and Sustainability (http://imse.wustl.edu/research/environmental-technologies-and-sustainability)

Contact: Beth Gartin
Phone: 314-935-7191
Email: bgartin@wustl.edu
Website: http://imse.wustl.edu

Faculty

Director

Kenneth F. Kelton (http://www.physics.wustl.edu/people/kelton_kenneth-f)
Arthur Holly Compton Professor of Arts & Sciences - Physics PhD, Harvard University
Associate 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

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); CO2 geosequestration; CO2 capture; in situ NMR; metal carbonate formation.

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

Young-Shin Jun (https://engineering.wustl.edu/Profiles/Pages/Young-Shin-Jun.aspx)
Harold D. Jolley Career Development Associate Professor - Energy, Environmental & Chemical Engineering
PhD, Harvard University
Professor Jun's research is highly interdisciplinary as the Jun group seeks to enable more environmentally sustainable CO2 sequestration as a mitigation technique for climate change. The group also develops nanochemistry-enabled new treatment techniques and catalysts for purifying drinking water and remediating contaminated water and soil, benefiting water reuse, managed aquifer recharge, and reverse osmosis processes. In addition, the ENCL investigates biominalization and bio-inspired chemistry for novel materials development.

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.

Assistant Professors

Parag Banerjee (https://engineering.wustl.edu/Profiles/Pages/Parag-Banerjee.aspx)
Assistant Professor - Mechanical Engineering & Materials Science
PhD, University of Maryland, College Park
Professor Banerjee's research interests focus on two aspects of materials science and engineering. First, he is interested in the synthesis of nanomaterials with tunable properties using principles of self-assembly and self-limited reactions. Second and perhaps more importantly, he is interested in integrating these materials into "performance enhancing" nano-architectures for components such as biomedical sensors, energy storage, and energy harvesting devices.
Mikhail Y. Berezin (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.

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 multi-pronged 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.

Erik Henriksen (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.

Cynthia Lo (https://engineering.wustl.edu/Profiles/Pages/Cynthia-Lo.aspx)
Assistant Professor - Energy, Environmental & Chemical Engineering
PhD, Massachusetts Institute of Technology
Professor Lo uses electronic structure calculations and molecular dynamics simulations to study the structure and reactivity of molecular and nanoscale systems for solar energy utilization. Some applications of current interest include biohybrid solar cells, photosynthesis, transparent conducting oxides for photovoltaic and thermoelectric applications, and multifunctional heterogeneous catalysts and photocatalysts. In addition, Professor Lo is interested in developing multiscale computational methods that link existing methods across time and length scales in order to model complex chemical systems.

Rohan Mishra (https://engineering.wustl.edu/Profiles/Pages/Rohan-Mishra.aspx)
Assistant Professor - Mechanical Engineering & Materials Science
PhD, The 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.

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.

Fuzhong Zhang (https://engineering.wustl.edu/Profiles/Pages/Fuzhong-Zhang.aspx)
Assistant Professor - Energy, Environmental & Chemical Engineering
PhD, University of Toronto
Professor Zhang's research interests focus on developing synthetic biology approaches to produce advanced biofuels, chemicals, and materials from sustainable resources. Current research projects include: (1) developing dynamic regulatory systems for biosynthetic pathways; (2) engineering microbes to produce structure-defined biofuels and chemicals; (3) developing microbial factories for advanced materials; (4) engineering cyanobacteria for synthetic biology applications.

**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. Course work includes:

- Four IMSE Core Courses (12 academic credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>units</th>
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<tr>
<td>MEMS 5601</td>
<td>Mechanical Behavior of Materials</td>
<td>3</td>
</tr>
</tbody>
</table>

**Course Work**

- MEMS 5608 Introduction to Polymer Science and Engineering
- MEMS 5610 Quantitative Materials Science and Engineering
- Physics 537 Thermodynamics & Kinetics of Materials

Total units 12

- Solid State Chemistry or Physics (3 academic credits)

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 465</td>
<td>Solid-State and Materials Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>or Physics 472</td>
<td>Solid State Physics</td>
<td></td>
</tr>
</tbody>
</table>

- IMSE 500 First-Year Research Rotation (3 academic credits)
- IMSE 501 Seminar (1 academic credit; 2 required, 3 allowed for credit)
- Three courses (9 credits) from a preapproved list of Materials Science & Engineering electives
- Additional electives from participating departments to reach 36 academic credits (~9 academic credits, ~3 courses)
- A maximum of 12 credits of 400-level courses may be applied to the required 36 academic credits

Students must maintain an average grade of B (GPA 3.0) for all 72 credits. Additionally, the required courses must be completed with no more than one grade below a B-.. Up to 24 graduate credits may be transferred with the approval of the Graduate Studies Committee, chaired by the Associate Director of the IMSE.

**In addition to fulfilling the course and research credit requirements, the student must:**

- Complete a Research Rotation
- Identify an IMSE faculty member willing and able to support the student's thesis research on a materials-related topic
- Fulfill the Teaching Requirement
  - Attend 2+ Teaching Center Workshops
  - 15 units of teaching experience (basic and advanced levels)
- Successfully complete the Qualifying Examination (oral and written)
- Maintain satisfactory research progress, as determined by the student's thesis adviser and mentoring committee
- Successfully complete the Thesis Proposal and Presentation
- Successfully complete and defend a dissertation

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
• Quantitative Materials Science and Engineering (MEMS 5610)
• Mechanical Behavior of Materials (MEMS 5601)
• Elective
• IMSE Seminar

Spring Semester (13 credits)

• Thermodynamics & Kinetics of Materials (Physics 537)
• Introduction to Polymer Science and Engineering (MEMS 5608)
• Solid State Physics (Physics 472) or elective
• IMSE First-Year Research Rotation
• IMSE Seminar Series

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

• 3 electives (discuss with PhD adviser)
• IMSE Seminar (once more for credit)
• IMSE PhD Research
• Teaching Requirement
  • Attend 2+ Teaching Center Workshops
  • 15 units of teaching experience (basic and advanced levels)
• 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 works in conjunction with his or her adviser in designing 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 the program may vary, depending on the individual and the area of study.

Contact: Prof. Dave Peters
Email: dap@wustl.edu
Website: https://mems.wustl.edu/graduate/programs

Faculty

Chair

Philip V. Bayly (https://engineering.wustl.edu/Profiles/Pages/Philip-Bayly.aspx)
Lilian 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

Kenneth L. Jerina (Mechanical Engineering) (https://engineering.wustl.edu/Profiles/Pages/Kenneth-Jerina.aspx)
Earl E. and Myrtle E. Walker Professor of Engineering
DSc, Washington University
Materials, design, solid mechanics, fatigue and fracture

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

Thomas G. Harmon (https://engineering.wustl.edu/Profiles/Pages/Thomas-Harmon.aspx)
Clifford W. Murphy Professor
PhD, Massachusetts Institute of Technology
Reinforced and prestressed concrete, structural design, fiber reinforced polymers

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

David A. Peters (https://engineering.wustl.edu/Profiles/Pages/David-Peters.aspx)
McDonnell Douglas Professor of Engineering
PhD, Stanford University
Aeroelasticity, vibrations, helicopter dynamics
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

**Professor**

Guy M. Genin (https://engineering.wustl.edu/Profiles/Pages/Guy-Genin.aspx)
PhD, Harvard University
Solid mechanics, fracture mechanics

**Associate Professors**

Srikanth Singamaneni (https://engineering.wustl.edu/Profiles/Pages/Srikanth-Singamaneni.aspx)
PhD, Georgia Institute of Technology
Microstructures of cross-linked polymers

Jessica E. Wagenseil (https://engineering.wustl.edu/Profiles/Pages/Jessica-Wagenseil.aspx)
DSc, Washington University
Arterial biomechanics

**Assistant Professors**

Damena D. Agonafer
PhD, University of Illinois at Urbana-Champaign
Computational fluid dynamics and computational physics

Parag Banerjee (https://engineering.wustl.edu/Profiles/Pages/Parag-Banerjee.aspx)
PhD, University of Maryland
Materials sciences and engineering, nanostructured materials, materials synthesis, and novel devices for storing and harvesting energy

Spencer P. Lake (https://engineering.wustl.edu/Profiles/Pages/Spencer-Lake.aspx)
PhD, University of Pennsylvania
Soft tissue biomechanics

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

**Professors of the Practice**

Harold J. Brandon
DSc, Washington University
Energetics, thermal systems

Swami Karunamoorthy
DSc, Washington University
Helicopter dynamics, engineering education

**Joint Faculty**

Richard L. Axelbaum (EECE) (https://engineering.wustl.edu/Profiles/Pages/Richard-Axelbaum.aspx)
The Stifel & Quinette Jens Professor of Environmental Engineering Science
PhD, University of California, Davis
Combustion, nanomaterials

Elliot L. Elson (Biochemistry and Molecular Biophysics) (http://bmbweb.wustl.edu/faculty/faculty/elliot-elson)
Professor Emeritus of Biochemistry & Molecular Biophysics
PhD, Stanford University
Biochemistry and molecular biophysics

Kenneth F. Kelton (Physics) (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

MD, University of Pennsylvania School of Medicine
Neurological surgery

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

Larry A. Taber (BME) (https://engineering.wustl.edu/Profiles/Pages/Larry-Taber.aspx)
Dennis and Barbara Kessler Professor of Biomedical Engineering
PhD, Stanford University
Biomechanics, mechanics of development

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

Salvatore P. Sutera  
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
Emily J. Boyd  
PhD, University of Texas at Austin  
Thermo fluids

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  
Thermo science

Richard S. Dyer  
PhD, Washington University  
Propulsion, thermodynamics, fluids

John M. Griffith  
BS, Washington University  
Manufacturing

Hanford Gross  
BS, Washington University  
Engineering project management

Jason Hawks  
MS, Washington University  
Structural analysis

James P. Howe  
MS, Washington University  
Thermo systems design

Richard R. Janis  
MS, Washington University  
Building environmental systems

Adetunji Onikoyi  
PhD, University of California, Santa Barbara  
Thermo sciences

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
Mary K. Malast  
DSc, Washington University  
Materials science
Professors Emeriti

Wallace B. Diboll Jr.
MSME, Rensselaer Polytechnic Institute
Dynamics, vibrations, engineering design

Paul C. Paris
PhD, Lehigh University
Classical mechanics, solid mechanics, dynamics, fracture mechanics, stochastic processes

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 & 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 credits of course work, 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/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 and Doctor of Philosophy in English and American Literature and Doctor of Philosophy 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. Past Hurst Visiting Professors have included Michael Bérubé, Louise Glück, Jorie Graham, Donna Haraway, Edward P. Jones, Bruno Latour, Salman Rushdie, and Slavoj Žižek. 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)
Professor
PhD, University of Chicago

Endowed Professors
Gerald L. 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)
Howard Nemerov Professor in the Humanities
PhD, University of Toronto
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)
FAAH, PhD, University of York
Joseph Loewenstein (http://english.artsci.wustl.edu/Joe_Loewenstein)
PhD, Yale University
William Maxwell (http://english.artsci.wustl.edu/william_maxwell)
PhD, Duke University
Robert Milder (http://english.artsci.wustl.edu/robert_milder)
PhD, Harvard University
Anca Parvulescu (http://english.artsci.wustl.edu/Anca_Parvulescu)
PhD, University of Minnesota
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)
PhD, Duke University
J. Dillon Brown (http://english.artsci.wustl.edu/j_dillon_brown)
PhD, University of Pennsylvania

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)
PhD, Washington University
Joan Brockmann (http://english.artsci.wustl.edu/Brockmann_Joan)
PhD, St. Louis University
Bethany Daniels (http://english.artsci.wustl.edu/Daniels_Bethany)
MA, University of Missouri-St. Louis
Kathleen Drury (http://english.artsci.wustl.edu/Drury_Kathleen)
MA, Washington University
Amy Pawl (http://english.artsci.wustl.edu/Pawl_Amy)
PhD, University of California, Berkeley

Professors Emeriti
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
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) all of their seminars.

It is assumed that all entering graduate students are working toward a PhD; the English department does not admit students aiming for a terminal AM degree. The AM is awarded during the course of study when a student has completed 36 credit 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 will review their AM work taken elsewhere and determine how many credits (normally a limit of 9-12) may be applied toward the PhD at Washington University. Although students receiving transfer credit may be able to complete the PhD in fewer than six years, it is to their advantage to enter the program as first-year students since this ensures them four full semesters of study without teaching responsibilities. If, after three semesters and the review of transfer credit, the Director of Graduate Studies determines that the student has fulfilled the course requirements for the PhD, the student may elect not to take classes in semester four and to begin work on the Major Field reading instead; his or her 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 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 (http://english.arts.wustl.edu/graduate/combined_phd).

During the first seven semesters, credits are earned by coursework, 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 training 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 units of FMS course work. 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 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 webpage (http://graduateschool.wustl.edu/forms)). 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 training 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 her or his intellectual background has prepared the applicant 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
Website: http://fms.artsci.wustl.edu/graduate

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

Assistant Professors
Colin Burnett (http://fms.artsci.wustl.edu/people/colin-burnett)
PhD, University of Wisconsin-Madison
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)

Postdoctoral Fellow
Michelle Kelley (http://fms.artsci.wustl.edu/people/michelle-kelley)
PhD, New York University

Lecturer
Katharine Mahalic

Degree Requirements

Graduate Certificate in Film and Media Studies

Required courses for the graduate certificate:

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, his or her 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 course work, classes that fall within this category require approval by the student’s adviser in Film and Media Studies and her or his home unit's Director of Graduate Studies.

Master’s in Film and Media Studies

Course of Study

Students must fulfill the basic requirements for the 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 course work, 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 course work. 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 he or she must complete the examinations by April 7 of the spring semester. All course work 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 course work:

1. Visual Analysis
   - Film 501 Advanced Moving Image Analysis and Criticism
2. Moving Image Theory
   - Film 419 Theories of Mass Media or Film 420 Film Theory
   - or L53 Film 502 Seminar in film and media theory (rotating topics)
3. Historiography of the Moving Image
   - Film 421 Film Historiography or Film 423 Histories of Media Convergence
4. 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
5. 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 L53 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 work 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.

**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 (http://german.wustl.edu/courses/archive) that provide a healthy balance of theory and the history of German literature and culture. The department offers numerous opportunities for interdisciplinary study (http://german.wustl.edu/graduate/interdisciplinary-study), including a one-of-a-kind joint PhD program with Comparative Literature (p. 46) and an innovative certificate program that gives students the option of developing an expertise in one of four associated fields.

Both faculty and students teach and do research in a wide range of related disciplines, including art history; comparative literature; 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/kade), 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 (http://german.wustl.edu/people/visiting-scholars) 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 (http://german.wustl.edu/events/graduate_symposium) and the department’s biennial international symposium (http://german.wustl.edu/events/biennial) to outreach programs like German Day (http://german.wustl.edu/events/german_day). We also give close attention to teacher training (http://german.wustl.edu/graduate/teaching) through our unique pedagogy internships, through recurring workshops, and through a classroom mentoring program which ensures that all teaching assistants 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 (http://german.wustl.edu/graduate/funding) packages and the low cost of living in St. Louis (http://german.wustl.edu/graduate/area) 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/graduate-students) not only produce first-rate dissertations (http://german.wustl.edu/graduate/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://library.wustl.edu/collections/suhr). Other resources include the Gontard Collection (18th to 20th centuries) in the Rare Book Collection of Olin Library, the internationally famous Reformation Collection at Concordia Seminary, and the Vatican Manuscript Collection at St. 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 concerning the graduate application process (http://german.wustl.edu/graduate/admission) or to request a brochure please contact our Student Coordinator, Cecily Stewart Hawksworth, or email our Director of Graduate Studies, Professor Erin McGlothlin (https://german.wustl.edu/people/mcglothlin_erin).

Contact: Cecily Stewart Hawksworth
Phone: 314-935-4276
Email: cecilyhawksworth@wustl.edu
Website: http://german.wustl.edu/graduate

Faculty

Chair

Matt Erlin (http://german.wustl.edu/people/erlin_matt)
Director of Undergraduate Studies (Fall 2016)
Professor of German
PhD, University of California, Berkeley
18th- and 19th-century German literature and culture, aesthetic theory, economics and literature, philosophies of history, urban culture
Endowed Professors

Paul Michael Lützeler (http://german.wustl.edu/people/paul-michael-lutzeler)
Rosa May Distinguished University Professor in the Humanities
Director of Max Kade Center
PhD, Indiana University
Contemporary discourses in the humanities, contemporary German literature, transatlantic cultural relations, Exile Literature 1933-45, German and European Romanticism, literature and culture of the 1920s

Lynne Tatlock (http://german.wustl.edu/people/tatlock_lynne)
Director, Comparative Literature
Hortense and Tobias Lewin Distinguished Professor in the Humanities
PhD, Indiana University
Book history, gender studies and women's writing, history of the novel, literature and medicine, literature and society, nationalism, reading cultures, regionalism, translation and cultural mediation, reception

Gerhild Williams (http://german.wustl.edu/people/williams_gerhild)
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, magic/daemonologies/witch theory, media and culture, Reformation movements, translation theory and practice, travel narratives, Volksbuch/novel

Associate Professors

Jennifer Kapczynski (http://german.wustl.edu/people/kapczynski_jennifer)
Director of Undergraduate Studies (Spring 2017)
PhD, University of California, Berkeley
19th- to 21st-century literature, film studies, gender theory, nationalism, war and representation

Erin McGlothlin (http://german.wustl.edu/people/mcglothlin_erin)
Director of Graduate Studies
PhD, University of Virginia
Holocaust literature and film, German-Jewish literature, postwar and contemporary German literature, narrative theory, autobiography, the graphic novel

Assistant Professors

Kurt Beals (http://german.wustl.edu/people/kurt-beals) (on leave)
PhD, University of California, Berkeley
20th- and 21st-century German literature and culture, poetry, translation theory and practice, experimentalism and avant-gardes, digital media

Caroline Kita (http://german.wustl.edu/people/caroline-kita)
PhD, Duke University
19th- and 20th-century German and Austrian literature and culture, German-Jewish studies, aesthetic philosophy and religion, music and narrative, the Radio Play (Hörspiel) in German culture

Christian Schneider (http://german.wustl.edu/people/christian-schneider-0)
PhD, Heidelberg University
Medieval and Early Modern German literature, medieval courtly culture, narrative theory, cultural history of knowledge and science, textual editing

Lecturer

Friederike Fichtner (http://german.wustl.edu/people/friederike-fichtner)
Lecturer of German
PhD, University of Wisconsin-Madison
Second language acquisition and foreign language pedagogy; socio-cultural knowledge and cultural Identity in foreign language learning

Professors Emeriti

James Fitzgerald Poag (http://german.wustl.edu/people/poag_james-fitzgerald)
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

Egon Schwarz (http://german.wustl.edu/people/schwarz_agon)
Rosa May Distinguished Professor Emeritus in the Humanities
PhD, University of Washington
19th-century literature, Austrian literature, fin-de-siècle, märchen, modern literature, utopia

Degree Requirements

PhD in Germanic Languages and Literatures

A summary of program requirements is provided below.

German exchange students should contact Cecily Stewart Hawksworth (cecilyhawksworth@wustl.edu) for information on the exchange program.
Course Work

PhD candidates must complete 63 hours of course work (including 36 AM-level credits), and 9 hours of dissertation credit for a total of 72 units of graduate credit. 12 of the 63 credits may be taken in related fields outside the department.

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: Introduction to Middle High German Language and Literature (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 BA. Students entering with an AM degree may already have fulfilled some of these requirements. The fulfillment of Washington University requirements with course work completed elsewhere should be discussed with the Director of Graduate Studies who will make a determination.

Interdisciplinary Studies

Graduate students may wish to take courses in areas other than German. With this in mind, the program is designed so that PhD candidates may take a total of 12 credits in other areas. Of special interest are graduate offerings in Art History; Comparative Literature; English; 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 five additional seminars, two of which may also be counted toward the 63 units of departmental credit.

Examinations

Master's Examination

Students who enter with a BA 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 his or her graduate studies. The department does not offer a terminal master's degree.

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. The Qualifying Exam process consists of three parts: two written qualifying papers and the dissertation prospectus. Students typically choose a team of three faculty members at the beginning of this process who will guide them through the exam process and serve as their readers. In the first exam, the student is required to situate his or her primary materials and their author(s) in their respective historical contexts and periods, with specific points of emphasis to be determined together with his or her 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 then to present it orally to his or her 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 teach at least two years at Washington University under the direction of the supervisor of language instruction.

For more information, please contact our Director of Graduate Studies, Erin McGlothlin (https://german.wustl.edu/people/mcgllothlin_erin).

History

The Department of History offers the Doctor of Philosophy in History. In view of our commitment to the doctoral program, we do not offer a terminal AM. Although the department offers...
doctoral training in any historical specialization covered by a
tenured faculty member, it specializes in the history of 17th-
through 19th-century America, 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 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
course work, preparing for qualifying examinations in three fields
of history, and producing a portfolio containing two research
papers of publishable quality.

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Faculty

Chair
Peter Kastor (http://history.artsci.wustl.edu/peter_kastor)
PhD, University of Virginia
(The American Frontier and Early Republic)

Endowed Professors
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PhD, Northwestern University
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Stella K. Darrow Professor of Catholic Studies
PhD, University of Chicago
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William Eliot Smith Professor of History
PhD, Cambridge University
(British History)

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PhD, Harvard University
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PhD, Brandeis University
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Professors
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PhD, Yale University
(U.S. History and the Civil War)

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PhD, University of Wisconsin
(U.S. Women's History)

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PhD, Columbia University
(American Urban History)

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PhD, Harvard University
(Early American History and Law)

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
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(Modern South Asian History)

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PhD, Harvard University
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PhD, University of Washington
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Hayrettin Yöcesoy (http://jinelc.wustl.edu/people/y%C3%BComesoy_hayrettin)
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Assistant Professors

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(Education)

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Professor of Rabbinic Studies
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(Jewish, Islamic and Near Eastern Languages and Cultures)

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Reverend Priscilla Wood Neaves Distinguished Professor of Religion and Politics
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Stanley Elkin Professor in the Humanities
PhD, Brown University
(English)

Professors Emeriti

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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 course work, 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 his or her 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 work and will be awarded academic credit only if matched by an equivalent number of units graded A. Plus or minus grades may be given, except for grades of B- or C +. Some courses may be graded S (Satisfactory) or 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 she or he has not sufficiently demonstrated a full mastery of the course material at the doctoral level. More than one or two grades at this level carry the risk of negatively 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 worked during the academic year, whether as students or as teaching assistants. 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 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 under-performance. 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 will remain posted on our website (http://history.artsci.wustl.edu/graduate), and hard copies will be distributed at the annual department orientation for new PhD students in August.

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: jinlc@wustl.edu
Website: http://jinlc.wustl.edu

Faculty

Chair
Nancy E. Berg (http://jinlc.wustl.edu/people/berg_nancy)
Professor of Hebrew Language and Literature
PhD, University of Pennsylvania

Endowed Professor
Hillel J. Kieval (http://jinlc.wustl.edu/people/hillel_kieval)
Gloria M. Goldstein Professor of Jewish History and Thought
PhD, Harvard University

Professor
Martin Jacobs (http://jinlc.wustl.edu/people/jacobs_martin)
Professor of Rabbinic Studies
PhD and Habilitation, Free University of Berlin

Associate Professors
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Associate Professor of Hebrew Bible and Biblical Hebrew
PhD, Harvard University

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Associate Professor of Jewish Studies
PhD, University of Virginia

Nancy Reynolds (http://jinlc.wustl.edu/people/nancy-reynolds)
Associate Professor of Jewish, Islamic and Near Eastern Studies
PhD, Stanford University

Hayrettin Yücesoy (http://jinlc.wustl.edu/people/yucesoy_hayrettin)
Associate Professor of Arabic and Islamic Studies
PhD, University of Chicago

Assistant Professors
Anne-Marie McManus (http://jinlc.wustl.edu/people/anne-marie-mcmanus)
Assistant Professor of Modern Arabic Literature
PhD, Yale University
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**Arts & Sciences (10/04/16)**

**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)  
Senior Lecturer in Arabic  
PhD Candidate, Washington University

**Giore Etzion** (http://jinelc.wustl.edu/people/giore_etzion)  
Senior Lecturer in Modern Hebrew  
MA, University of Michigan

**Rami Pinsberg** (http://jinelc.wustl.edu/people/pinsberg_ami-j)  
Senior Lecturer in Modern Hebrew  
MEd, University of Missouri-St. Louis

**Younasse Tarbouni** (http://jinelc.wustl.edu/Younasse_Tarbouni)  
Senior Lecturer in Arabic  
PhD Candidate, L’Ecole des Hautes Études en Sciences Sociales (EHESS)

**Mohammad J. Warsi** (http://jinelc.wustl.edu/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

**Postdoctoral Fellow**

**Nahrain Al-Mousawi** (http://jinelc.wustl.edu/people/nahrain-al-mousawi)  
Postdoctoral Fellow in Modern Arabic Literature and Culture  
PhD, University of California, Los Angeles

**Endowed Professor - Affiliated**

**John R. Bowen** (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)  
Professor of Sociocultural Anthropology  
PhD, University of Chicago

**Robert Canfield** (http://anthropology.artsci.wustl.edu/canfield_robert)  
Professor Emeritus of Sociocultural Anthropology  
PhD, University of Michigan

**Joseph Schraibman** (http://rll.wustl.edu/people/schraibman)  
Professor of Romance Languages  
PhD, University of Illinois at Urbana-Champaign

**Associate Professors - Affiliated**

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PhD, University of Pennsylvania

**Seth Graebner** (http://rll.wustl.edu/people/graebner)  
Associate Professor of French and International and Area Studies  
PhD, Harvard University

**Tabea Alexa Linhard** (http://rll.wustl.edu/people/linhard)  
Associate Professor of Spanish and Comparative Literature  
PhD, Duke University

**Assistant Professor - Affiliated**

**Denise Gill** (http://jinelc.wustl.edu/people/denise-gill-gurtan)  
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 and a Master of Arts in Islamic and Near Eastern Studies. 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 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 coursework, students will be expected to have completed third-year Hebrew successfully before receiving the AM degree.

**Degree Requirements**

- A minimum of 30 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. 90) 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. 90) 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 Arabic language equivalent to one year of college-level study. After a typical two years of course work, students will be expected to have completed third-year Arabic successfully before receiving the AM degree.

**Degree Requirements**

- A minimum of 30 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. 90) 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. 90) 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/policies-and-guides) 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:**

**2nd 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:

1st Year
End of spring semester: Approach a primary thesis adviser (who may but does not have to be identical with student's academic adviser).

2nd 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 training 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 course work 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
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Faculty

Core Faculty

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William H. Gass Professor in Arts & Sciences
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Faculty Specialized in Latin America

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PhD, Duke University
(Romance Languages and Literatures)

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Postdoctoral Fellow
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Christina Ramos (https://history.artsci.wustl.edu/christina-ramos)
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PhD, Duke University
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Professor
PhD, University of Illinois
(Romance Languages and Literatures)

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Assistant Professor
PhD, Massachusetts Institute of Technology
(Art History and Archaeology)

Elżbieta Skłodowska (http://rll.wustl.edu/people/sklodowska)
Randolph Family Professor in Arts & Sciences
PhD, Washington University
(Romance Languages and Literatures)

Valéria M. Souza (http://rll.wustl.edu/people/valeria-souza)
Lecturer
PhD, University of Massachusetts Dartmouth
(Romance Languages and Literatures)

Kedron Thomas (http://anthropology.artsci.wustl.edu/thomas_kedron)
Assistant Professor
PhD, Harvard University
(Anthropology)

**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

The Department of Mathematics 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 the graduate students. Advanced courses in the Washington University math 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 work 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 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.

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Faculty

Chair
John E. McCarthy
Spencer T. Olin Professor of Mathematics
PhD, University of California, Berkeley
Analysis; operator theory; one and several complex variables

Directors
Mohan Kumar (http://wumath.wustl.edu/people/kumar_n-mohan)
Director of Graduate Studies; Professor of Mathematics
PhD, Bombay University
Algebraic geometry; commutative algebra

Ron Freiwald (http://wumath.wustl.edu/people/freiwald_ron)
Director of Undergraduate Studies; Professor of Mathematics
PhD, University of Rochester
General topology

Endowed Professor
John E. McCarthy (http://wumath.wustl.edu/people/faculty/professors mccarthy_john-e)
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Analysis; operator theory; one and several complex variables

Professors
Quo-Shin Chi (http://wumath.wustl.edu/people/chi_quo-shin)
PhD, Stanford University
Differential geometry

Renato Feres (http://wumath.wustl.edu/people/feres_renato)
PhD, California Institute of Technology
Differential geometry; dynamical systems

Jefferson M. Gill
Professor, Political Science; Courtesy appointment, Mathematics
PhD, American University

Steven G. Krantz (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)
PhD, Cornell University
Low-dimensional topology

John Shareshian (http://wumath.wustl.edu/people/shareshian_john)
PhD, Rutgers University
Algebraic and topological combinatorics

Edward Spitznagel (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)
PhD, University of California, Berkeley
Symplectic geometry; noncommutative geometry; mathematical physics

Mladen Victor Wickerhauser (http://wumath.wustl.edu/people/wickerhauser_mladen-victor)
PhD, Yale University
Harmonic analysis; wavelets; numerical algorithms for data compression

David Wright
PhD, Columbia University
Affine algebraic geometry; polynomial automorphisms

Assistant Professors

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PhD, Massachusetts Institute of Technology
Algebraic geometry

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PhD, Cornell University
Representations of Lie groups; harmonic analysis

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PhD, Georgia Institute of Technology
Statistics; probability and stochastic processes; mathematical finance

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PhD, Princeton University
Algebraic geometry; Hodge theory

Professor Emeriti

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PhD, Harvard University
Differential topology

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Differential geometry

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General topology

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Complex function theory, operators; harmonic analysis

Assistant Professors

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PhD, Imperial College London
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Geometric numerical analysis, computational mathematics

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Probability and statistics; population biology, mathematical genetics

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Interpolation of operators; harmonic analysis, Lie groups

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William Chauvenet Postdoctoral Lecturers

Michael Hartz
PhD, University of Waterloo

Yakov Berchenko-Kogan
PhD, Massachusetts Institute of Technology

James Pascoe
NSF Postdoctoral Fellow
PhD, University of California, San Diego
Several complex variables

Coordinator Lower Division Teaching

Blake Thornton (http://wumath.wustl.edu/people/thornton_blake)
Coordinator of Lower Division Teaching, Mathematics Department
PhD, University of Utah

Program Coordinator

Lisa M. Kuehne (http://wumath.wustl.edu/people/kuehne_lisa)
Program Coordinator, University College & Center for Advanced Learning
AM Mathematics, Washington University
Undergraduate Mathematics Education

Degree Requirements

AM in Mathematics

General requirements: 36 units of course work 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 course work.

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 course work satisfying the program requirements.

Course requirements: There are four basic graduate sequences in pure mathematics:

<table>
<thead>
<tr>
<th>Course Requirement</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 5021 &amp; Math 5022</td>
<td>6</td>
</tr>
<tr>
<td>Math 5031 &amp; Math 5032</td>
<td>6</td>
</tr>
<tr>
<td>Math 5041 &amp; Math 5042</td>
<td>6</td>
</tr>
<tr>
<td>Math 5051 &amp; Math 5052</td>
<td>6</td>
</tr>
</tbody>
</table>

A candidate for the AM in Mathematics must include two of these sequences (12 units) in the required 36 units. The student, in consultation with his or her adviser, selects the remaining 24 units according to the student's interests and needs.

The AM examination: Candidates for the AM degree must pass at least two of the four 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 4111 Introduction to Analysis–Math 4121 Introduction to Lebesgue Integration, Math 4171 Topology I–Math 4181 Topology II, and Math 429 Linear Algebra–Math 430 Modern Algebra.

AM in Statistics

General requirements: 36 units of course work and a thesis. 6 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 course work.

Course requirements: The student must take (or have taken) the following six required courses in mathematics or their equivalents:

<table>
<thead>
<tr>
<th>Course Requirement</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 493 &amp; Math 494</td>
<td>6</td>
</tr>
<tr>
<td>or Math 5061 &amp; Math 5062</td>
<td>6</td>
</tr>
<tr>
<td>Math 439</td>
<td>3</td>
</tr>
<tr>
<td>Math 4392 &amp; Math 459 &amp; Math 475</td>
<td>3</td>
</tr>
</tbody>
</table>

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 his or her adviser to make up the 36 units.
PhD in Mathematics

General requirements: Completion of the PhD requires four full years of graduate study, with at least 48 units 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 part of the graduate units from other universities. 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 satisfactory performance of duties.

Specific course requirements: The course work must include four basic graduate sequences:

<table>
<thead>
<tr>
<th>Course Sequence</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 5021 &amp; Math 5022</td>
<td>6</td>
</tr>
<tr>
<td>Complex Analysis I &amp; Complex Analysis II</td>
<td></td>
</tr>
<tr>
<td>Math 5031 &amp; Math 5032</td>
<td>6</td>
</tr>
<tr>
<td>Algebra I &amp; Algebra II</td>
<td></td>
</tr>
<tr>
<td>Math 5041 &amp; Math 5042</td>
<td>6</td>
</tr>
<tr>
<td>Geometry I &amp; Geometry II</td>
<td></td>
</tr>
<tr>
<td>Math 5051 &amp; Math 5052</td>
<td>6</td>
</tr>
<tr>
<td>Measure Theory and Functional Analysis I &amp; Measure Theory and Functional Analysis II</td>
<td></td>
</tr>
</tbody>
</table>

Language requirement: For the PhD, the department requires two of these languages: English, French, German, or Russian. If the student's native language is English, then he or she must demonstrate competence in one of the other three languages by either:

- submitting an undergraduate transcript showing one year of one of these languages passed with a grade of C or better;
- taking a one-semester course in one of these languages while a graduate student at Washington University, and passing with a grade of B or better; or
- passing one of the annual written exams given by the department in mathematical French or German or Russian, as decided by the thesis adviser.

Qualifying examinations: The qualifying exam is in two parts; one is a series of four written tests covering a range of topics, and one is an oral exam on two selected topics. The written tests cover the material in the four basic course sequences. Each spring, at the end of each sequence, 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 which covers the entire sequence. To pass the qualifying exam in one of the four areas, the student must pass the three-hour combined exam.

The dissertation and final oral exam: The student's dissertation is the single most important requirement for the PhD degree. It must be an original contribution to mathematical knowledge and the student's opportunity to conduct significant independent research. Once the department has accepted the dissertation (on the advice of the thesis adviser), the student is required to pass a final oral examination. Part of this procedure is a question/answer period in which the student is expected to “defend” the thesis. For information about preparing the thesis and its abstract, and about the deadlines involved, please consult the following items from the Graduate School: the Forms (http://graduateschool.wustl.edu/forms) page, and the Policies and Guides (http://graduateschool.wustl.edu/policies-and-guides) page (which includes the Doctoral Dissertation Guide). For a sample thesis TeX file and style file, visit the Department of Mathematics (http://wumath.wustl.edu/links) website.

PhD in Statistics

Degree Requirements Summary

Required graduate units, consisting of:

- 24 required course work units total in fundamental topics and exam fields
- 12 elective course work units
- 6 course work units for staffing a walk-in statistical consulting center to be setup by the department
- 4 qualifying exams: 2 in statistics, 2 in mathematics
- Graduate School Teaching Requirement for PhD Students
- Major and minor oral presentation
- Dissertation research, thesis preparation, and defense (30 course work units)

General requirements: The PhD in Statistics general requirements mirror the PhD in Mathematics. For a more detailed explanation, please visit the PhD in Statistics (http://wumath.wustl.edu/graduate-new/placement-graduate-students/degree-programs-and-requirements/phd-statistics) webpage.

Specific course requirements: The course work must include two basic graduate statistics sequences:

<table>
<thead>
<tr>
<th>Course Sequence</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 5061 &amp; Math 5062</td>
<td>6</td>
</tr>
<tr>
<td>Theory of Statistics I &amp; Theory of Statistics II</td>
<td></td>
</tr>
<tr>
<td>Math 439 &amp; Math 4392</td>
<td>6</td>
</tr>
<tr>
<td>Linear Statistical Models &amp; Advanced Linear Statistical Models</td>
<td></td>
</tr>
</tbody>
</table>

and any two of the following pure math sequences:

<table>
<thead>
<tr>
<th>Course Sequence</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 5021 &amp; Math 5022</td>
<td>6</td>
</tr>
<tr>
<td>Complex Analysis I &amp; Complex Analysis II</td>
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<tr>
<td>Math 5031 &amp; Math 5032</td>
<td>6</td>
</tr>
<tr>
<td>Algebra I &amp; Algebra II</td>
<td></td>
</tr>
<tr>
<td>Math 5041 &amp; Math 5042</td>
<td>6</td>
</tr>
<tr>
<td>Geometry I &amp; Geometry II</td>
<td></td>
</tr>
</tbody>
</table>
Math 5051 & Math 5052
Measure Theory and Functional Analysis I and Measure Theory and Functional Analysis II

Prerequisites, if needed, are Math 429 Linear Algebra (0 units toward the degree) and Math 233 Calculus III (0 units toward the degree).

Language requirement: A student whose native language is not English must demonstrate proficiency in English. The student also is expected to become fluent in spoken English. In particular, any student who expects to gain teaching experience while pursuing a degree will need to do this as soon as possible. All students are expected to fulfill the language requirement during their first two years of graduate study.

Qualifying examinations: The qualifying exam is in two parts. One is a series of four written tests covering a range of topics, and one is an oral exam on two selected topics. The written tests cover the material in the four basic course sequences. Each spring, at the end of each sequence, 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 which covers the entire sequence. To pass the qualifying exam in one of the four areas, the student must pass the three-hour combined exam.

The dissertation and final oral exam: The student's dissertation is the single most important requirement for the PhD degree. It must be an original contribution to mathematical knowledge and the student's opportunity to conduct significant independent research. The student is required to pass a final oral examination, and part of this procedure is a question/answer period in which the student is expected to "defend" the dissertation. For information about preparing the thesis and its abstract, and about the deadlines involved, please consult the Graduate School's academic information (p. 14) section of this Bulletin.

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 medicine, psychiatry, orthopedics, biomedical engineering, psychology, and biology.

Accepted students receive full tuition remission, a stipend, and health insurance. The Movement Science Program is supported by NIH training grant T32HD007434.

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Website: https://pt.wustl.edu/Education/DoctoralEducation/PhDinMovementScience/Pages/PhDinMovementScience.aspx

Faculty

Chair
Gammon M. Earhart
PhD, Washington University
Neural control of locomotion in people with Parkinson’s disease

Professors

Catherine E. Lang
PhD, Washington University
Stroke recovery and rehabilitation; neurorehabilitation

Michael J. Mueller
PhD, Washington University
Metabolic and movement factors in people with diabetes mellitus (DM)

Susan B. Racette
PhD, University of Chicago
Dietary and exercise interventions for health promotion and disease prevention

David R. Sinacore
PhD, West Virginia University
Diabetic foot disease, contributors to physical frailty in older adults

Linda R. Van Dillen
PhD, Washington University
Musculoskeletal pain problems in the low back, hip and neck
Dequan Zou (https://pt.wustl.edu/AboutUs/pages/facultybio.aspx?FacultyId=37)
DSc, Washington University
Biomechanics modeling and computer simulation

Associate Professors

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PhD, University of Maryland, Baltimore
Mechanisms and treatments of metabolic diseases

B. Ruth Clark (https://pt.wustl.edu/AboutUs/pages/facultybio.aspx?FacultyId=8)
PhD, Saint Louis University
Promotion of nutrition and exercise in urban residents

PhD, Vanderbilt University
Rehabilitation engineering

Assistant Professors

PhD, University of California, San Diego
Mechanical and cellular contributors to skeletal muscle disease

PhD, Washington University
Physical activity and healthy diets and their role in preventing chronic disease and obesity

Instructor

Michael Harris
Instructor
PhD, University of Utah
Whole-body & joint-level orthopaedic biomechanics

Degree Requirements

PhD in Movement Science

Students will complete the required course work and electives during the first two years. In addition to course work, 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 his or her 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 in Music and the Master of Arts 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 music, 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.

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Faculty

Chair

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Endowed Professor
Dolores Pesce (http://music.wustl.edu/people/pesce)
Avis Blewett Professor of Music
PhD, University of Maryland

Professors
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Denise Elif Gill (http://music.wustl.edu/people/gill)
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DMA, Cornell University
Alexander Stefaniak (http://music.wustl.edu/people/stefaniak)
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Paul Steinbeck (http://music.wustl.edu/people/steinbeck)
PhD, Columbia University

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BMus, University of Missouri-Columbia

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Christine Armistead (http://music.wustl.edu/people/armistead)
MM, Washington University

Lecturer
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DMA, University of Maryland

Postdoctoral Research Associate
Fritz Schenker (http://music.wustl.edu/people/schenker)
PhD, University of Wisconsin-Madison

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, or 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, 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 interdisciplinary work and are committed to providing methodologically and substantively broad training. Applicants from a wide range of backgrounds are welcome; the most successful applicants have evidence of philosophical talent and promise.

Both programs take six years, during which all PhD students are fully supported. The first six or seven semesters are dedicated primarily to course work, 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 or three 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 typically serve as teaching assistants for four of their six years in residence, and teach at least one of 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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Faculty

Chair

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Chair, Department of Philosophy; Director of Philosophy-Neuroscience-Psychology Program
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Hortense and Tobias Lewin Distinguished Professor Emeritus in the Humanities
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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 course work
2. 18 units of empirical course work/laboratory work
3. Participation in the PNP Dissertation Seminar (PNP 501) in semesters when it is offered.
4. Regular attendance at the weekly Philosophy Colloquium, except with the permission of the director of PNP.
5. Completion of two qualifying papers, to be submitted on the first day of Years 2 and 3 respectively. (There should be no significant overlap within the two papers.)
6. Satisfaction of any colloquium requirement imposed by the department
7. Completion and defense of a dissertation prospectus (typically during the fourth year)
8. Completion and defense of a dissertation

Additional Information

For additional information, visit our 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 and Kantian Practical Philosophy, Phil 4570 Kant’s Critique of Pure Reason)

3. Additional work to 72 hours (at the 400 or 500 level; may consist of directed research Phil 591 or additional, germane course work)

4. Completion of teaching requirements

5. Completion of three qualifying papers, to be submitted on the first day of Years 2, 3 and 4 respectively

6. Completion of dissertation requirements

7. Completion of colloquium requirements

**Additional Information**

For additional information, visit our Graduate Program (http://philosophy.artsci.wustl.edu/graduate) webpage.

Please contact the department for further requirements.

**Physics**

The Department of Physics offers AM and 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, 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 optics and atomic physics with condensed matter devices, nanostructures, metallic glasses, magnetism and superconductivity, high-pressure physics, nuclear magnetic resonance)
- biological and biomedical physics (biophysics of the brain, hyperpolarized magnetic resonance imaging, ultrasound, echocardiography).

Theoretical research areas include:

- biophysics (nonequilibrium dynamics in biological cells)
- condensed matter physics (strongly correlated electron systems, topological phases, excited states of many-electron systems, density functional theory)
- elementary particle physics (astroparticle physics, dark matter, theoretical cosmology, strong interactions, non-Hermitian Hamiltonians, quark matter)
- 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 doing graduate course work, finding a dissertation adviser, and starting research. During that time they receive a stipend and have teaching assistantship duties for only two semesters. 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.

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**Faculty**

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**Clifford Will** (http://www.physics.wustl.edu/people/will_clifford-m)  
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**Degree Requirements**

**PhD and AM 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. 14) or master's degrees (p. 21) in the Graduate School, please visit the appropriate sections of this [Bulletin](http://physics.wustl.edu/graduate/about-the-program/handbook/).  

Students are normally accepted for graduate work toward the PhD and students are occasionally accepted to work toward the AM. For more information about degree requirements [here](http://physics.wustl.edu/graduate/about-the-program/handbook/).
degree-requirements), please visit the physics department website.

**Requirements for AM**

1. 36 semester hours of course credits, of which at least 30 semester hours must be in classroom or seminar courses at the 400 level or higher.
2. The student must get permission from his or her adviser and the Director of Graduate Studies to take courses outside the physics department.
3. The student must maintain an overall grade average of B (GPA 3.0) or better.
4. Among the student's course work there must be at least 12 semester-hours of the "core" courses required for PhD qualification (detailed below), passed with an average grade of B (GPA 3.0) or better.

**Requirements for PhD**

1. **Outline of requirements**
   • Complete 72 units of course work, maintaining an average grade of B (GPA 3.0), including at least 36 units of academic credit (detailed below). Once the academic credit is completed, the remaining units (up to a total of 72) can include more lecture courses, but are typically research for which students should register for Physics 595/Physics 596.
   • 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.

2. **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/Physics 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/Physics 590 Selected Topics in Physics
- Supervised research, for which students should register for Physics 593/Physics 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.

3. **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.

**Must take:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics 501</td>
<td>Theoretical Physics</td>
<td>3</td>
</tr>
<tr>
<td>Physics 505</td>
<td>Classical Electrodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>Physics 523</td>
<td>Quantum Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>Physics 529</td>
<td>Statistical Mechanics</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least two of:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics 502</td>
<td>Methods of Theoretical Physics II</td>
<td>3</td>
</tr>
<tr>
<td>Physics 506</td>
<td>Classical Electrodynamics II</td>
<td>3</td>
</tr>
<tr>
<td>Physics 507</td>
<td>Classical Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>Physics 509</td>
<td>Nonlinear Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>Physics 524</td>
<td>Quantum Mechanics II</td>
<td>3</td>
</tr>
</tbody>
</table>

These requirements can be modified or waived for students with previous graduate work, e.g., a master's degree in physics.

4. **PhD qualification: oral examination requirement**

After completing course work, the student must give a presentation to a committee of three physics faculty members (the prospective research adviser and two others), to qualify for admittance to the PhD program.

5. **Teaching requirements**

These requirements must be completed before the student submits her or his doctoral dissertation to the Graduate School.

a. **Take L31 Physics 597**

Graduate students are required to take Physics 597 Supervised Teaching of Physics prior to serving as a teaching assistant. Students typically take Physics 597 in their first fall semester.

b. **TA for at least two semesters**

c. **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, etc.
6. For dissertation requirements, including the oral defense of the dissertation:


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 ten 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 train 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

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Director of Undergraduate Studies

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Betsy Sinclair (http://polisci.wustl.edu/faculty/betsy-sinclair)
PhD, California Institute of Technology

Assistant Professors

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PhD, Duke University

Keith Schnakenberg (http://polisci.wustl.edu/faculty/keith-schnakenberg)
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Professors Emeriti

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PhD, University of Texas at Austin

John Sprague (http://polisci.wustl.edu/John_Sprague)
Sidney W. Souers Professor Emeritus of Government
PhD, Stanford University

Degree Requirements

PhD in Political Science

For more information regarding our doctoral program and the curriculum, please visit our Graduate Program webpage (http://polisci.wustl.edu/graduate).

Psychological & Brain Sciences

The Department of Psychological & Brain Sciences trains 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 sub-fields of psychological and brain sciences and with 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 training and research. For example, opportunities for cross-disciplinary training 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 requires course work (including statistics, methods, ethics, and several core content areas), a subject matter exam, at least one semester of a teaching experience that fulfills the doctoral teaching requirement, and consistently high-quality research productivity that results in publishable findings.

Phone: 314-935-6520
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Faculty

Chair

Deanna M. Barch (http://psychweb.wustl.edu/people/deanna-barch)
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Associate Chair

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Professor
PhD, Stanford University

Endowed Professors

John Baugh (http://psychweb.wustl.edu/people/john-baugh)
Margaret Bush Wilson Professor in Arts & Sciences
PhD, University of Pennsylvania
(African and African-American Studies; Anthropology; Education; English)

Randy J. Larsen (http://psychweb.wustl.edu/larsen)
William R. Stuckenberg Professor of Human Values and Moral Development
PhD, University of Illinois at Urbana-Champaign

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Edgar James Swift Professor of Arts & Sciences
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Professors

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PhD, University of South Carolina

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PhD, University of Paris
(Anthropology)

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Affiliated Faculty

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PhD, Virginia Commonwealth University
(Psychiatry)

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PhD, University of Illinois at Urbana-Champaign
(Romance Languages and Literatures)

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PhD, Indiana University
(Education & Applied Linguistics)
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PhD, Washington University  
(Psychiatry)

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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)

PhD, International Academy of Philosophy, Liechtenstein  
(Medicine)

Hillary Elfenbein (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)

Scott Frey (http://www.ot.wustl.edu/about/our-people/faculty/scott-frey-481)  
PhD, Cornell University  
(Occupational Therapy)

PhD, Washington University  
(Neurology)

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PhD, Fordham University  
(Neurology)

Andrew Heath (http://www.psychiatry.wustl.edu/Faculty/FacultyDetails?ID=56)  
DPhil, Oxford University  
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PhD, Washington University  
(Psychiatry)

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PhD, Saint Louis University  
(Psychiatry)

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PhD, Rutgers University  
(Philosophy)

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Research Scientist  
PhD, Boston University  
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PhD, Brandeis University  
(Otolaryngology)

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PhD, Washington University  
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MD, University of Washington  
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MD, PhD, Washington University School of Medicine  
(Psychiatry)

Lawrence Snyder (http://thalamus.wustl.edu/Faculty_Research/Snyder_L)  
MD, PhD, University of Rochester  
(Neurobiology)

David Van Essen (http://brainvis.wustl.edu/wiki/index.php/Main_Page)  
PhD, Harvard University  
(Anatomy and Neurobiology)

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Marshall S. Snow Professor in Arts & Sciences  
PhD, University of Chicago  
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PhD, Washington University
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PhD, Loyola University of Chicago
Heather Rice (http://psychweb.wustl.edu/rice)
PhD, Duke University
Robinson Welch (http://www.psychiatry.wustl.edu/wilfleylab/home/welch)
PhD, University of Missouri-Columbia

Professors Emeriti
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Larry Jacoby (http://psychweb.wustl.edu/jacoby)
PhD, Southern Illinois University Carbondale
Brett Kessler (http://psychweb.wustl.edu/kessler)
PhD, Stanford University
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 Guide to Graduate Training (available on our website (http://psychweb.wustl.edu/graduate)). All students must:

- Complete 72 credit hours of graduate-level course work (this course work 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 Guide to Graduate Training.
- 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) workshops on professional development 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 Guide to Graduate Training.

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 training 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.
Contact: John Land
Phone: 314-935-3599
Email: john.land@wustl.edu
Website: http://brownschool.wustl.edu/Admissions/PhDinPublicHealthSciences

Faculty

Dean

Mary McKernan McKay
PhD, University of Illinois at Chicago
Child mental health services; HIV prevention and care; Poverty

Associate Dean for the Doctoral Program

Renee M. Cunningham-Williams
Associate Professor; Director, NIDA T32 (TranSTAR) Pre- and Postdoctoral Training Program; Director, PhD Program in Social Work
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
Professor
PhD, University of Illinois
Systems science; Evaluation of public health programs; Tobacco control policy

Endowed Professors

Ross Brownson
Bernard Becker Professor
PhD, Colorado State University
Evidence-based public health; Dissemination and implementation research; Chronic disease prevention

Debra Haire-Joshu
Joyce Wood Professor
PhD, Saint Louis University
Obesity prevention; Diabetes prevention; Health policy

Matthew Kreuter
Kahn Family Professor of Public Health
PhD, University of North Carolina at Chapel Hill
Health communication; Health disparities

Professors

Timothy McBride
PhD, University of Wisconsin-Madison
Health policy; Health economics; Rural health care

Vetta Sanders Thompson
PhD, Duke University
Health and mental health disparities; Cultural competency; Race, identity and health

Associate Professors

Amy Eyler
Physical activity; Childhood obesity; Prevention policy

Jenine Harris
PhD, Saint Louis University
Social network analysis; Social media in public health

Lora Iannotti
Child nutrition; Infectious diseases; Poverty pathways

Kimberly Johnson
Human genetics and cancer; Epidemiology

Jean-Francois Trani
PhD, Institut d'Etudes Politiques de Paris, France
Global health; Human rights; Disabilities

Assistant Professors

Derek Brown
PhD, Duke University
Health economics; Health policy

Alexis Duncan
PhD, Saint Louis University
Psychiatric and genetic epidemiology; Obesity and eating disorders
Faculty

Chair
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Elias Michael Director and Professor of Occupational Therapy, Neurology, and Social Work
PhD, Washington University
OTR/L, University of Kansas

Professor
Scott Frey (http://www.ot.wustl.edu/about/our-people/faculty/scott-frey-481)
Associate Director, Program in Occupational Therapy; Professor of Occupational Therapy and Neurology
PhD, Cornell University

Assistant Professors
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Assistant Professor of Neurology and Occupational Therapy
MD, PhD, Washington University

Allison King (http://www.ot.wustl.edu/about/our-people/faculty/allison-king-265)
Assistant Professor of Occupational Therapy and Pediatrics
MD, University of Missouri

Bobbi Pineda (http://www.ot.wustl.edu/about/our-people/faculty/bobbi-pineda-270)
Assistant Professor of Occupational Therapy and Pediatrics
PhD, University of Florida

Susan Stark (http://www.ot.wustl.edu/about/our-people/faculty/susy-stark-271)
Assistant Professor of Occupational Therapy, Neurology, and Social Work
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Alex Wong (http://www.ot.wustl.edu/about/our-people/faculty/alex-wong-399)
Assistant Professor of Occupational Therapy and Neurology
PhD, Hong Kong Polytechnic University

Instructor
Kerri Morgan (http://www.ot.wustl.edu/about/our-people/faculty/kerri-morgan-268)
Instructor in Occupational Therapy and Neurology
PhD, Washington University Program in Physical Therapy
OTR/L, ATP, Texas Christian University
Degree Requirements
PhD in Rehabilitation and Participation Science (RAPS)

Applicant Background
RAPS PhD students may enter the program from a variety of clinical or scientific backgrounds. Current students hold degrees in occupational therapy, engineering, and neurobiology. All chose to pursue the RAPS PhD degree because of their desire to improve rehabilitation practices and thus people’s lives. Prerequisites will vary somewhat depending on the student’s desired area of specialization. Prior research experience is strongly encouraged. If one or two prerequisites are missing prior to admission they can be taken concurrently with required RAPS courses, but will not count for required credits.

Curriculum
Students in the RAPS PhD program must complete at least 72 units: 32-34 units of formal course work and 38-40 units of research/reading (including both pre-dissertation and dissertation credits). The objective of training mechanisms is to provide students with three levels of knowledge: Breadth, Depth, and Focus.

• Breadth will be achieved by completing a small number of core courses. Success will be demonstrated by course performance. Further, breadth will also come from participation in the biweekly RAPS seminars that all students and faculty are expected to attend. These provide exposure to research plans and progress, as well as a forum for mandatory discussion of ethics and scientific integrity issues.

• Depth will be acquired through courses specific to the student’s unique research focus. This will be assessed through successful completion of the qualifying exam.

• Focus will occur through participation in small graduate seminars in the RAPS PhD and other programs and, most essentially, through active engagement in research. This will ultimately be evaluated by the dissertation and its oral defense.

Core Courses
• Theories, Models and Classifications of Rehabilitation and Participation Science (RAPS, 3 units)
• Intermediate Graduate Statistics (Psych, 3 units)
• Advanced Graduate Statistics (Psych, 3 units)
• Research Design and Methods (Psych, 3 units)
• RAPS Seminar: Science and Ethics (RAPS, 0 units)
• Individual meeting with Graduate Career Strategist plus five workshops or equivalent courses

Prior graduate courses that explicitly meet the course requirements may be considered (syllabi must be submitted for review and approval of the RAPS PhD Chair). In no case will the transferred courses accepted for the core and elective course requirements exceed 21 units.

Elective Units
Elective courses will be chosen to provide the background necessary to support development of the student’s unique research focus. Prior graduate-level credits will be considered if they explicitly relate to the student’s research interests (syllabi must be submitted for review and approval by the student’s PhD mentor).

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 course work and the competency exam, each student is expected to spend at least 15-20 hours per week actively engaged in research. After passing the competency exam, students are expected to work full-time on their dissertation and other research projects. It is anticipated that these efforts will lead to refereed publications.

It is possible that a student may find that his or her interests lie in an area different from that originally selected. In this case, the student may switch laboratories and mentors with the approval of the RAPS PhD Chair and necessary adjustments in course and laboratory experiences.

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 and train in many areas of French, Francophone, Latin American, and Iberian cultures. We offer a broad range of training 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). Two years of this funding generally come in the form of first-year and dissertation fellowships, entailing no teaching; the rest comes as teaching assistantships.
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. 46).

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
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Professor of Italian
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William H. Gass Professor in Arts & Sciences; Director of Latin American Studies Program
PhD, University of Minnesota

Elzbieta Sklodowska (http://rll.wustl.edu/people/sklodowska)
Randolph Professor in Arts & Sciences
PhD, Washington University

Professors
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PhD, University of Illinois at Urbana-Champaign

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PhD, Brown University

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PhD, Cornell University

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Associate Professors
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PhD, University of North Carolina at Chapel Hill

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Assistant Professors
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PhD, Princeton University

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PhD, Rutgers University
Professor Emerita
Elyane Dezon-Jones
Professor of French
Doctorat de 3e Cycle, University of Paris

Professor Emeritus
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 training 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 fourth semester, students take the AM exam. In the semester after they finish their course work, 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 training 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 course work; 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.

Website: http://rll.wustl.edu/cert/langinstruction
Email: barcroft@wustl.edu
Phone: 314-935-7951

Social Work
The objective of the PhD in Social Work is to educate scholars for research careers in the social and behavioral sciences. The program is highly interdisciplinary, mentoring students with interests in such areas as social and economic development, child welfare, gerontology, addictions, health, mental health, and public health. Our PhD program in Social Work involves intensive training in social science research methods and personalized mentoring by some of the leading scholars in the field. In addition, our curriculum focuses on research methodology, theory, and data analysis.

We have a very high completion rate, and nearly all of those graduates go on to teaching and research positions in social science institutions throughout the world. An academic career
in most large universities requires faculty who can maintain a rigorous research agenda, while teaching and providing service and leadership to the school and the profession. Thus, we train doctoral students to excel in such areas as conducting individual and collaborative research projects, writing and publishing research findings, sharing knowledge with academic colleagues at professional conferences, and bringing the latest knowledge into the classroom for the benefit of future students, practitioners, and educators.

Contact: Doctoral Education Program Office
Phone: 314-935-6605
Email: phdswh@wustl.edu
Website: http://brownschool.wustl.edu/Admissions/PHDProgram/Pages/PhD-in-Social-Work-Overview.aspx

Faculty

Dean

Mary McKernan McKay (http://brownschool.wustl.edu/Faculty/FullTime/Pages/Mary_McKernan_McKay.aspx)
Professor
PhD, University of Illinois at Chicago
Child mental health services; HIV prevention and care; Poverty

Associate Dean for Doctoral Education

Renee M. Cunningham-Williams (http://brownschool.wustl.edu/Faculty/FullTime/Pages/ReneeMCunningham-Williams.aspx)
Associate Professor; Director, NIDA T32 (TranSTAR) Pre- and Postdoctoral Training Program; Director, PhD Program in Social Work
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

Endowed Professors

Wendy Auslander (http://brownschool.wustl.edu/Faculty/FullTime/Pages/WendyAuslander.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 (http://brownschool.wustl.edu/Faculty/FullTime/Pages/RossBrownson.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

Sarah Gehlert (http://brownschool.wustl.edu/Faculty/FullTime/Pages/SarahGehlert.aspx)
E. Desmond Lee Professor of Racial and Ethnic Diversity
PhD, Washington University
Health disparities; Women’s health and mental health; Adaptation to illness and traumatic injury; Community-based participatory research; transdisciplinary research and team science

Shenyang Guo (http://brownschool.wustl.edu/Faculty/FullTime/Pages/Shenyang-Guo.aspx)
Frank J. Bruno Distinguished Professor of Social Work
Research; Assistant Vice Chancellor for International Affairs–China
PhD, University of Michigan
Quantitative Research methodology; Program and practice evaluations; Child welfare; Child mental health

Debra Haire-Joshu (http://brownschool.wustl.edu/Faculty/FullTime/Pages/DebraHaire-Joshu.aspx)
Joyce Wood Professor; Associate Dean for Research; Director, Center for Diabetes Translation Research; Director, Center for Obesity Prevention and Policy Research
PhD, Saint Louis University
Health policy; Preventing obesity and diabetes in underserved populations; Transdisciplinary approaches to biomedical, behavioral, and public health research

Sean Joe (http://brownschool.wustl.edu/Faculty/FullTime/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

Melissa Jonson-Reid (https://brownschool.wustl.edu/Faculty/FullTime/Pages/MelissaJonson-Reid.aspx)
Director, Center for Violence and Injury Prevention; Ralph and Muriel Pumphrey Professor of Social Work
PhD, University of California, Berkeley
Education and child welfare services policy; Child abuse and neglect; Interagency service delivery systems; School social work
Matthew W. Kreuter (http://brownschool.wustl.edu/Faculty/FullTime/Pages/MatthewWKreuter.aspx)
Associate Dean for Public Health; Kahn Family Professor of Public Health
PhD, MPH, University of North Carolina at Chapel Hill
Health communication; Cancer prevention and control; Integrating health and social services; Health disparities

Nancy Morrow-Howell (http://brownschool.wustl.edu/Faculty/FullTime/Pages/NancyMorrow-Howell.aspx)
Bette 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 (http://brownschool.wustl.edu/Faculty/FullTime/Pages/EnolaKProctor.aspx)
Shanti K. Khinduka Distinguished Professor; 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 (http://brownschool.wustl.edu/Faculty/FullTime/Pages/MarkRank.aspx)
Herbert S. Hadley Professor of Social Welfare
PhD, University of Wisconsin
Poverty and economic inequality; Social welfare; Family; Social policy; Demography; Life course

Michael Sherraden (http://brownschool.wustl.edu/Faculty/FullTime/Pages/MichaelSherraden.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

Professors

F. Brett Drake (http://brownschool.wustl.edu/Faculty/FullTime/Pages/FBrettDrake.aspx)
PhD, University of California, Los Angeles
Children born prenatally exposed to drugs; Child protection and child protective practice

Michal Grinstein-Weiss (https://brownschool.wustl.edu/Faculty/FullTime/Pages/Michal-Grinstein-Weiss.aspx)
Associate Director, Center for Social Development
PhD, Washington University
Public policy; Economic & social mobility; Asset building

Carolyn Lesorogol (https://brownschool.wustl.edu/Faculty/FullTime/Pages/CarynLesorogol.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 (http://brownschool.wustl.edu/Faculty/FullTime/Pages/Luke.aspx)
Director, Doctoral Program in Public Health Sciences
PhD, University of Illinois
Evaluations of public health programs; Tobacco control and prevention policy; Community health interventions

Timothy McBride (http://brownschool.wustl.edu/Faculty/FullTime/Pages/TimothyMcBride.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

Rodrigo S. Reis (https://brownschool.wustl.edu/Faculty/FullTime/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

Vetta L. Sanders Thompson (http://brownschool.wustl.edu/Faculty/FullTime/Pages/VettaLSandersThompson.aspx)
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

Tonya Edmond (http://brownschool.wustl.edu/Faculty/FullTime/Pages/TonyaEdmond.aspx)
Associate Dean for Diversity
PhD, University of Texas at Austin
Violence against women; Trauma-focused intervention research; Evidence-based practice

Amy A. Eyler (https://brownschool.wustl.edu/Faculty/FullTime/Pages/AmyAEyler.aspx)
Assistant Dean for Public Health
PhD, Oregon State University
Physical activity; Childhood obesity; Policies and preventative health
Patrick J. Fowler (https://brownschool.wustl.edu/Faculty/FullTime/Pages/PatrickFowler.aspx)
PhD, Wayne State University
Housing and homelessness; Child maltreatment and child welfare system; Developmental psychopathology; Policy and program evaluation; Prevention science; Violence exposure

Lora Iannotti (https://brownschool.wustl.edu/Faculty/FullTime/Pages/Loralannotti.aspx)
PhD, Johns Hopkins University
Young child nutrition; Micronutrient deficiencies; Infectious diseases and poverty pathways; Evaluation research

Kimberly Johnson (https://brownschool.wustl.edu/Faculty/FullTime/Pages/KimberlyJohnson.aspx)
PhD, University of Minnesota
Epidemiology; Human genetics; Cancer

Jack A. Kirkland (http://brownschool.wustl.edu/Faculty/FullTime/Pages/JackKirkland.aspx)
MSW, Syracuse University
International & national community economic development; Urban issues; International, state, and regional planning; International social development; Multicultural education

Patricia Kohl (http://brownschool.wustl.edu/Faculty/FullTime/Pages/PatriciaKohl.aspx)
Associate Dean for Social Work (interim)
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/FullTime/Pages/Von-Nebbitt.aspx)
PhD, 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/FullTime/Pages/DavidPatterson.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

Jean-Francois Trani (https://brownschool.wustl.edu/Faculty/FullTime/Pages/Jean-Francois-Trani.aspx)
PhD, Institut d'Etudes Politiques de Paris
Mental health; Disabilities; International social work

Sheretta T. Butler-Barnes (http://brownschool.wustl.edu/Faculty/FullTime/Pages/Sheretta-T--Butler-Barnes.aspx)
PhD, Wayne State University
Positive Youth Development; African Americans; Academic Achievement; Mental Health; Religiosity

Alexis Duncan (http://brownschool.wustl.edu/Faculty/FullTime/Pages/AlexisDuncan.aspx)
PhD, Saint Louis University
Psychiatric epidemiology; Obesity and eating disorders; Substance use and related disorders; Comorbidity; Child abuse and neglect; Behavior genetics

Vanessa Fabbre (http://brownschool.wustl.edu/Faculty/FullTime/Pages/Vanessa-Fabbre.aspx)
PhD, University of Chicago
Aging and the life course; Health and mental health; Gender and sexuality; Interpretive methodology

Jenine Harris (http://brownschool.wustl.edu/Faculty/FullTime/Pages/JenineHarris.aspx)
PhD, Saint Louis University
Dissemination research; Social network analysis; Social media; Public health systems

Darrell L. Hudson (http://brownschool.wustl.edu/Faculty/FullTime/Pages/Hudson.aspx)
PhD, University of Michigan
Health disparities; Mental health; Health behavior; Health education; Violence and injury prevention

Molly W. Metzger (http://brownschool.wustl.edu/Faculty/FullTime/Pages/MollyMetzger.aspx)
PhD, Northwestern University
Affordable housing; Social policy; Poverty and inequality

Sojung Park (http://brownschool.wustl.edu/Faculty/FullTime/Pages/SojungPark.aspx)
PhD, University of Michigan
Health and well-being of older adults; Environmental gerontology; Community-based long term care; Cross-national/ cross-cultural studies

Carrie Pettus-Davis (http://brownschool.wustl.edu/Faculty/FullTime/Pages/PettusDavis.aspx)
PhD, University of North Carolina at Chapel Hill
Intervention research; Criminal justice; Substance abuse; Mental health; Social support

Jason Q. Purnell (http://brownschool.wustl.edu/Faculty/FullTime/Pages/JasonQPurnell.aspx)
PhD, Ohio State University
Health behavior; Information and communication technologies; Health disparities

Assistant Professors

Derek Brown (http://brownschool.wustl.edu/Faculty/FullTime/Pages/DerekBrown.aspx)
PhD, Duke University
Health economics; Stated preference methods & health-related quality of life; Child abuse and neglect; Medicaid
Zorimar Rivera-Núñez (http://brownschool.wustl.edu/Faculty/FullTime/Pages/Zorimar-Rivera-Nunez.aspx)
PhD, University of Michigan
Chemicals exposures; Exposure assessment tools development; Environmental epidemiology; Maternal and child health

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 1st 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 and 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 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
To view 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 course work, teaching experiences and research training and culminates in a dissertation. Each student's experience can be tailored to his or her individual interests.

Generally, 24 hours of graduate credit can be transferred toward the PhD from another institution; graduates of our AuD and 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 training 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 work, 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 introduces students to cutting-edge scholarship in the dynamic field of theater and performance studies, preparing them to pursue academic careers as scholar-practitioners. Offering a broad-based approach to the study of performance, this two-year program expands a traditional focus on aesthetic practice to include cultural performances such as gender performativity, Civil Rights activism, early modern surgery, slave auctions, and begging. Under this broad umbrella, students are invited to explore the mutual engagement of aesthetic and cultural performance practices across history, around the globe, and between disciplines, drawing on a variety of theoretical approaches to illuminate the complex meanings generated by and through performance.

Because theater offers an occasion to reflect upon those meanings, stage performance is at the core of this program’s course of study. Accordingly, students are offered a broad range of courses in theater history, ranging from the classical theater of Ancient Greece and Rome to contemporary multimedia performance, with attention to the performance practices of cultures beyond the borders of the United States. Building on this foundation, students may design a personalized course of study in a specific historical, cultural, or theoretical field, according to their interests. We boast an expert faculty both from within the Performing Arts Department, including Dance, and from other units across campus, such as Anthropology; Classics; English and non-Anglophone languages and literatures; Music; Film and Media Studies; Women, Gender, and Sexuality Studies; and the Sam Fox School of Design & Visual Arts. The annual endowed Helen Clanton Morrin lecture allows us to host leading scholars and artists in performance research.

**Contact:** Pannill Camp
**Phone:** 314-935-3348
**Email:** pcamp@wustl.edu
**Website:** [http://pad.artsci.wustl.edu/graduate](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
  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
- Mary-Jean Cowell ([http://pad.artsci.wustl.edu/maryjean_cowell](http://pad.artsci.wustl.edu/maryjean_cowell))
  PhD, Columbia University
  Modern Dance Technique, Theory and Composition, Dance History and Ethnology
- Julia Walker ([http://pad.artsci.wustl.edu/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](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
- Paige McGinley ([http://pad.artsci.wustl.edu/paige-mcginley](http://pad.artsci.wustl.edu/paige-mcginley))
  PhD, Brown University
  20th-Century Theater and Performance; Race, Ethnicity, and Performance; American Studies

**Professors of the Practice**
- Christine Knoblauch-O’Neal ([http://pad.artsci.wustl.edu/christine-knoblauch-oneal](http://pad.artsci.wustl.edu/christine-knoblauch-oneal))
  PhD, Texas Women’s University
  Ballet, Applied Anatomy, Musical Theater, Performance Studies
- Bonnie Kruger ([http://pad.artsci.wustl.edu/bonnie-kruger](http://pad.artsci.wustl.edu/bonnie-kruger))
  MFA, University of Illinois
  Costume Design, History and Construction, Rendering, Baroque Opera
- David Marchant ([http://pad.artsci.wustl.edu/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 Lecturers

Robert Mark Morgan (http://pad.artsci.wustl.edu/robert-mark-morgan)
MFA, San Diego State University
Scenic Design

Sean Savoie (http://pad.artsci.wustl.edu/sean-savoie)
MFA, University of Cincinnati - College Conservatory of Music
Lighting Design, Production Management

Andrea Urice (http://pad.artsci.wustl.edu/andrea-urice)
MFA, University of Virginia
Directing, Acting, Creative Studies

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

Degree Requirements

AM in Theater and Performance Studies

Degree Requirements: 36 units (12 courses)

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.) Students are encouraged to meet this requirement with L15 Drama 507 Problems in Contemporary Theoretical Research.

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 are encouraged to 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 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.

**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  
**Website:** [http://urbanstudies.wustl.edu/programs/graduate-certificate-program](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))  
Marshal 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://anthropology.artsci.wustl.edu/baugh_john](http://anthropology.artsci.wustl.edu/baugh_john))  
Margaret Bush Wilson Professor in Arts & Sciences  
PhD, University of Pennsylvania  
(Linguistics)

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)

Adrienne D. Davis ([http://law.wustl.edu/faculty/pages.aspx?id=5768](http://law.wustl.edu/faculty/pages.aspx?id=5768))  
William M. Van Cleve Professor of Law  
JD, Yale University  
(Law)

Michelle M. Duguid  
PhD, Cornell University  
(Business)

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](http://samfoxschool.wustl.edu/directory/60))  
PhD, Washington University  
(Architecture)

David Konig ([http://history.artsci.wustl.edu/david_konig](http://history.artsci.wustl.edu/david_konig))  
PhD, Harvard University  
(History; Law)

Bruce Lindsey ([http://www.arch.wustl.edu/directory/39](http://www.arch.wustl.edu/directory/39))  
E. Desmond Lee Professor for Community Collaboration, Sam Fox School of Design & Visual Arts  
Dean, College of Architecture and Graduate School of Architecture & Urban Design  
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)
JD, University of Missouri
(Law)

Timothy H. 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 (http://brownschool.wustl.edu/Faculty/FullTime/Pages/VettaLSandersThompson.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)
Vice Chancellor of International Affairs
PhD, University of Chicago
(Anthropology)

Rafia Zafar (http://english.artsci.wustl.edu/Rafia-Zafar)
PhD, Harvard University
(English)

Robert G. Hansman (http://www.samfoxschool.wustl.edu/directory/58)
BFA, University of Kansas
(Architecture)

Clarissa Hayward (http://polisci.wustl.edu/ClarissaRile_Hayward)
PhD, Yale University
(Political Science)

Shanti A. Parikh (http://anthropology.artsci.wustl.edu/parikh_shanti)
PhD, Yale University
(Anthropology)

Sunita A. Parikh (http://polisci.wustl.edu/Sunita_Parikh)
PhD, University of Chicago
(Political Science)

Nancy Y. 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
PhD, Wayne State University
(Social Work)

Ebony Duncan
PhD, Vanderbilt University
(Sociology; Education)

Michelle A. Purdy
PhD, Emory University
(Education)

Paul T. Shattuck
PhD, University of Wisconsin
(Social Work)

Senior Lecturer

Gay Goldman Lorberbaum (http://www.samfoxschool.wustl.edu/directory/475)
MArch, Washington University
(Architecture)

Adjunct Assistant Professor

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 AM or PhD programs who wish to enhance their disciplinary studies with a concentration in gender and sexuality studies. The certificate offers students opportunities to meet and work with faculty and graduate students in departments throughout Arts & Sciences and the professional schools who do research on women, gender, and sexuality. It 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 program sponsors a graduate certificate workshop providing both professional development and a place where graduate students share their work with others interested in feminist and gender-oriented scholarship.

Women, Gender, and Sexuality Studies also offers certificate students the opportunity to observe and then design and teach sections of introductory courses in Women, Gender, and Sexuality Studies. PhD students in Anthropology, Comparative Literature, East Asian Languages and Cultures, Education, English, German, History, Philosophy, Political Science, and Romance Languages and Literatures have served as joint teaching assistants in this program. Participating students are equipped to offer both disciplinary and interdisciplinary scholarly and teaching expertise to hiring institutions. Interacting with faculty in the program and participating in the joint teaching program provide 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)
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)
Director of Undergraduate Studies and Senior Lecturer
PhD, Northwestern University
(Women, Gender, and Sexuality Studies; English)

Amy Cislo (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)
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)

Julie Moreau (http://wgss.artsci.wustl.edu/people/julie-moreau)
Postdoctoral Fellow
PhD, McGill University
(Women, Gender, and Sexuality Studies)

Amber Jamilla Musser (https://wgss.artsci.wustl.edu/people/amber-musser)
Assistant Professor
PhD, Harvard University
(Women, Gender, and Sexuality Studies)

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)

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)
Additional Program Faculty

Jami Ake (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_lynea)
PhD, Washington University
(Women, Gender, and Sexuality Studies)

Beth Fisher
Assistant Director, Teaching Center; and Lecturer
PhD, University of Iowa
(English; 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 Barkeleo and Phoebe Couzins Professor of Law
JD, University of California, Berkeley
(Law)

Miriam Ballin (http://english.artsci.wustl.edu/people/miriam-ballin)
Associate Professor
PhD, University of California, Berkeley
(English)

Nancy Berg (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
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(History)

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

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)
Wiley Rutledge Professor of Law
JD, University of California, Los Angeles
(Law)

Adrienne Davis (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)
Professor
PhD, Stanford University
(Chinese; East Asian Languages and Cultures; Religious Studies)
R. 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)
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Associate Professor
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Associate Professor
PhD, New York University
(Romance Languages and Literatures)
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Associate Professor
PhD, University of California, San Diego
(Anthropology)
Erin McGlothlin (http://german.wustl.edu/people/mcglotlin_erin)
Associate Professor
PhD, University of Virginia
(Germanic Languages and Literatures)
Rebecca Messbarger (http://rll.wustl.edu/people/messbarger)
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(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)
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)
Associate Professor
PhD, Yale University
(Anthropology; African and African-American Studies)
Anca Parvulescu (http://english.artsci.wustl.edu/Anca_Parvulescu)
Professor
PhD, University of Minnesota
(English)
Vivian Pollak (http://english.artsci.wustl.edu/Vivian_Pollak)
Professor
PhD, Brandeis University
(English)
Nancy Reynolds (http://history.artsci.wustl.edu/nancy_reynolds)
Associate Professor
PhD, Stanford University
(History)
Jessica Rosenfeld (http://english.artsci.wustl.edu/Jessica_Rosenfeld)
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(English)
Carolyn Sargent (http://anthropology.artsci.wustl.edu/sargent_carolyn)
Professor
PhD, Duke University
(Anthropology)
Elizabeth Sepper (http://law.wustl.edu/faculty_profiles/profiles.aspx?id=9367)
Associate Professor
JD, LLM, 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)
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)
Writing

The Writing program offers a Master of Fine Arts in Writing (MFA) 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: 314-935-7428
Email: scrabong@wustl.edu
Website: http://english.artsci.wustl.edu/graduate/writing_program

Faculty

Professors

Mary Jo Bang (http://english.artsci.wustl.edu/mary_jo_bang)
MFA, Columbia University

Carl Phillips (http://english.artsci.wustl.edu/Carl_Phillips)
MA, Boston University

Assistant Professors

Danielle Dutton (http://english.artsci.wustl.edu/danielle-dutton)
PhD, University of Denver

Edward McPherson (http://english.artsci.wustl.edu/Edward_Mcpherson)
MFA, University of Minnesota–Twin Cities

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.
Writers-in-Residence

Kathryn Davis (http://english.artsci.wustl.edu/kathryn_davis)
BA, Goddard University

Kathleen Finneran (http://english.artsci.wustl.edu/kathleen_finneran)
BA, Washington University

MFA, Bowling Green State University

Director of Creative Writing Program

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 in Writing (MFA). It is a two-year program, requiring satisfactory completion of 42 semester hours, a thesis, and an oral examination dealing principally with the thesis.

Course Work

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 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/certificates).

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/graduate) in University College consist of 30-36 units of graduate-level course work 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 course work 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. 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 application deadline is April 1. Please visit the University College website (http://ucollege.wustl.edu) for more detailed admissions requirements and information about the Doctor of 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: mid-November for spring; mid-
July 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 in American Culture Studies (AM) (https://ucollege.wustl.edu/programs/graduate/masters-american-culture-studies)
- Master of Arts in Biology (AM) (https://ucollege.wustl.edu/programs/graduate/masters-biology)
- Master of Arts in Education (MAEd) (https://ucollege.wustl.edu/areas/education/masters)
- Master of Arts in Human Resources Management (AM) (https://ucollege.wustl.edu/programs/graduate/masters-human-resources-management)
- Master of Arts in International Affairs (AM) (https://ucollege.wustl.edu/programs/graduate/masters-international-affairs)
- Master of Arts in Nonprofit Management (AM) (https://ucollege.wustl.edu/programs/graduate/masters-nonprofit-management)
- Master of Arts in Statistics (AM) (https://ucollege.wustl.edu/programs/graduate/masters-statistics)
- Master of Liberal Arts (AM) (https://ucollege.wustl.edu/programs/graduate/masters-liberal-arts)
- Master of Science in Biology (MS) (https://ucollege.wustl.edu/node/1278)
- Master of Science in Clinical Research Management (MS) (https://ucollege.wustl.edu/programs/graduate/masters-clinical-research-management)

AM, MAEd, and MS in Biology degrees conferred by the Graduate School. MS in Clinical Research Management conferred by University College.

**Note:** University College students may apply a maximum of 6 units of P/F credit from graduate-level course work in the Olin Business School to a master's degree program in University College. The course work 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 training, 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 with the 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.

**Contact:** Michael Allen
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**Email:** allen.m@wustl.edu
**Website:** http://ucollege.wustl.edu/programs/graduate/masters-american-culture-studies

**UCollege - Biology**

University College offers both a Master of Arts and a Master of Science in Biology.

**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 or plant biology for deeper, more focused study.

**Master of Science in Biology**

The 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.

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**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 studies
- Middle School (grades 5-9): English, mathematics, science, or social studies
- K-12: art, dance, classics (Latin), or modern foreign languages (French, German, Japanese, Russian, Spanish)
- Elementary Education (grades 1-6)

**Contact:** Natalia Kolk
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**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](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 generate 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 make it possible for them to shape their degree according to their interests and schedules.

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Website: http://ucollege.wustl.edu/

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 provides the chance to practice the methods of interdisciplinary inquiry that are the hallmark of a rigorous liberal arts education. As a student in the program, one can explore questions of identity through art, literature, and religion; analyze the politics of race in fiction, historical documents, the visual arts, and music; debate ethical choices presented by fiction writers, jurists, philosophers, and scientists from antiquity through the present.

Students examine literary, artistic, and cinematic masterpieces; historic moments of discovery and change; traditions of thought; cultural differences; and civic responsibilities. They sharpen their thinking about contemporary values and choices through courses that ask them to reflect on an individual’s relation to society; on technology and the spread of ideas; on challenges to freedom; and on inspiration and creativity.

Doctor of Liberal Arts (DLA)

The Doctor of Liberal Arts (DLA) 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. The DLA is primarily for working professionals who have already earned a master's degree and who seek further intellectual enrichment while pursuing advanced graduate study on an evening, part-time basis. This degree neither constitutes a professional credential nor provides training for an academic career.

Contact: Harriet Stone
Phone: 314-935-5175
Email: hastone@wustl.edu
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 Master of Arts in Nonprofit Management 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.
UCollege - Statistics

Master of Arts in Statistics

The Master of Arts in Statistics prepares students to be part of this information-rich, data-driven workforce that requires both general and specialized skills in statistical analysis.

In this 36-unit program, students will learn essential elements of statistical studies with courses in probability, statistical computation and model building, experimental design, survival analysis, Bayesian statistics, and stochastic processes. These courses, along with a required thesis 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 establishing a solid theoretical foundation, students also gain applied value with tools, strategies, and technical skills in areas such as predictive analytics and big data. They will be prepared to help organizations analyze large volumes of data, make reliable and productive business decisions, and use technology efficiently.

Contact: Lisa Kuehne
Phone: 314-935-4226
Email: lmkuehne@wustl.edu
Website: http://ucollege.wustl.edu/programs/graduate/masters-statistics

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American Culture Studies (University College: AM) (p. 129)
Anthropology (PhD) (p. 26)
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Biochemistry (PhD) (p. 32)
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Women, Gender, and Sexuality Studies (Certificate) (p. 124)
Writing (MFA) (p. 127)

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.

Administrators

Dean and Vice Provost for Graduate Education

William F. Tate (http://graduateschool.wustl.edu/welcome/administration/dean_tate)
Edward Mallinckrodt Distinguished University Professor in Arts & Sciences

Staff of the Graduate School

Mary Clemens (http://graduateschool.wustl.edu/welcome/administration/mary-clemens)
Communications and Events Coordinator

Bridget Coleman (http://graduateschool.wustl.edu/welcome/administration/bridget-coleman)
Director of Admissions & Recruiting

Erin Daugherty (http://graduateschool.wustl.edu/welcome/administration/erin-daugherty)
Statistical Data Analyst

Amy Gassel (http://graduateschool.wustl.edu/welcome/administration/amy-gassel)
Assistant Director of Graduate Student Financial Services; Coordinator of Diversity Programs

Pat Howard (http://graduateschool.wustl.edu/welcome/administration/pat-howard)
Assistant Dean; Registrar

Natalia Kolk
Administrative Assistant to Dean Tate

Lynn Lowry (http://graduateschool.wustl.edu/welcome/administration/lynn-lowry)
Program Coordinator

Ashley Macrander
Assistant Dean for Graduate Student Affairs

Angie Mahon (http://graduateschool.wustl.edu/welcome/administration/angie-mahon)
Assistant Registrar; Engineering Student Coordinator

Kimberly McCabe (http://graduateschool.wustl.edu/welcome/administration/kim-mccabe)
Graduate Student Leadership Coordinator
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 work 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. 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.

Application Process

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.

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.
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 and Guides (http://graduateschool.wustl.edu/policies-and-guides) 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. 137).
- The Skandalaris Center (p. 138) 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 program between Washington University, Saint Louis University and the University of Missouri-St. Louis 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 his or her major adviser at Washington University and the appropriate individual in his or her 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

At the Skandalaris Center, we provide entrepreneurial resources to those who think differently at Washington University, within St. Louis, and beyond.

Who We Serve

Our initiatives serve all students, alumni, faculty, staff and the community. We call this the SC Network.

Our Pursuits

Our initiatives are divided into three parts:

1. **Get Connected** (p. 138)
2. **Get Trained** (p. 138)
3. **Get Funded** (p. 139)

Get Connected

We are building the largest online community of Washington University talent, called ConNEXT (http://skandalaris.wustl.edu/connext). ConNEXT is a networking tool for sharing ideas, exchanging skills, and finding mentors and mentees. ConNEXT is a resource for those who:

- Need someone else's help
- Have a skill to offer
- Want to be a mentor
- Want to find a mentor

Join the community via our website (http://skandalaris.wustl.edu/connext) or fill out our connection form (http://wustl-skandalaris.bitbucket.org) to join the newsletter and learn about ways to get involved.

Get Trained

The Skandalaris Center offers co-curricular programs to serve students, alumni, faculty, staff and the community in their entrepreneurial needs. These programs provide real-world, practical training opportunities.

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. **Workshops** (http://skandalaris.wustl.edu/training/workshops)

   We offer free, noncredit workshops designed to encourage ideation, develop skills and advance ideas. Workshops are held on both campuses, targeted toward various audiences. We recommend, but do not require, that participants attend all sessions, and have found that the workshops help competitors improve their deliverables.

   **Evidence-Based Entrepreneurship** is designed to transform students and faculty from any school into capable innovators and entrepreneurs through seven contiguous sessions.

   **Washington University Startup Training Lab (WU-STL)** is a free, year-long series that serves as a comprehensive introduction to innovation and entrepreneurship. Open to the community.

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

We host several competitions each year that provide funding to social and commercial ventures. Each of these is an annual competition, with the exception of the Bear Cub, which awards funding three times a year.

**Bear Cub Challenge** ([https://source.wustl.edu/2016/06/bear-cub-challenge-awards-225000-five-research-teams](https://source.wustl.edu/2016/06/bear-cub-challenge-awards-225000-five-research-teams))

- This challenge provides funding for translational research with the goal of advancing the university’s intellectual property toward commercialization.
- **Who Can Apply:** Washington University faculty, postdocs and graduate students
- **Award:** Award amounts vary

**The Skandalaris Center Cup (SC Cup)** ([http://skandalaris.wustl.edu/funding/sc-cup](http://skandalaris.wustl.edu/funding/sc-cup))

- The SC Cup awards student-funded, for-profit ventures.
- **Who Can Apply:** Washington University students and postdocs
- **Award:** Up to $5K, six months of mentorship

**Social Enterprise and Innovation Competition (SEIC)** ([http://sites.wustl.edu/seic](http://sites.wustl.edu/seic))

- SEIC awards socially focused for-profit and nonprofit ventures. Teams are funded by community donors and foundations.
- **Who Can Apply:** Anyone (no Washington University affiliation required)
- **Award:** Award amounts vary


- Translate real, high-level Washington University patents into everyday English, and then apply the technology to an innovative, commercializable use (no licensing options available, strictly educational).
- **Who Can Apply:** Washington University students and postdocs
- **Award:** $10K in awards ($5K to undergraduate teams, $5K to graduate and postdoc teams)


- This awards scalable, impactful, quick-to-market Washington University startups.
- **Who Can Apply:** Washington University students and recent alumni
- **Award:** Up to $50K

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**Student Groups**

IDEA Labs ([http://ideas.wustl.edu](http://ideas.wustl.edu)), The BALSA Group ([http://www.thebalsagroup.org](http://www.thebalsagroup.org)), and The Entrepreneurship and Venture Capital Association ([http://olinwustl.campusgroups.com/evca/about](http://olinwustl.campusgroups.com/evca/about)) provide additional opportunities to train and even launch a venture.

**Learn More**

Please contact the Skandalaris Center ([https://skandalaris.wustl.edu/contact-us](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  
**Website:** [http://skandalaris.wustl.edu](http://skandalaris.wustl.edu)
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