

# PATHOLOGY, PH.D.

Saint Louis University's Department of Pathology actively integrates research into the mechanisms of diseases at the genetic, molecular, and cellular levels with clinical activities. While ensuring an increasing understanding of human diseases, this provides the foundation for further developments in diagnosis and therapy. To support these fundamental activities, the faculty provide extensive research and training opportunities to graduate students and medical trainees.

## Curriculum Overview

All students interested in SLU's Ph.D. program in pathology must enroll through the core graduate program in biomedical sciences. This one-year program provides a strong basic foundation in biomedical sciences and allows students to rotate through four formal laboratory rotations in the medical center before choosing a specific field of study.

After the first year, students will choose a mentor and specify a department from one of five, distinct Ph.D. programs for further work toward a Ph.D. degree. The Ph.D. degree requires 36 credits of coursework and 12 credits toward the successful completion and defense of an original research dissertation.

Courses required for a Ph.D. degree in pathology include the core basic biomedical sciences coursework, which covers topics in biochemistry, molecular and cellular biology, pathology, genetics, pharmacology, microbiology, immunology and neurobiology. Students will also take courses in pathobiology; and research colloquia. Coursework includes lectures, small group problem-solving sessions, student presentations and hands-on experience. Additional elective courses, which may be taken from other departments or from other universities in the area, are selected in collaboration with a departmental adviser.

Starting in the second year, students present their research progress yearly at Topics in Pathology, the departmental research colloquium. A written preliminary and oral examination is taken at the end of the second year, which focuses primarily on the proposed area of thesis research.

## Fieldwork and Research Opportunities

Pathology graduate students have opportunities and exposure to technical skills and research expertise through research collaborations. Pathology faculty members maintain contact with colleagues in the academic and industrial community. As both a basic science and clinical department, the pathology faculty has diverse interests and expertise, from the bench to the bedside. The department stresses close interactions among students, their mentors and the graduate steering committee to foster intellectual and scientific growth.

## Careers

Graduates of Saint Louis University's pathology program are technically skilled and thoughtful scientists prepared for successful research careers in academics, industry, medicine or government.

## Admission Requirements

An undergraduate degree in biology, chemistry or a related subject; advanced biology coursework is recommended.

## Application Requirements

- Application form and fee
- Transcript(s)
- Three letters of recommendation
- GRE G score (GRE S score optional)
- Résumé
- Interview
- Professional goal statement

## Requirements for International Students

All admission policies and requirements for domestic students apply to international students along with the following:

- Demonstrate English Language Proficiency (<http://catalog.slu.edu/academic-policies/office-admission/undergraduate/english-language-proficiency>)
- Proof of financial support must include:
  - A letter of financial support from the person(s) or sponsoring agency funding the time at Saint Louis University
  - A letter from the sponsor's bank verifying that the funds are available and will be so for the duration of study at the University
- Academic records, in English translation, of students who have undertaken postsecondary studies outside the United States must include the courses taken and/or lectures attended, practical laboratory work, the maximum and minimum grades attainable, the grades earned or the results of all end-of-term examinations, and any honors or degrees received. WES and ECE transcripts are accepted.

## Assistantship Application Deadline

Students who want to be considered for an assistantship must submit the application by Feb. 1.

## Review Process

A committee examines and reviews the applicant and application wholly.

## Scholarships and Financial Aid

For priority consideration for graduate assistantship, applicants should complete their applications by February 1.

For more information, visit the student financial services office online at <http://finaid.slu.edu>.

## Learning Outcomes

1. Graduates will be able to demonstrate a competency in the basic biochemical, molecular, cellular and organismal aspects of the biomedical sciences.
2. Graduates will be able to generate a research proposal.
3. Graduates will be able to apply research skills which include data collection, publications, and oral presentations.
4. Graduates will be able to integrate and apply communication and research skills through oral presentations at scientific seminars, conferences, and other venues
5. Graduates will have knowledge of responsible conduct in research.

## Requirements

Code	Title	Credits
<b>Basic Biomedical Science Courses</b>		
BBS 5010	Basic Biomedical Science I	5
BBS 5020	Special Topics in Basic Biomedical Sciences I	4
BBS 5030	Basic Biomedical Science II	5
BBS 5040	Special Topics in Basic Biomedical Sciences II	4
BBS 5100	Ethics for Research Scientists	0
BBS 5920	Basic Biomedical Sciences Colloquium	2
BBS 5970	Introduction to Basic Biomedical Sciences Research (taken over multiple semesters)	4
BCHM 6280	Intro to Genomics and Bioinformatics	2
ORES 5200	Introduction to Statistics in Biomedical Sciences	3
<b>Biochemistry and Molecular Biology Courses</b>		
PATH 5010	Pathobiology	3
PATH 5350	Intro to Microscopy Techniques	3
PATH 6900	Molecular Pathobiology Journal Club (taken over multiple semesters)	2
PATH 6920	Pathology Research Colloquium (taken over multiple semesters)	2
<b>Dissertation Research</b>		
MB 6990	Dissertation Research (taken over multiple semesters)	12
Total Credits		51

## Non-Course Requirements

Students are required to submit a grant proposal to an outside agency for extramural research and/or stipend support within six months of successfully passing the Candidacy Examination. Funding of the external grant application is not required for successful completion of the Ph.D. degree. Students must also publish at least 1 peer-reviewed scholarly article reporting results of their original research.

## Continuation Standards

Students must maintain a cumulative grade point average (GPA) of 3.00 in all graduate/professional courses.