

BIOCHEMISTRY AND MOLECULAR BIOLOGY, PH.D.

The Department of Biochemistry and Molecular Biology is a member of the graduate program in biomedical sciences at Saint Louis University's School of Medicine. Each year, this multidisciplinary Ph.D. program accepts 10-15 highly qualified candidates with bachelor's degrees. To assist students in deciding which area of biomedical research is right for them, the program provides opportunities to explore research in as many as five diverse disciplines during the first year of graduate training at SLU.

Curriculum Overview

During the first year of study, courses focus on the basic biochemical, molecular, cellular and organismal aspects of the biomedical sciences. This prepares students for more intensive, individualized instruction in biochemistry and molecular biology.

Careers

The program prepares students to be technically skilled and thoughtful scientists who can seek diverse careers in industry, government or as university professors.

Admission Requirements

Students should possess an above-average GPA, sufficient GRE scores and TOEFL scores (for international students) and the equivalent of an undergraduate major in chemistry, biology or a related subject.

Application Requirements

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

Requirements for International Students

All admission policies and requirements for domestic students apply to international students. International students must also meet the following additional requirements:

- Demonstrate English Language Proficiency (<https://catalog.slu.edu/academic-policies/office-admission/undergraduate/english-language-proficiency/>)
- Financial documents are required to complete an application for admission and be reviewed for admission and merit scholarships.
- Proof of financial support that must include:
 - A letter of financial support from the person(s) or sponsoring agency funding the student's 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 the student's study at the University
- Academic records, in English translation, of students who have undertaken postsecondary studies outside the United States must include:

- 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
- Any honors or degrees received.

WES and ECE transcripts are accepted.

Assistantship Application Deadline

Students who want to be considered for an assistantship must apply by Feb. 1.

Review Process

Screening of applicants begins the December preceding the academic year of enrollment. During February, March and April, highly qualified candidates are invited to come to St. Louis for interviews and acquaint themselves with the area, the University and the graduate program in biomedical sciences.

Offers of admission into the program are generally made shortly after the interviews are complete. Acceptance of the applicant's offer of admission into the program is expected no later than April 15. Late applications are considered on a space-available basis.

Tuition

Tuition	Cost Per Credit
Graduate Tuition	\$1,310

Additional charges may apply. Other resources are listed below:

Net Price Calculator (<https://www.slu.edu/financial-aid/tuition-and-costs/calculator.php>)

Information on Tuition and Fees (<https://catalog.slu.edu/academic-policies/student-financial-services/tuition/>)

Miscellaneous Fees (<https://catalog.slu.edu/academic-policies/student-financial-services/fees/>)

Information on Summer Tuition (<https://catalog.slu.edu/academic-policies/student-financial-services/tuition-summer/>)

Scholarships and Financial Aid

For priority consideration for graduate assistantship, apply by Feb. 1.

For more information, visit the student financial services office online at <https://www.slu.edu/financial-aid/index.php> (<https://www.slu.edu/financial-aid/>). (<https://www.slu.edu/financial-aid/>)

Learning Outcomes

1. Graduates will possess an appropriate level of knowledge of current biomedical science as related to biochemistry and molecular biology.
2. Graduates will be able to evaluate and critique publications.
3. Graduates will be able to identify and select meaningful problems to be addressed in bioscience research, to frame testable/falsifiable hypotheses concerning an important research question.
4. Graduates will be able to create and implement experimental protocols with suitable controls to test a scientific hypothesis, and to interpret the results of experiments in light of the hypothesis driving them.

5. Graduates will be able to demonstrate the ability to effectively communicate biomedical research with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids.
6. Graduates will be able to summarize the expectations for responsible conduct of research.

Requirements

Code	Title	Credits
Basic Biomedical Science Courses		
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
Biochemistry and Molecular Biology Courses		
BCHM 6230	Macromolecules: Structure and Function	4
BCHM 6240	Advanced Topics in Biochemistry and Molecular Biology	3
BCHM 6250	Preparation and Evaluation of Science Research Proposal	3
BCHM 6920	Biochemistry and Molecular Biology Colloquium	1
Dissertation Research		
BCHM 6990	Dissertation Research (taken over multiple semesters, 12hrs total)	0-6
Total Credits		49

Additional coursework in chemistry or biology may be required at the discretion of the department chairperson or graduate program director. The program may include courses in one of the fields of preclinical medicine as electives.

Non-Course Requirements

All students are expected to participate in the Biochemistry and Molecular Biology Journal Club throughout the program.

Continuation Standards

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