

# BIOCHEMISTRY, MS

for the Master of Science in Biochemistry

**The Department of Biochemistry does not admit students to the Biochemistry MS degree program.** Admission to graduate study is only through the PhD degree program. Information about the Biochemistry PhD program can be found here (<http://catalog.illinois.edu/graduate/las/biochemistry-phd/>).

The Department of Biochemistry offers graduate programs leading to the Doctor of Philosophy degree. For an application and departmental materials that provide greater detail on programs, offerings, admission, degree requirements, and financial aid, visit our website (<http://catalog.illinois.edu/graduate/las/biochemistry-ms/www.mcb.illinois.edu/graduate/gradprospect.html>). The Department of Biochemistry is a part of the School of Molecular and Cellular Biology (MCB), which also includes the Departments of Cell and Developmental Biology, Microbiology, Molecular and Integrative Physiology, as well as Programs in Biophysics and Neuroscience. The Department is part of an umbrella program in MCB that encompasses over 70 different research laboratories. Students admitted into any of these departmental graduate programs can select faculty thesis advisors from these active research laboratories in the School. Close ties are also maintained with the School of Integrative Biology, the School of Chemical Sciences, the College of Medicine, and the College of Veterinary Medicine.

## Admission

Applicants interested in the Biochemistry, PhD program will need to apply directly to the School of Molecular and Cellular Biology (MCB) PhD program (<https://mcb.illinois.edu/graduate/gradprospect/>). The MCB PhD program is an umbrella program that requires admitted students to spend their first semester rotating among three different labs to explore their interests before joining one of our four departments.

MCB Admission requirements include a bachelor's degree in biological or physical sciences, a grade point average of a 3.0 or higher (A = 4.0), prior research experience and three letters of recommendation from individuals who can attest to the applicant's academic and research background. The Graduate Record Examination (GRE) is **not** required. Applicants interested in pursuing a PhD in Biochemistry should have a strong background in chemistry, biology, physics, and calculus. **In addition to these requirements, non-native English-speaking applicants must attain a minimum Test of English as a Foreign Language (TOEFL) overall score of 96, with at least a score of 22 on the speaking section.** MCB does **not** accept the International English Language Testing System (IELTS) to show English proficiency. Graduate College requirements also apply.

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For additional details and requirements refer to the department's Graduate Student Handbook ([https://mcb.illinois.edu/departments/biochemistry/Biochem\\_Grad\\_Handbook\\_Aug2019.pdf](https://mcb.illinois.edu/departments/biochemistry/Biochem_Grad_Handbook_Aug2019.pdf)) and the Graduate College Handbook (<https://grad.illinois.edu/handbooks-policies/>).

### Thesis Option

Code	Title	Hours
Core curriculum		20
BIOC 599	Thesis Research (12 max applied toward degree )	0-12
<b>Total Hours</b>		<b>32</b>

### Other Requirements

Requirement	Description
Other requirements may overlap	
Minimum Hours Required Within the 8 Unit:	
Minimum 500-level Hours Required	12
Overall:	
Minimum GPA:	3.0

### Non-Thesis Option

Code	Title	Hours
Core curriculum		32
<b>Total Hours</b>		<b>32</b>

### Other Requirements

Requirement	Description
Other requirements may overlap	
Minimum Hours Required Within the 8 Unit:	
Minimum 500-level Hours Required	12
Overall:	
Minimum GPA:	3.0

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At the conclusion of the degree program students will be able to:

1. Develop and demonstrate an in-depth knowledge of a specific area of biochemical research, which may include (but is not limited to) protein, nucleic acid and/or membrane biochemistry, cancer and molecular immunology, computational and quantitative biology, etc.
2. Demonstrate independent and critical skills necessary to formulate specific experiments aimed at understanding molecular processes.
3. Gain the necessary experience and skills to train others in the performance of experiments.
4. Develop communication skills suitable to discuss scientific outcomes at a level for the layperson to understand but critical enough for peers. Typically, such training is developed through writing and editing scientific manuscripts, with input from a faculty advisor.

5. Deliver effective oral and written presentations of the results and conclusions of experimental work.
6. Be able to ask and answer questions within the research areas of Biochemistry.
7. Develop skills and abilities for effective teaching of Biochemistry in a course room setting.
8. Develop the skills and intellectual background to succeed at postdoctoral work in academics or in the commercial sector.
9. Demonstrate ethical conduct within the research process and the responsibilities of the scientist.

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## Graduate Degree Program in Biochemistry

- Biochemistry, PhD (<http://catalog.illinois.edu/graduate/las/biochemistry-phd/>)

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## Biochemistry Department

Head of Department: Satish K. Nair

Director of Graduate Studies: Kai Zhang

Biochemistry Department website (<https://mcb.illinois.edu/departments/biochemistry/>)

417 Roger Adams Laboratory, 600 S. Mathews Avenue, Urbana, IL 61801  
(217) 333-2013

MCB Graduate Admissions email ([mcb-grad@illinois.edu](mailto:mcb-grad@illinois.edu))

## College of Liberal Arts & Sciences

College of Liberal Arts & Sciences website (<https://las.illinois.edu/>)

## School of Molecular & Cellular Biology

School of Molecular & Cellular Biology website (<https://mcb.illinois.edu>)

## Admissions

Graduate College Admissions & Requirements (<https://grad.illinois.edu/admissions/apply/>)