Graduate Degree Programs
The Department of Biochemistry offers graduate programs leading to
the Master of Science and the Doctor of Philosophy degrees. For an
application and departmental materials that provide greater detail on
programs, offerings, admission, degree requirements, and financial aid,
visit our website at www.mcb.illinois.edu/graduate/gradprospect.html
(http://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 and Molecular and Integrative
Physiology as well as Programs in Biophysics and Neurosciences. 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. In addition, dual
degrees via the Medical Scholars Program are offered. 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
Interested students must apply directly to the School of Molecular and
Cellular Biology (www.mcb.illinois.edu/graduate/gradprospect.html
(http://www.mcb.illinois.edu/graduate/gradprospect.html)). During the
first semester, students perform three laboratory rotations, choosing
from any laboratory in the School. Students select a laboratory for their
thesis research in December in mutual agreement with their desired
advisor and formally join the appropriate graduate program/department
at that time.

Students electing biochemistry as a major for an advanced degree
should have a strong background in chemistry, biology, physics, and
calculus and a grade point average of a 3.0 or higher (A = 4.0). Admission
requirements include: a bachelor's degree; Graduate Record Examination
(GRE) scores. In addition to the above requirements, international
students must attain a minimum paper-based Test of English as a
Foreign Language (TOEFL) score of 590 (243 on the computer-based
test). A score of 96 on the internet-based test (iBT), with a score of 24 on
the speaking section, is also accepted. The department does not normally
admit students directly into the M.S. program.

Graduate Teaching Experience
Experience in teaching is considered a vital part of the graduate program
and is required as part of the academic work of all Ph.D. candidates in
this program.

Faculty Research Interests
Faculty research in the Department of Biochemistry covers a broad
spectrum of the most dynamic areas of current research in biological
chemistry and molecular biology: physical approaches to the structure
and function of macromolecules and membranes; nucleic acid
biochemistry and enzymology, enzyme mechanisms and evolution;
membrane biochemistry and bioenergetics; protein-lipid interactions;
protein-nucleic acid interactions and molecular recognition; molecular
biological approaches to gene organization and expression; immunology;
microbial physiology, and signal transduction.

Centers, Programs, and Institutes
Biochemistry faculty are appointed and active in several cross-campus
academic and research units, including the Center for Biophysics &
Computational Biology, the Beckman Institute for Advanced Science
and Technology, the Institute for Genomic Biology, as well as the
interdepartmental graduate programs in Biophysics & Computational
Biology, and Neuroscience, and the joint M.D./Ph.D. Medical Scholars
Program of the College of Medicine.

Facilities and Resources
Campus resources for science research are state-of-the-art and available
to all faculty research programs. Notably among these is the Roy J.
Carver Biotechnology Center, which comprises the W.M. Keck Center
for Comparative and Functional Genomics (Custom Library Services,
High-Throughput Sequencing and Genotyping, DNA Core Sequencing,
Fragment Analysis, Oligonucleotide Synthesis, Functional Genomics
and Bioinformatics), Proteomics Services (Protein Science Facility,
Immunological Resource Center and Flow Cytometry Facility), a
Metabolomics Center and a Transgenic Mouse Facility. It also provides
career counseling through the Career Services Office. Many other cross-
campus facilities are important for the faculty research programs in
Biochemistry, including the Fred Seitz Materials Research Laboratory,
the National Center for Supercomputing Applications (NCSA), the high-
field VOICE NMR Laboratory, Mass Spectrometry Center, Microanalysis
Laboratory, Cell Media Facility, and many electronics, machine and glass
shop service facilities. The University of Illinois is also a full member
of the LS-CAT beamline for macromolecular crystallography at the
Advanced Photon Source, Argonne National Laboratory.

Financial Aid
Financial aid for Ph.D. graduate students in biochemistry is available in
the form of fellowships, teaching and research assistantships, and tuition
and partial fee waivers. In addition, interdepartmental training grants
from the National Institutes of Health support multidisciplinary training
programs. Qualified candidates are considered for financial support upon
application. Graduate students making satisfactory progress toward their
degrees generally receive a stipend, as well as a full tuition waiver and a
partial fee waiver.
Master of Science Biochemistry

A coursework master’s degree requires a minimum of two full-time semesters. A thesis master's degree usually requires a minimum of three semesters.

**Thesis Option**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Core curriculum</td>
<td>20</td>
</tr>
<tr>
<td>BIOC 599</td>
<td>Thesis Research (12 max applied toward degree)</td>
<td>0-12</td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>

**Other Requirements**

Other requirements may overlap

- Minimum Hours Required Within the Unit: 8
- Minimum 500-level Hours Required: 12
- Overall: Minimum GPA: 3.0

1 For additional details and requirements refer to the department’s Program of Study and the Graduate College Handbook.

**Non-Thesis Option**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Core curriculum</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>

**Other Requirements**

Other requirements may overlap

- Minimum Hours Required Within the Unit: 8
- Minimum 500-level Hours Required: 12
- Overall: Minimum GPA: 3.0

1 For additional details and requirements refer to the department’s Program of Study and the Graduate College Handbook.

**Doctor of Philosophy in Biochemistry**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Biochemistry/MCB core courses and advanced elective courses</td>
<td>32</td>
</tr>
<tr>
<td>BIOC 599</td>
<td>Thesis Research (min/max applied toward degree)</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>96</strong></td>
</tr>
</tbody>
</table>

**Other Requirements**

Other requirements may overlap

- A minimum of one semester at 50% FTE or two semesters of 25% FTE of teaching in lecture or laboratory courses is required.

A thesis based on original research must be presented to a review committee at least two weeks before the final oral examination.

- Masters Degree Required Before Admission to PhD?: No, but Masters level requirements must be met (32 hours)
- Preliminary Exam Required: Yes, administered by the end of the second year.
- Final Exam/Dissertation Defense Required: Yes, and the final examination is limited to a defense of the thesis research.
- Dissertation Deposit Required: Yes
- Minimum GPA: 3.0

1 For additional details and requirements refer to the department's Program of Study and the Graduate College Handbook.