BIOPHYSICS AND QUANTITATIVE BIOLOGY

http://www.biophysics.illinois.edu

Center Director: Satish Nair
179 Loomis
1110 West Green Street
Urbana, IL 61801
Contact: Cindy Dodds
(217) 333-1630
E-mail: biophysics@life.illinois.edu

Major: Biophysics and Quantitative Biology
Degrees offered: M.S. and Ph.D.

Medical Scholars Program: Doctor of Philosophy (Ph.D.) in Biophysics and Quantitative Biology and Doctor of Medicine (M.D.) through the Medical Scholars Program (http://www.med.illinois.edu/mdphd).

Graduate Degree Programs

Biophysics and Quantitative Biology offers a doctor of philosophy degree program. In rare circumstances and with special permission of the director and advisor, a current student may obtain a terminal master's degree after meeting the requirements of the degree. Biophysics students are not admitted initially into the program for a master's degree. Opportunity also exists for specializing in computational science and engineering within the department's graduate program via the Computational Science and Engineering (CSE) Concentration (http://www.cse.illinois.edu/education/minor-and-concentration/graduate-concentration).

Admission

The objective of the program in biophysics is to give students sufficient training in physics, chemistry, and biology to enable them to apply the conceptual, instrumental, and mathematical approaches of the physical sciences for solving biological problems. The curriculum is broadly based and provides sufficient flexibility for students entering with either previous training in the physical sciences or for students with a background in biology and some experience in the physical sciences.

Admission requirements are usually one year of college biology, one year of college physics, chemistry through organic chemistry, and mathematics through calculus; however, deficiencies in one of these areas can be corrected during the first two years of study. Most applicants who are accepted into the program have general Graduate Record Examination (GRE) scores in the 70%-90% range. The Biophysics and Quantitative Biology Program does not require the subject GRE for admission. The Test of English as a Foreign Language (TOEFL iBT) or IELTS is required for international applicants.

Please refer to the Biophysics and Quantitative Biology Admissions web page (http://www.life.illinois.edu/biophysics/program/admissions.html) for additional information and application deadlines.

Medical Scholars Program

The Medical Scholars Program permits highly qualified students to integrate the study of medicine with study for a graduate degree in a second discipline, including Biophysics and Quantitative Biology. Students may apply to the Medical Scholars Program prior to beginning
Master of Science in Biophysics and Quantitative Biology

**Thesis Option**
10 hours of 500-level biophysics courses with a minimum GPA of 3.25 (does not include seminar courses and/or research units and can include no more than 2 hours of tutorials). 500-level courses in other departments count towards this 500-level formal course requirement if they are on the approved Biophysics course list.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOP 401</td>
<td>Introduction to Biophysics (or equivalent)</td>
<td>3</td>
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</tbody>
</table>

Elective hours approved by Center Director to bring total hours to

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BIOP 599</td>
<td>Thesis Research (4 min applied toward degree)</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Hours 32

**Other Requirements**
Other requirements may overlap

Minimum 500-level Hours Required 12
Overall:

Minimum GPA: 3.0

*For additional details and requirements refer to the department’s Student Handbook ([http://biophysics.illinois.edu/program/courses](http://biophysics.illinois.edu/program/courses)) and the Graduate College Handbook ([http://www.grad.illinois.edu/gradhandbook](http://www.grad.illinois.edu/gradhandbook)).*

**Non-Thesis Option**
10 hours of 500-level biophysics courses with a minimum GPA of 3.25 (does not include seminar courses and/or research units and can include no more than 2 hours of tutorials). 500-level courses in other departments count towards this 500-level formal course requirement if they are on the approved Biophysics course list.

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<td>Introduction to Biophysics (or equivalent)</td>
<td>3</td>
</tr>
</tbody>
</table>

Research/Project Hours (4 min applied toward degree) 4
Elective hours approved by Center Director to bring total course work hours to

<table>
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<tr>
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</tr>
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<tbody>
<tr>
<td>BIOP 599</td>
<td>Thesis Research (32 max applied toward degree)</td>
<td>32</td>
</tr>
</tbody>
</table>

Total Hours 32

**Other Requirements**
Other requirements may overlap

Minimum 500-level Hours Required 12
Overall:

Minimum GPA: 3.0

*For additional details and requirements refer to the department’s Student Handbook ([http://biophysics.illinois.edu/program/courses](http://biophysics.illinois.edu/program/courses)) and the Graduate College Handbook ([http://www.grad.illinois.edu/gradhandbook](http://www.grad.illinois.edu/gradhandbook)).*

Doctor of Philosophy in Biophysics and Quantitative Biology

The Ph.D. degree is a research degree, and the program is designed with a major emphasis on individual research.

A qualifying examination is offered each spring. This qualifier must be passed by the end of the second year. By the end of the third year, a preliminary examination where the chosen research topic is presented to the student’s faculty committee. The committee also examines the candidate on their chosen general research area. The Ph.D. thesis is based on original work of the student and is defended at a final public examination. The thesis and the exam must demonstrate a thorough knowledge of theory and techniques in one of the areas of biophysics.

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<td>Introduction to Biophysics (or equivalent)</td>
<td>3</td>
</tr>
<tr>
<td>BIOP 581</td>
<td>Lab Rotation I</td>
<td>2</td>
</tr>
<tr>
<td>BIOP 582</td>
<td>Lab Rotation II</td>
<td>2</td>
</tr>
<tr>
<td>BIOP 583</td>
<td>Lab Rotation III</td>
<td>2</td>
</tr>
<tr>
<td>BIOP 586</td>
<td>Special Topics in Biophysics &amp; BIOP 590 and Individual Topics</td>
<td>10</td>
</tr>
<tr>
<td>BIOP 595</td>
<td>Biophysics Seminars (Sections A &amp; B)</td>
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</tr>
<tr>
<td>BIOP 599</td>
<td>Thesis Research</td>
<td>32</td>
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Two 500-level courses from the pre-approved Biophysics course list

One computational or experimental lab course – based on the student’s research focus

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<tbody>
<tr>
<td>MCB 580</td>
<td>Res Ethics &amp; Responsibilities</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Hours 64

**Other Requirements**
Other requirements may overlap

Students are required to teach for a minimum of one semester during their graduate career

Masters Degree Required in Biophysics and Quantitative Biology? No, but Masters level requirements must be met (32 additional hours for Admission to PhD? min)
Qualifying Exam Required Yes
Preliminary Exam Required Yes
Final Exam/Dissertation Defense Required Yes
Dissertation Deposit Required Yes
Minimum GPA: 3.0

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