BIOENGINEERING, PHD

for the degree of Doctor of Philosophy in Bioengineering

The Department of Bioengineering offers both a traditional doctoral program (for students with a previous master’s degree) and a direct doctoral program (for students with only a bachelor’s degree). Students in both programs are required to have a research advisor and applicants are encouraged to contact department faculty (https://bioengineering.illinois.edu/directory/) in their areas of interest to inquire about possible research opportunities.

Opportunity exists for specializing in i) biomechanics via the Biomechanics (http://catalog.illinois.edu/graduate/engineering/concentration/biomechanics/) optional graduate concentration, ii) cancer nanotechnology via the Cancer Nanotechnology (http://catalog.illinois.edu/graduate/engineering/concentration/cancer-nanotechnology/) optional graduate concentration, iii) computational science and engineering via the Computational Science & Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/) optional graduate concentration, and iv) data science and engineering via the Data Science & Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/data-science-engineering/) optional graduate concentration.

Department Research
Bioengineering faculty perform research in the areas of Bio-Imaging at Multi-Scale; Molecular, Cellular and Tissue Engineering; Bio-Micro and Nanotechnology; Computational and Systems Bioengineering; and Synthetic Bioengineering. In addition to Bioengineering faculty, the Department of Bioengineering has more than 50 affiliate faculty (http://bioengineering.illinois.edu/directory/).

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For additional details and requirements for all degrees, please refer to the department’s Graduate Studies Web site (http://bioengineering.illinois.edu/) and the Graduate College Handbook (http://grad.illinois.edu/gradhandbook/).

Entering with approved M.S. degree

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<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BIOE 599</td>
<td>Thesis Research (min-max applied toward degree)</td>
<td>52</td>
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<tr>
<td>Elective courses</td>
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<td>12</td>
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<td><strong>Total Hours</strong></td>
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<td>64</td>
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Other Requirements and Conditions

**Requirement** | **Description**
--- | ---
Other Requirements and Conditions may overlap |  
Minimum program GPA: | 3.0
A Masters degree is required for admission to the Ph.D. program. |  
Qualifying exam |  
Preliminary exam |  
Final exam and dissertation defense |  
Dissertation deposit |  

Entering with B.S. degree

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
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<td>BIOE 599</td>
<td>Thesis Research (min-max applied toward degree)</td>
<td>55</td>
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<td>500-level BioE courses: See approved list</td>
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<td>Elective courses: At least 12 hours must be engineering graduate-level courses. See website for more details.</td>
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<td><strong>Total hours</strong></td>
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<td>96</td>
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</table>

Other Requirements and Conditions

**Requirement** | **Description**
--- | ---
Other Requirements and Conditions may overlap |  
Minimum program GPA: | 3.0
Qualifying exam |  
Preliminary exam |  

Information listed in this catalog is current as of 12/2022
1. Ability to apply **quantitative** skills and **engineering principles** to propose novel and practical solutions to medical/human health problems

2. Understanding of **professional** and **ethical** responsibilities

3. Ability to **communicate** scientific problems and solutions, as well as their impact, effectively to a diverse audience and stakeholders, both orally and in writing

4. Demonstrate moderate **technical** mastery in chosen research area, shown by the ability to identify an important scientific problem, formulate a hypothesis, and design experiments to conduct research and data analysis to test the hypothesis. The student should also be able to formulate alternatives.

5. Develop effective **leadership** skills in order to foster the ability to conduct **collaborative** research and work with a diverse team

Information listed in this catalog is current as of 12/2022
The Bioengineering Graduate Program offers studies leading to the Master of Engineering in Bioengineering (MEng), the Master of Science in Bioengineering (MS), the Master of Science in Biomedical Image Computing (MS in BIC), and the Doctor of Philosophy (PhD) in Bioengineering. The Bioengineering Graduate Program provides students with educational and research experiences that integrate the sciences of biology and medicine with the practices and principles of engineering. For the MS and PhD programs, areas of focus include Bio-imaging, Cell & Tissue Engineering, Micro and Molecular Technologies, and Computational Biology.

for the degree of Doctor of Philosophy in Bioengineering

Department of Bioengineering
Department Head: Mark Anastasio (maa@illinois.edu)
Director of Graduate Studies: Wawrzyniec Dobrucki (dobrucki@illinois.edu)
Director of MEng Program: Jennifer Amos (Jamos@illinois.edu)
Bioengineering website (https://bioengineering.illinois.edu/)
Program website (https://bioemeng.illinois.edu/)
1240 Everitt Laboratory, 1406 W Green St, Urbana, IL 61801
(217) 300-8066
Bioengineering email (bioe-meng@illinois.edu)

Grainger College of Engineering
Grainger College of Engineering website (https://grainger.illinois.edu/)

Admissions
Graduate Contact: Liezl Bowman (liezlb@illinois.edu)
Department Admissions & Requirements (https://bioemeng.illinois.edu/admissions/)
Graduate College Admissions & Requirements (https://grad.illinois.edu/admissions/apply/)