BIOINFORMATICS: BIOENGINEERING, MS

for the Master of Science in Bioinformatics, Bioengineering Concentration

This program is not currently accepting applications.

Other Graduate Programs in Bioengineering

degrees:

Bioengineering, MEng (http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/)

concentrations:

Bioinstrumentation (http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/bioinstrumentation/) Computational Genomics (http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/computational-genomics/) General Bioengineering (http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/general-bioengineering/)

Bioengineering, MS (http://catalog.illinois.edu/graduate/engineering/bioengineering-ms/)

optional concentrations:

Biomechanics (http://catalog.illinois.edu/graduate/engineering/concentration/biomechanics/) Cancer Nanotechnology (http://catalog.illinois.edu/graduate/engineering/concentration/cancer-nanotechnology/)

Bioengineering, PhD (http://catalog.illinois.edu/graduate/engineering/bioengineering-phd/)

optional concentrations:

Biomechanics (http://catalog.illinois.edu/graduate/engineering/concentration/biomechanics/) Cancer Nanotechnology (http://catalog.illinois.edu/graduate/engineering/concentration/cancer-nanotechnology/) Computational Science & Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/)

Biomechanics (http://catalog.illinois.edu/graduate/engineering/concentration/biomechanics/)

available for:

Electrical & Computer Engineering, MS (http://catalog.illinois.edu/graduate/engineering/electrical-computer-engineering-ms/) Electrical & Computer Engineering, PhD (http://catalog.illinois.edu/graduate/engineering/electrical-computer-engineering-phd/)

Materials Engineering, MEng (http://catalog.illinois.edu/graduate/engineering/materials-science-engineering-ms/)

Materials Science & Engineering, MS (http://catalog.illinois.edu/graduate/engineering/materials-science-engineering-ms/)

Mechanical Engineering, MEng (http://catalog.illinois.edu/graduate/engineering/mechanical-engineering-meng/)

Mechanical Engineering, PhD (http://catalog.illinois.edu/graduate/engineering/mechanical-engineering-phd/)

Theoretical & Applied Mechanics, MS (http://catalog.illinois.edu/graduate/engineering/theoretical-applied-mechanics-ms/)

Theoretical & Applied Mechanics, PhD (http://catalog.illinois.edu/graduate/engineering/theoretical-applied-mechanics-phd/)

Cancer Nanotechnology (http://catalog.illinois.edu/graduate/engineering/concentration/cancer-nanotechnology/)

for the Master of Science in Bioinformatics, Bioengineering Concentration

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

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<tr>
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<th>Hours</th>
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<tbody>
<tr>
<td>BIOE 599</td>
<td>Thesis Research (min applied toward degree)</td>
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<tr>
<td>BIOE 504</td>
<td>Analytical Methods in Bioeng</td>
<td>4</td>
</tr>
<tr>
<td>or BIOE 505</td>
<td>Computational Bioengineering</td>
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Computer Science and Informatics (choose one) | 4

- CS 411 Database Systems
- CS 466 Introduction to Bioinformatics
- CS 473 Algorithms
- CPSC 565 Perl & UNIX for Bioinformatics
- IS 455 Database Design and Prototyping
- IS 542 Research and Inquiry for Youth
- STAT 428 Statistical Computing
- STAT 440 Statistical Data Management
- STAT 448 Advanced Data Analysis
- STAT 480 Data Science Foundations
- STAT 525 Computational Statistics

Fundamental Bioinformatics (choose one) | 4

- ANSC 542 Applied Bioinformatics
- ANSC 545 Statistical Genomics
- CHBE 571 Bioinformatics
- CPSC 567 Bioinformatics & Systems Biol
- CS 466 Introduction to Bioinformatics
- IB 467 Principles of Systematics
- MCB 432 Computing in Molecular Biology

Biology (choose one) | 4

- ANSC 441 Human Genetics
- ANSC 444 Applied Animal Genetics
- ANSC 446 Population Genetics
- BIOP 401 Introduction to Biophysics
- BIOP 550 Biomolecular Physics
- CPSC 452 Advanced Plant Genetics
- CPSC 466 Genomics for Plant Improvement
- CPSC 563 Chromosomes
- CPSC 564 Plant Gene Regulation
- MCB 400 Cancer Cell Biology
- MCB 450 Introductory Biochemistry
- MCB 501 Advanced Biochemistry
- MCB 502 Advanced Molecular and Cell Biology

One course in systems biology from departmental list (http://bioengineering.illinois.edu/graduate-programs/prospective-graduate-students/bioengineering-courses-illinois/#electives) | 3

Elective Courses (http://bioengineering.illinois.edu/graduate-programs/prospective-graduate-students/bioengineering-courses-illinois/#electives) | 17

Total Hours | 36

# Non-Thesis Option

<table>
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<td>BIOE 504</td>
<td>Analytical Methods in Bioeng</td>
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<tr>
<td>or BIOE 505</td>
<td>Computational Bioengineering</td>
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</tr>
</tbody>
</table>

Elective Courses (http://bioengineering.illinois.edu/graduate-programs/prospective-graduate-students/bioengineering-courses-illinois/#electives) | 9

Total Hours | 32

### Other Requirements

**Requirement** | **Description**
---|---
A concentration is required. |
A minimum of 12 500-level credit hours overall applied toward the degree, with 8 hours being Bioengineering courses; a maximum of 2 hours of seminar courses can be counted towards these 12 hours.

The non-thesis option is only available with permission of the advisor. Requirements include an additional 8 hours of elective courses which, with the approval of an advisor, may include supervised research experiences including internships and projects.

Minimum GPA: 3.0