**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 [link]

concentrations:

Bioinstrumentation [link]/Computational Genomics [link]/General Bioengineering [link]

Bioengineering, MS [link]

optional concentrations:

Bioinstrumentation [link]/Computational Genomics [link]/General Bioengineering [link]

Bioengineering, PhD [link]

optional concentrations:

Biomechanics [link]/Cancer Nanotechnology [link]/Computational Science & Engineering [link]

concentrations:

Biomechanics [link]/Cancer Nanotechnology [link]/Computational Science & Engineering [link]

Biomechanics (link) available for:

Electrical & Computer Engineering, MS [link]/Electrical & Computer Engineering, PhD [link]/Materials Engineering, MEng [link]

Mechanical Engineering, MS [link]/Mechanical Engineering, PhD [link]

Theoretical & Applied Mechanics, MS [link]/Theoretical & Applied Mechanics, PhD [link]

Cancer Nanotechnology (link) available for:

Electrical & Computer Engineering, MS [link]/Electrical & Computer Engineering, PhD [link]/Materials Engineering, MEng [link]

Mechanical Engineering, MS [link]/Mechanical Engineering, PhD [link]

Theoretical & Applied Mechanics, MS [link]/Theoretical & Applied Mechanics, PhD [link]

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 [link] and the Graduate College Handbook [link].
## Thesis Option

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

- 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)**

- 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)**

- 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
- CPSC 565 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

**Elective Courses**

3

- 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
- CPSC 565 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

**Elective Courses**

9

### Total Hours

36

## Non-Thesis Option

<table>
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<th>Title</th>
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<tbody>
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<td>BIOE 504</td>
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<tr>
<td>or BIOE 505</td>
<td>Computational Bioengineering</td>
<td></td>
</tr>
</tbody>
</table>

**Elective Courses**

9

### Total Hours

32

### Other Requirements

**Requirement**

- A concentration is required.

**Description**

- Total Hours

Information listed in this catalog is current as of 02/2022
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