## MS Bioinformatics Sample Schedule

### Non-thesis Option

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Bioinformatics (BIOL 488) (3 cr hrs)</td>
<td>Advanced Bioinformatics (BIOL 500) (2 cr hrs)</td>
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<tr>
<td></td>
<td>Bioinformatics Elective (3 cr hrs)</td>
<td>Bioinformatics Seminar (BIOL 501) (1 cr hr)</td>
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<tr>
<td></td>
<td>Bioinformatics Elective (3 cr hrs)</td>
<td>Quant Bioinformatics (STAT 437) (3 cr hrs)</td>
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<td></td>
<td></td>
<td>Bioinformatics Elective (3 cr hrs)</td>
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<tr>
<td></td>
<td><strong>Total Credit Hours: 9</strong></td>
<td><strong>Total Credit Hours: 9</strong></td>
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<tr>
<td>2</td>
<td>Bioinformatics Elective (3 cr hrs)</td>
<td>Bioinformatics Seminar (BIOL 501) (1 cr hr)</td>
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<td></td>
<td>Bioinformatics Internship (BIOI 498) (1 cr hr)</td>
<td>Computational Biology (COMP 483) (4 cr hrs)</td>
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<td>Proteomics (CHEM 465) (3 cr hrs)</td>
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<td><strong>Total Credit Hours: 4</strong></td>
<td><strong>Total Credit Hours: 8</strong></td>
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### Core Courses:
- Bioinformatics (BIOL 488)
- Proteomics (CHEM 465)
- Computational Biology (COMP 483)
- Quantitative Methods in Bioinformatics (STAT 437)
- Advanced Bioinformatics (BIOL 500)
- Bioinformatics Seminar (BIOL 501)
- Bioinformatics Internship (BIOI 499)

### Bioinformatics Electives:
Four electives are required, selected from at minimum two different departments.

#### Biology
- Genomics (BIOL 495)
- Human Molecular Genetics (BIOL 495)
- Metagenomics (BIOL 495)
- Microbiology (BIOL 402)
- Molecular Genetics (BIOL 482)
- Scientific Logic and Critical Thinking (BIOL 495)

#### Chemistry
- Computational Biochemistry (CHEM 435)
- Enzymology (CHEM 465)
- Introduction to Spectroscopy (CHEM 455)
- Medicinal Chemistry (CHEM 425)
- Plant Biochemistry (CHEM 465)
- Protein Crystallography (CHEM 465)

#### Computer Science
- Algorithms and Complexity (COMP 460)
- Computational Neuroscience (COMP 486)
- Distributed Systems (COMP 439)
- Intermediate OO Development (COMP 413)
- Data Warehousing and Data Mining
- Database Programming (COMP 453)
- Theory of Programming Languages (COMP 471)

#### Statistics
- Applied Regression Analysis (STAT 408)
- Categorical Data Analysis (STAT 410)
- Statistical Design and Analysis of Experiments (STAT 407)
- Stochastic Processes (STAT 406)
- Topics in Biostatistics (STAT 436)