COMPUTATIONAL MOLECULAR BIOLOGY OPTION

This option is offered within the following major(s):


The Computational Molecular Biology option is designed for students interested in the interface of molecular biology, computer science, and statistics. It provides strong preparation for graduate school in computational biology as well as the biotechnology and pharmaceutical industry workforce. This option couples the comprehensive core training in biochemistry and molecular biology with advanced course work in mathematics, statistics, computer science, and bioinformatics. Students are strongly encouraged to participate in undergraduate research, and up to six research credits can be applied to the Upper-division Science Elective requirements. Faculty advisors work with students to identify elective courses, undergraduate research opportunities, and professional internships that support their individual interests.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BB 485</td>
<td>APPLIED BIOINFORMATICS</td>
<td>3</td>
</tr>
<tr>
<td>CS 161</td>
<td>INTRODUCTION TO COMPUTER SCIENCE I</td>
<td>4</td>
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</tbody>
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**Electives**

Select 14 or more credits of the following:

- BB 401 UNDERGRADUATE RESEARCH
- BI 311 GENETICS
- BOT 460 FUNCTIONAL GENOMICS
- BOT 475 COMPARATIVE GENOMICS
- BOT 476 INTRODUCTION TO COMPUTING IN THE LIFE SCIENCES
- CS 162 INTRODUCTION TO COMPUTER SCIENCE II
- CS 261 DATA STRUCTURES
- CS 325 ANALYSIS OF ALGORITHMS
- CS 420 GRAPH THEORY WITH APPLICATIONS TO COMPUTER SCIENCE
- CS 446 NETWORKS IN COMPUTATIONAL BIOLOGY
- MB 420 MICROBIAL GENOMES, BIOGEOCHEMISTRY, AND DIVERSITY
- MTH 231 ELEMENTS OF DISCRETE MATHEMATICS
- ST 352 INTRODUCTION TO STATISTICAL METHODS
- or ST 411 METHODS OF DATA ANALYSIS
- or ST 412 METHODS OF DATA ANALYSIS

**Total Hours** 21

Option Code: 973