Computational Molecular Biology Option

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.

Students pursuing the Computational Molecular Biology Option take **96 credits** from the Biochemistry and Molecular Biology Core **PLUS**:

Core

BB 485. Applied Bioinformatics (3)
CS 161. Introduction to Computer Science I (4)

Electives

Select 14 or more credits from the following:

BB 401. Undergraduate Research (1-6 credits allowed)
BI 311. Genetics (4)
BOT 460. Functional Genomics (3)
BOT 475. Comparative Genomics (4)
BOT 476. Introduction to Computing in the Life Sciences (3)
CS 162. Introduction to Computer Science II (4)
CS 261. Data Structures (4)
CS 325. Analysis of Algorithms (4)
CS 420. Graph Theory with Applications to Computer Science (3)
CS 446. Biological Networks (3)
MB 420. Microbial Genomes, Biogeochemistry, and Diversity (3)
MTH 231. Elements of Discrete Mathematics (4)
ST 352. Introduction to Statistical Methods (4)
or ST 411, 412. Methods of Data Analysis (4,4)

Total=21 or more credits

Option Code: 973