Computational Biology

Degree Type
Minor

Since the development of methods for rapid sequencing of DNA, there has been an explosion in the amount of molecular data available from a wide variety of organisms. As the data accumulates, the computational resources necessary to analyze and utilize them has become more and more sophisticated, and there is a need for workers with strong computational and programming skills who are also familiar with the structure of biological inquiry.

The Computational Biology Minor will provide an introduction to applied computational methods in biology and will be available to students in any major except Biology. This minor would be advised for students who major in computer science, mathematics, and physics who also have an interest in biology and desire an opportunity to use their computer skills to solve biological problems, from analyzing health record data, to simulating ecological community dynamics. While this minor does not include formal training in health informatics, we would welcome interest from students majoring in Health Sciences or Business who are interested in pursuing work or graduate training in that field.

Required Courses

MA 133 is required for CS 160. CH 110 is required for BI 207.

Item #	Title	Credits
BI 110	Biological Investigation	4.0
CS 160	Introduction to Computer Science	4.0
CS 170	Introduction to Data Structures	4.0
BI 207	Molecular Genetics	4.0
BI 324	Ecological Interactions	4.0

Independent Research

Students must propose and complete a 2-credit independent research project in computational biology with a biology faculty member in either the fall (BI 465) or spring (BI 466) semester.

Item #	Title	Credits
BI 465	Independent Research in Biology	1.0-4
BI 466	Independent Research in Biology	1.0-4
	Total Credits	**22**