

Biology

Requirements for a B.S. Major: 64 units

The Biology department offers four options leading to a Bachelor of Science degree in biology – a general track providing a comprehensive introduction to all areas of Biology, and three more specialized tracks, each emphasizing one of the following: 1) cellular and molecular biology; 2) ecology, evolution and natural history, 3) genomics and bioinformatics. Each track comprises lower-division courses in biology, mathematics and physical sciences, as well as a variety of required and elective upper-division courses.

Genomics and Bioinformatics Track: 64 units

Supporting Science Courses: 36 units

CHM 005, 006 General Chemistry I, II (4,4)

CS 010 Design and Implementation of Solutions to Computational Problems (4)

CS 030 Abstract Models for Concrete Problems Using Java (4)

Introduction to Statistics (4)

MA 009 Calculus I (4)

MA 015 Discrete Mathematics

Additional Courses in physical or other cognate sciences (8) to be selected from the following

CHM 101, 102 Organic Chemistry I, II (4,4)

CS 116 Artificial Intelligence (4)

CS 128 Information Retrieval and Big Data (4)

ENV 001 Introduction to Environmental Studies (4)

MA 010 Calculus II (4)

PHY 011 Physics for Life Sciences I (4)

PHY 013 Physics for Life Sciences II (4)

PHY 021 General Physics I (4)

PHY 023 General Physics II (4)

PHY 040 Differential Equations and Linear Algebra (4)

Required Biology Courses: 24 units

BIO 005, 006 General Biology I, II (4,4)

Upper-division Biology Laboratory Courses (12)

BIO 114 Genetics (4)

BIO 117 Genomics & Bioinformatics (4)

BIO 131 Evolution (4)

One of the following courses: (4)

BIO 110 Microbiology (4)

BIO 113 Biochemistry (4)

BIO 130 Cell Biology (4)

BIO 132 Molecular Biology (4)

One integrative course from the following: (1-4)

BIO 196 Bioethics Seminar (1)

BIO 197 Biology and Faith (4)

Additional Courses from the following for a total of 64 units: 4-9 units

Upper-division BIO

Upper-division CS

Upper-division MA

No more than 2 units of Practicum: BIO 190, 191 or 192.

No more than 4 units Research: BIO 198 or CS 198