

## BIOLOGY (B.A.)

The Bachelor of Arts in Biology provides an introduction to the discipline and an opportunity to integrate the study of Biology with another field. In contrast to the B.S. program, the B.A. requires fewer credits in both biology and related sciences, permitting a student to complete a second major or additional courses in another discipline such as Chemistry, Psychology, Elementary Education, Journalism, Art, Management, or Computer Science; thus, it satisfies the needs of students with a combination of interests.

### Integrative Studies Requirements

40 credits minimum

Code	Title	Credits	Completed
<b>Major Requirements (48 Credits)</b>			
<i>Core Courses (20 Credits)</i>			
INBIO-110	Cells and Molecules	4	_____
INBIO-111	Evolution & Ecology	4	_____
BIO-311	Genetics	4	_____
BIO-312	Cell Biology	4	_____
BIO-313	Population & Community Ecology	4	_____
<i>Upper-Level Biology Electives:</i>			
12 credits in 300- or 400-level BIO/INBIO courses <sup>1</sup>		12	_____
<i>Related Science or Math Courses:</i>			
INCHEM-111	General Chemistry	4	_____
CHEM-112	Gen Chemistry II	4	_____
INPHYS-141	College Physics I	4	_____
	or INPHYS-241 University Physics I		_____
MATH-141	Introductory Statistics	4	_____
	or PSYC-251 Psychological Statistics		_____
<b>Total Credits</b>		<b>48</b>	_____

<sup>1</sup> Select any 300- or 400-level BIO or INBIO courses to bring total credits in Biology to 32 credits. ENST-353 Restoration Ecology and ENST-461 Freshwater Science and Systems also count toward this requirement.

### Electives

Select courses to reach a total of 120 credits for the degree.

## Degree Requirements

120 credits

40 credits at the upper-level

## Upon Completion of the Biology B.A. degree, students will be able to demonstrate understanding in the following fundamental areas of the biological sciences:

- Biological Diversity, the diversity of subspecies, species, and higher level taxa or clades, the phylogenetic relationships of those taxa, and the features that distinguish specific lineages or taxa. This concept does not include genetic or phenotypic diversity of individuals within a species.;
- Evolution, consisting of change in the hereditary characteristics of groups of organisms over the course of generations. It encompasses several subdisciplines: behavioral evolution, evolutionary developmental biology, evolutionary ecology, evolutionary genetics, evolutionary systematics, paleontology, and molecular evolution.;
- Sub-organismal biology, the structure, function, and evolution of the components of individual organisms, from the molecular level to tissue and /or organ-system level. This includes, but is not limited to, biochemistry and metabolism, proteomics, genetics, molecular and cell biology, neurobiology, and physiology.;
- Organismal biology, referring to individual organisms and their structures and processes, such as reproduction, development, life cycle events, ecophysiology, behavior, feeding, locomotion, dispersal, and mortality. Whether applied to single-celled microorganisms or to complex multicellular organisms, 'organismal' denotes specific modes of survival and reproduction and refers to the target or object of natural selection.;
- Supra-organismal biology, referring to populations, communities, ecosystems and other higher levels of biological organization such as landscape, biome or biosphere. It includes focus on patterns of diversity, community succession, species interactions, behavioral ecology, population dynamics, trophic structure, nutrient cycling, and energy flow.
- Development of testable hypotheses, design of experiments to test hypotheses, and conducting experiments including data collection, analysis, interpretation and presentation. They will also be able to effectively search computer databases for relevant literature (primary and secondary) on scientific topics.
- Critical thinking and communication skills, both oral and written, for the purposes of conveying biological information to professional scientists and the lay public.
- Intellectual independence, scientific literacy, and an appreciation for the connections between biological science and society.