B.S., BIOLOGICAL SCIENCES WITHOUT CONCENTRATION

Minimum Requirements for Degree: 120 credits
Students must earn a C- grade or better in each course.

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<td>MATH F230X Essential Calculus with Applications</td>
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<td></td>
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<td></td>
<td>CHEM F105X General Chemistry I</td>
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<td>BIOL F115X Fundamentals of Biology I</td>
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<td>BIOL F116X Fundamentals of Biology II</td>
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<td></td>
<td>BIOL F260 Principles of Genetics</td>
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<td>BIOL F360 Cell and Molecular Biology</td>
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<td>BIOL F371 Principles of Ecology</td>
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<td>Complete one of the following:</td>
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<tr>
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<td>BIOL F111X Human Anatomy and Physiology I</td>
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<tr>
<td></td>
<td>and BIOL F112X Human Anatomy and Physiology II</td>
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<td></td>
<td>BIOL F310 Animal Physiology</td>
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<tr>
<td></td>
<td>BIOL F342 Microbiology</td>
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<td></td>
<td>BIOL F434 Structure and Function of Vascular</td>
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<td></td>
<td>Plants</td>
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<td>BIOL F481 Principles of Evolution</td>
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<td>CHEM F321 Organic Chemistry I</td>
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<td>CHEM F325 Organic Chemistry II</td>
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<td></td>
<td>or CHEM F351 General Biochemistry: Metabolism</td>
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<td></td>
<td>PHYS F123X College Physics I</td>
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<td>PHYS F124X College Physics II</td>
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<td>or PHYS F212X General Physics II</td>
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<td></td>
<td>or CS F103 Introduction to Computer Programming</td>
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<td><strong>Electives</strong></td>
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<td>Organismal elective</td>
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<td>Complete one additional course from the following:</td>
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<td>List D</td>
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<tr>
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<td>Biology electives</td>
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Complete four additional courses from the following: 12-16
- Lists A, B, C, D, or E

Capstone 2
- BIOL F400 Biological Sciences Capstone Project 0

Satisfactory completion of a capstone research project, which can be done either working individually with a faculty member or within one of the following courses: 3-4
- BIOL F434 Structure and Function of Vascular Plants
- BIOL F440 Behavioral Neuroscience Research Capstone
- BIOL F441 Animal Behavior
- BIOL F466 Advanced Cell and Molecular Laboratory
- BIOL F472 Community Ecology
- BIOL F473 Limnology
- BIOL F491 The Human Microbiome

1 BIOL F397, BIOL F497, BIOL F490, URSA F388 or URSA F488 courses may be substituted by petition for a maximum of two required elective courses in biology (3-4 credits of independent study or research per substituted course). The subject area of the independent study or research will determine which biological subject areas the credits satisfy.

2 Fulfills the baccalaureate capstone requirement.

3 Students working individually with a faculty member may, for example, take BIOL F490, BIOL F497 or do so without course credits.

4 Capstone courses may be double counted as electives.

Note: A foreign language is encouraged by the department in meeting requirements of the general education requirements.

Biology Elective Course Lists
Courses that satisfy upper-division elective credit may require prerequisites.

LIST A - CELL AND MOLECULAR BIOLOGY

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<tr>
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<td>BIOL F342</td>
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<td>BIOL F360</td>
<td>Cell and Molecular Biology</td>
<td>3</td>
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<td>BIOL F417</td>
<td>Neurobiology</td>
<td>3</td>
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<tr>
<td>BIOL F435</td>
<td>Introduction to Biology of Cancer</td>
<td>3</td>
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<tr>
<td>BIOL F460</td>
<td>Principles of Virology</td>
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<tr>
<td>BIOL F462</td>
<td>Infectious Diseases</td>
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<td>BIOL F465</td>
<td>Immunology</td>
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<tr>
<td>BIOL F466</td>
<td>Advanced Cell and Molecular Laboratory</td>
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<td>BIOL F491</td>
<td>The Human Microbiome</td>
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<td>CHEM F325</td>
<td>Organic Chemistry II</td>
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<td>CHEM F450</td>
<td>Information Storage and Transfer: Molecules and Pathways</td>
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<td>CHEM F351</td>
<td>General Biochemistry: Metabolism</td>
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<td>CHEM F470</td>
<td>Cellular and Molecular Neuroscience</td>
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<td>Neurochemistry</td>
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### LIST B - PHYSIOLOGY

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<td>Medical Physiology</td>
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<tr>
<td>BIOL F335</td>
<td>Principles of Epidemiology</td>
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<td>BIOL F342</td>
<td>Microbiology</td>
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<td>BIOL F412</td>
<td>Exercise Physiology</td>
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<td>BIOL F417</td>
<td>Neurobiology</td>
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<td>BIOL F434</td>
<td>Structure and Function of Vascular Plants</td>
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<td>BIOL F440</td>
<td>Behavioral Neuroscience Research Capstone</td>
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<td>BIOL F441</td>
<td>Animal Behavior</td>
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<td>BIOL F455</td>
<td>Environmental Toxicology</td>
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### LIST C - ECOLOGY AND EVOLUTIONARY BIOLOGY

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<td>BIOL F415</td>
<td>Systematic and Comparative Biology</td>
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<td>BIOL F418</td>
<td>Biogeography</td>
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<td>BIOL F433</td>
<td>Conservation Genetics</td>
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<td>Animal Behavior</td>
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<td>BIOL F457</td>
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<td>BIOL F469</td>
<td>Landscape Ecology and Wildlife Habitat</td>
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<td>BIOL F471</td>
<td>Population Ecology</td>
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<td>Community Ecology</td>
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<td>Limnology</td>
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<td>BIOL F476</td>
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<td>BIOL F483</td>
<td>Stream Ecology</td>
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<td>BIOL F485</td>
<td>Global Change Biology</td>
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<td>BIOL F486</td>
<td>Vertebrate Paleontology</td>
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<td>BIOL F487</td>
<td>Conceptual Issues in Evolutionary Biology</td>
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<td>BIOL F488</td>
<td>Arctic Vegetation Ecology: Geobotany</td>
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<td>BIOL F489</td>
<td>Vegetation Description and Analysis</td>
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<td>WLF F305</td>
<td>Design of Wildlife Studies</td>
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<td>WLF F421</td>
<td>Ecology and Management of Large Mammals</td>
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### LIST D - ORGANISMAL BIOLOGY

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<td>BIOL F331</td>
<td>Systematic Botany</td>
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<td>BIOL F406</td>
<td>Entomology</td>
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<td>Biogeography</td>
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<td>Mammalogy</td>
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<td>BIOL F427</td>
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<td>Biomedical and Research Ethics</td>
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