

Ecology

Note: MSU's programs in the biological sciences are distributed across multiple departments. MSU does not have a single Department of Biology. For additional options, see Chemistry (Biochemistry) (<http://catalog.montana.edu/undergraduate/letters-science/chemistry-biochemistry/>) in the College of Letters and Science, or Animal Science (<http://catalog.montana.edu/undergraduate/agriculture/animal-science/>), Cell Biology and Neuroscience (<http://catalog.montana.edu/undergraduate/agriculture/cell-biology-neuroscience/>), Environmental Horticulture (<http://catalog.montana.edu/undergraduate/agriculture/environmental-horticulture/>), Environmental Sciences (<http://catalog.montana.edu/undergraduate/agriculture/environmental-sciences/>), Microbiology (<http://catalog.montana.edu/undergraduate/agriculture/microbiology/>), Natural Resources and Rangeland Ecology (<http://catalog.montana.edu/undergraduate/agriculture/natural-resources-rangeland-ecology/>), and Plant Science (<http://catalog.montana.edu/undergraduate/agriculture/plant-science/>) in the College of Agriculture.

Department of Ecology

The Department of Ecology offers a Bachelor of Science in Biological Sciences which emphasizes a solid grounding in biology and the fundamental sciences, and which allows students to specialize within four options: Organismal Biology, Fish and Wildlife Ecology and Management, Conservation Biology and Ecology, and Biology Teaching. Organismal Biology emphasizes the basic sciences of zoology and botany; Fish and Wildlife Ecology and Management and Conservation Biology and Ecology emphasize the application of knowledge to the conservation of the biota and natural resources; Biology Teaching prepares students for career as a high school biology teacher.

Many positions for professional biologists require a graduate degree. The degree options are intended to provide the solid knowledge and skills required of all college graduates as well as the prerequisite educational background for graduate programs.

Students interested in secondary school biology teaching and Montana state certification must fulfill the Biology Teaching option which includes professional education courses as well as a solid biology and basic science core; a teaching minor or second area of certification is recommended.

Grade Requirements

To graduate with a B.S. in Biological Sciences, students must earn a grade of "C-" or better for every course required for the specific option (Conservation Biology and Ecology, Fish and Wildlife Ecology and Management, Organismal Biology, and Biology Teaching), including courses taken to fulfill required biology elective credits, all required courses in non-biology rubrics, and all upper division courses.

Undergraduate Programs

All students will earn a B.S. in Biological Sciences with at least one of the following options or concentrations to be completed.

- Biology Teaching (<http://catalog.montana.edu/undergraduate/letters-science/ecology/biology-teaching-option/>)
- Conservation Biology and Ecology (<http://catalog.montana.edu/undergraduate/letters-science/ecology/conservation-biology-ecology-option/>)
- Fish and Wildlife Ecology and Management (<http://catalog.montana.edu/undergraduate/letters-science/ecology/fish-wildlife-ecology-management-option/>)

- Organismal Biology (<http://catalog.montana.edu/undergraduate/letters-science/ecology/organismal-biology-option/>)

Undergraduate Minors

- Genetics Minor (<http://catalog.montana.edu/undergraduate/agriculture/genetics-minor/>)
- Water Resources Minor (<http://catalog.montana.edu/undergraduate/letters-science/earth-sciences/water-resources-minor-nonteaching/>)

The graduate degree programs offered in the Department of Ecology provide opportunities for students to pursue M.S. and/or Ph.D. degrees in various disciplines under the guidance of faculty. Graduate students may conduct research on a diversity of topics pertaining to their individual areas of interest: terrestrial and aquatic ecology, fish and wildlife management, evolutionary biology, quantitative ecology, and conservation biology. Both Master's and Ph.D. degrees require a thesis or dissertation and a research publication.

Degrees Offered

- M.S. in Biological Sciences (<http://catalog.montana.edu/graduate/letters-science/ecology/ms-biological-sciences/>)
- M.S. in Fish and Wildlife Management (<http://catalog.montana.edu/graduate/letters-science/ecology/ms-fish-wildlife-management/>)
- Ph.D. in Fish and Wildlife Biology (<http://catalog.montana.edu/graduate/letters-science/ecology/phd-fish-wildlife-biology/>)
- Ph.D. in Biological Sciences (<http://catalog.montana.edu/graduate/letters-science/ecology/phd-biological-sciences/>)
- Ph.D. in Ecology and Environmental Sciences (<http://catalog.montana.edu/graduate/letters-science/ecology/phd-ecology-environmental-sciences/>) (interdisciplinary)