AQUATIC ECOSYSTEM SCIENCE AND RESTORATION

The major in Ecosystem Science and Restoration prepares students to understand how ecosystems work to solve pressing environmental problems or help restore degraded ecosystems. Students can select one of two options:

- the terrestrial concentration, which focuses on the understanding and repair of terrestrial ecosystems; and
- the aquatic concentration, which focuses on aquatic ecosystem function and watershed restoration.

Students engage in field-based learning, contribute to cutting-edge restoration or ecosystem science projects, and are challenged to apply ecological theory to research and restoration practice. The major requires completion of a nine-credit restoration capstone, during which students gain hands-on real-world experience planning and implementing research or restoration projects in partnership with natural resource management agencies and organizations in western Montana.

A degree in Ecosystem Science and Restoration prepares students for careers as ecologists or restoration practitioners with non-profit, private, or governmental agencies and for graduate school in ecology or natural resource management. Students who graduate with this major may qualify for the following federal civil service jobs:

- biological technician (Series 0404),
- ecologist (Series GS-408),
- forester (Series G-460),
- hydrologist (Series GS-1315) and
- soil conservationist (Series GS-457).


Bachelor of Science - Ecosystem Science & Restoration; Aquatic Concentration

W.A Franke College of Forestry & Conservation

Degree Specific Credits: 93-94

Required Cumulative GPA: 2.0

Catalog Year: 2018-2019

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary

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<td>Lower-Division Major Required Courses</td>
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<td>Lower-Division Outside Major Required Courses</td>
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Upper-Division Major Required Courses

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<th>Code</th>
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<tr>
<td></td>
<td>NRSM 344 Ecosystem Science and Restoration Capstone</td>
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<td>NRSM 385 Watershed Hydrology</td>
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<td>NRSM 442 Nat Res Policy/Administration</td>
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<td>NRSM 465 Foundations of Restoration Ecology</td>
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<td>or BIOE 447 Ecosystem Ecology</td>
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<td>NRSM 389E Ethics Forestry &amp; Conservation</td>
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<td>or NRSM 349E Climate Change Ethics/Policy</td>
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Complete one of the following courses:

- NRSM 495 Ecosystem Science and Restoration Practicum
- NRSM 498 Internship (ESR Capstone Internship Experience)
- NRSM 499 Senior Thesis

Total Hours 21

Minimum Required Grade: C-

**Upper-Division Outside Major Required Courses**

Complete all of the following courses:

- BIOE 370 General Ecology 3
- BIOE 428 Freshwater Ecology 5

Total Hours 8

Minimum Required Grade: C-

**Aquatic Restoration Electives**

*Note: No double-dipping with core courses is allowed.*

Complete at least 9 credits from the following courses:

- BIOE 342 Field Ecology
- BIOE 439 Stream Ecology
- BIOE 447 Ecosystem Ecology
- BIOE 451 Landscape Ecology
- BIOE 453 Ecology of Small & Large Lakes
- BION 340 Biology and Mgmnt of Fishes
- FORS 250 Intro to GIS for Forest Mgt
- GEO 318 Climate System Dynamics
- GEO 420 Hydrogeology
- GEO 421 Hydrology
- GEO 460 Process Geomorphology
- GPHY 284 Intro to GIS and Cartography
- NRSM 210N Soils, Water and Climate
- NRSM 408 Global Cycles and Climate
- NRSM 418 Ecosystem Climatology
- NRSM 465 Foundations of Restoration Ecology
- WILD 485 Aquatic Invertebrate Ecology

Total Hours 9

Minimum Required Grade: C-

**Social Science Elective Courses**

Complete at least one of the following courses:

- ECNS 433 Economics of the Environment
- FORS 320 Forest Environmental Economics

Minimum Required Grade: C-