Master of Conservation and Restoration Science

The Master of Conservation and Restoration Science (MCRS) is designed for professionals or recent graduates who wish to further their education and gain skills that will help them obtain or advance in careers related to environmental management. The MCRS program integrates academic scholarship in ecology and evolutionary biology, training in natural resource management and stewardship, professional development (leadership training in agency, non-profit and for-profit conservation), and community engagement (translational partnerships in research and education).

Program Objectives

Upon completion of the program, graduates are able to lead and collaborate in the planning, design, implementation, and management of complex, large-scale environmental conservation and restoration activities, in agency, non-profit, and for-profit settings. MCRS graduates have the broad knowledge in applied ecosystem and community ecology, in addition to training in the use of Geographical Information Systems (GIS), remote sensing, and informatics (data analysis and management). Professional development training (e.g., project and personnel management) will position our graduates for leadership positions in environmental non-profits, agencies, and private consulting firms where managing teams of employees, volunteers, and stewards to conduct long-term and large-scale projects is often required.

A B.A. or B.S., preferably in Biology, Conservation Biology, Ecology, or Environmental Science (or comparable degree title) from a fully accredited academic institution, is required for admission. Applicants with undergraduate degrees in areas such as Social Ecology, Public Health, Environmental Policy, or other similar degree titles are considered, but must demonstrate proficiency in the natural sciences and/or practical experience working in the professional field as documented below:

- Undergraduate preparation should include a minimum of:
  - One full year of biological sciences
  - One full year of chemistry
  - One semester or quarter of calculus or statistics

Experience from professional activities will be evaluated by faculty and staff in the program, but extended practical experience in ecology, conservation, restoration, or environmental engineering may be an acceptable substitute for one or more of the requirements above, depending on the nature of the experience. The GRE is not required.

Applicants must demonstrate that they possess academic potential for graduate study and meet the general requirements of the UCI Graduate Division. In addition to the requirements above, selection for admission is based on the following criteria:

a. A minimum overall grade point average of 3.0 in undergraduate academic course work
b. Two confidential letters of recommendation
c. A statement of purpose (describing the applicant’s goals in seeking the Master’s degree)
d. A resume (noting relevant work/academic experience)

Applicants apply directly to the Graduate Division for the MCRS program beginning each fall. The program uses rolling admission deadlines. The priority deadline is February 1; applications received by this date are read first, and next fall's class begins to fill from this group. April 1 is the normal deadline; the remainder of the class is filled from these applicants. If the class is not full after each review of the April 1 applicants, additional applications will be accepted until Jun 30.

Curriculum

This two-year program of study consists of a four-part curriculum: a first-year sequence of core topic and professional development courses, a summer research/policy internship, a second-year of elective courses, and a team-based capstone experience (that serves as the thesis project). The summer internship and capstone experience are focused on stakeholder-engaged scholarship with community partners, where students are embedded in real-world conservation and restoration settings.

The MCRS program provides curriculum that includes:

a. Experience in core ecological and evolutionary principles underlying conservation and restoration;
b. Interdisciplinary training in the earth and environmental sciences vital for a modern perspective on system-based conservation and restoration;
c. Training in professional skills required for effective practice and success in leadership positions in non-profit, institute, for-profit and agency settings;
d. Research experiences in community-engaged research projects to build bridges between communities of research capacity (universities, institutes, agencies) and need (non-profits, land management agencies, private land-holders, and governments); and

e. Exposure to social, political, and economic principles that guide the application of science to conservation and restoration.

Required and Elective Course Work

This program consists of 11 required classes, four required workshops, four electives (selected across three categories), a recommended summer internship, and a group capstone project. There is no teaching requirement for the MCRS.
A. Complete the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ECO EVO 203B</td>
<td>Graduate Tutorial in Ecology and Evolutionary Biology (Intro to Conservation and Restoration Science - 2 units)</td>
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<tr>
<td>ECO EVO 205</td>
<td>Special Topics in Ecology</td>
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<tr>
<td>ECO EVO 264</td>
<td>Conservation Biology</td>
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<tr>
<td>ECO EVO 265</td>
<td>Restoration Ecology</td>
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<tr>
<td>or ECO EVO 237</td>
<td>Marine Conservation Ecology</td>
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<td>ECO EVO 236</td>
<td>Human Dimensions in Conservation and Restoration</td>
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<td>ECO EVO 207</td>
<td>Quantitative Methods in Ecology and Evolutionary Biology</td>
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<tr>
<td>ECO EVO 270</td>
<td>GIS for Environmental Science</td>
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<tr>
<td>ECO EVO 266L</td>
<td>Field Methods in Restoration</td>
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<tr>
<td>or ECO EVO 271</td>
<td>Marine Research and Conservation Methods</td>
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<tr>
<td>ECO EVO 268</td>
<td>Technical Writing</td>
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<td>ECO EVO 267</td>
<td>Science Communication</td>
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<tr>
<td>ECO EVO 269</td>
<td>Project Management</td>
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B. Select four courses from the following:

1. UPPP 205 Environmental Economics and Policy
2. ECO EVO 275 Wildlife Ecology and Sampling
3. ECO EVO 203A Graduate Tutorial in Ecology and Evolutionary Biology
4. BIO SCI E184 Ecology and Diversity of Insects
5. UPPP 224 Environmental Politics and Policy
6. UPPP 244 Land-Use Policy
7. UPPP 252 Issues in Environmental Law and Policy
8. UPPP 207 Land-Use Law
9. UPPP 275 Special Topics in Urban Planning
10. UPPP 221 Public Policy
11. ECO EVO 227 Plant Physiological Ecology
12. EARTHSS 238 Satellite Remote Sensing for Earth System Science
13. EARTHSS 140 Advanced Geology
14. EARTHSS 154 Ecosystem Services
15. EARTHSS 200 Global Physical Climatology
16. EARTHSS 204 Humans in the Earth System
17. EARTHSS 242 Advanced Atmospheric Chemistry
18. UPPP 235 Geographic Information Systems (GIS) Problem Solving in Planning
19. ECO EVO 203B Graduate Tutorial in Ecology and Evolutionary Biology

1 Two electives may be taken at the undergraduate level.

Capstone Project for Degree Completion

In lieu of qualifying exams or a thesis requirement, students are required to complete 12 units of capstone course during their second year in the program. In the MCRS capstone course, groups of three to six students complete a project involving community-engaged scholarship in collaboration with a local partner/stakeholder to address a current management need and/or solve a real environmental problem.

Students demonstrate how the knowledge and skills learned in this program can be applied in a practical professional setting while gaining skills necessary to succeed in the professional arena upon degree completion.

Capstone projects require a written product. The format of this product is not specified, but it must demonstrate that the student can effectively integrate the skills that they have learned in the MCRS program. Programs may include habitat conservation, restoration, or species management plans; detailed reports to partners or stakeholders; or scholarly research papers. All written products must show originality and thoroughness in the conception and implementation of the project and effective integration of their project with the broader field of conservation and restoration science.