

# Master of Conservation and Restoration Science

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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) 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 Engineering, 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 personal history statement
- e. A resume or curriculum vitae (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:	
ECO EVO 203B	Graduate Tutorial in Ecology and Evolutionary Biology (Intro to Conservation and Restoration Science - 2 units)
ECO EVO 205	Special Topics in Ecology
ECO EVO 264	Conservation Biology
ECO EVO 265	Restoration Ecology
or ECO EVO 237	Marine Conservation Ecology
ECO EVO 236	Human Dimensions in Conservation and Restoration
ECO EVO 207	Quantitative Methods in Ecology and Evolutionary Biology
ECO EVO 270	GIS for Environmental Science
ECO EVO 266L	Field Methods in Restoration
or ECO EVO 271	Marine Research and Conservation Methods
ECO EVO 268	Technical Writing
ECO EVO 267	Science Communication
ECO EVO 269	Project Management
B. Select four courses from the following: <sup>1</sup>	
ECO EVO 275	Wildlife Ecology and Sampling
ECO EVO 203A	Graduate Tutorial in Ecology and Evolutionary Biology
BIO SCI E184	Ecology and Diversity of Insects
UPPP 224	Environmental Politics and Policy
UPPP 244	Land-Use Policy
UPPP 252	Issues in Environmental Law and Policy
UPPP 207	Land-Use Law
UPPP 275	Special Topics in Urban Planning
UPPP 221	Public Policy
EARTHSS 238	Satellite Remote Sensing for Earth System Science
EARTHSS 140	Advanced Geology
EARTHSS 154	Ecosystem Services
EARTHSS 200	Global Physical Climatology
EARTHSS 204	Humans in the Earth System
EARTHSS 242	Advanced Atmospheric Chemistry
UPPP 235	Geographic Information Systems (GIS) Problem Solving in Planning
ECO EVO 203B	Graduate Tutorial in Ecology and Evolutionary Biology

<sup>1</sup> 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.