

ENVIRONMENTAL SCIENCES AND MANAGEMENT (MS)

Offered at: San Luis Obispo Campus

<https://nres.calpoly.edu/ms-environmental-sciences-and-management>

The Master of Science degree program in Environment Sciences and Management (MS ESM) offers advanced study in a range of environmental science and management disciplines. The MS ESM program is designed to provide advanced education in environment and natural resources management through coursework and directed research that builds core scientific literacy, knowledge, and applied skills through the development of either a thesis or a professional project.

The MS ESM program prepares students for a broad range of careers in science, research, and environmental management. The program is open to students from any undergraduate major. The MS ESM program requires completion of a core curriculum (research skills, sciences, management) and directed electives. Students admitted to the program begin their studies in the fall quarter as a cohort.

Requirements for Admission

Students apply via Cal State Apply (<https://www.calstate.edu/apply>) and must submit a transcript, a personal statement addressing motivation for pursuing a Master's degree at Cal Poly, and three letters of recommendation.

International Students must meet all the standard eligibility criteria and demonstrate proficiency in English (English Proficiency Exam Requirements)

Prerequisites: Admission requirements for this program require that students have at least a 3.0 GPA in the final 60 semester (90 quarter) units of their undergraduate degree and completion of the following undergraduate coursework:

- Sciences: three quarters or two semesters of any combination of chemistry, biology, ecology, physics, earth science, or atmospheric science
- Statistics: one quarter or one semester
- Calculus: one quarter or one semester

An applicant who lacks prerequisite coursework may be admitted as a conditionally classified student and must make up any deficiencies (2 course limit) before advancement to classified graduate standing. The GRE exam is optional.

Minimum GPA: Must have attained a minimum grade point average of 3.0 in the last 90 quarter or 60 semester units attempted.

Application due date: Students start in the Fall semester. Spring semester admission is on a case-by-case basis only. Please see Graduate Student Dates and Deadlines (<https://www.calpoly.edu/admissions/graduate-student/dates-and-deadlines>) for application deadlines.

Advancement to Candidacy

Students will advance to candidacy after having both completed their first semester of the MS program and a thesis or project proposal that is approved by their primary advisor and, in the case of thesis students, their committee. Completion of the first semester requires six units of graduate coursework completed with a cumulative GPA of 3.0 or higher and completion of the CAFES Graduate Committee Form if pursuing a thesis.

Culminating Experience

Students can either complete a thesis or professional project in coordination with their primary advisor.

- **Professional project:** Along with a faculty advisor, students complete a professional (applied) project and publicly present their efforts in a 15-minute presentation to the public.
- **Thesis:** Along with a faculty advisor, students will work on a specific research topic, preparing a written thesis and presenting to the public as a 45-minute defense, after which a three-person committee will have the opportunity to privately ask related questions.

Program Learning Objectives

1. Apply appropriate research methods for data collection, analyses, and communication of environmental science and management problems.
2. Analyze a research problem or objective/hypothesis (knowledge gap) and develop a research plan to address the problem or objective/hypothesis.
3. Execute a research plan (research design, data collection, analyses, and communication) or professional project plan to completion.
4. Communicate research or professional project outcomes effectively using oral, written and digital media communication appropriate for the discipline.
5. Synthesize and communicate core knowledge content contained within at least one environmental science sub-discipline.
6. Apply scientific knowledge to the management of environmental problems.
7. Demonstrate ethical reasoning and choose an appropriate course of action based on ethical standards in the research discipline and the research process in general, including publication and intellectual property.

8. Analyze, interpret and explain how environmental, economic, and social systems interact to promote the sustainable management of environmental and natural resources.

Code	Title	Units
REQUIRED COURSES		
ESCI 5550	Advanced Environmental Science	3
ESCI 5581	Graduate Seminar in Environmental Sciences	2
ESCI 5590	Advanced Environmental Management	3
Select Thesis Track or Professional Track: ^{1,2}		10
Thesis Track		
ESCI 5500	Individual Study ¹	
ESCI 5501	Research Planning	
ESCI 5599	Thesis ¹	
Professional Track		
ESCI 5500	Individual Study ²	
ESCI 5502	Research Design and Data Analysis	
ESCI 5598	Project	
Approved Electives		
Select any 4000-5000 level AG, AGC, AGED, ANT, ASCI, BIO, BRAE, CHIN, CRP, CSC, DSCI, EIM, ERSC, ESCI, FDSC, FR, GEOG, GER, ITAL, JPNS, MATH, NR, NUTR, PLSC, SOC, SPAN, SS, STAT, WLC, or WVIT courses		12
Total Units		30

¹ Students in the Thesis Track are required to complete 1 unit of ESCI 5500 and 6 units of ESCI 5599.

² Students in the Professional Track are required to complete 3 units of ESCI 5500.