



Oregon State University

ENVIRONMENTAL SCIENCES GRADUATE PROGRAM (ESGP) AREA OF CONCENTRATION IN ENVIRONMENTAL EDUCATION

PURPOSE

The Area of Concentration in Environmental Education is designed for students who have a strong natural sciences background and want to develop capabilities in environmental education to go with this background. The Environmental Education track focuses on merging strengths in basic science with pedagogical skills, communication skills, and research or projects.

Teaching and communicating information about environmental issues requires special training in basic science, teaching and communication. The purpose of this track is to prepare environmental sciences students for careers that involve explaining environmental issues, interpreting and communicating results of environmental assessments, and for assessing the effectiveness of environmental education efforts. Those students choosing the Environmental Education track will be environmental scientists with focused skills in environmental education. Students completing the track will find careers in many fields including teaching in community colleges, working as naturalists, serving as agents of extension or public outreach, and working in public relations in both the public and private sectors.

The track in Environmental Education will not result in producing certified teachers, although such teachers may participate in the program. The Environmental Education track is intended to complement existing and related graduate programs. Existing academic graduate programs related to environmental education at OSU include the following majors: Adult Education (School of Education), Agricultural Education (Dept. of Agricultural Education and General Agriculture), Education (School of Education), Environmental Health Management (Dept. of Public Health), Health Education (Dept. of Public Health), Science Education (Dept. of Science and Mathematics Education), Scientific and Technical Communication (College of Liberal Arts), and Teaching (School of Education).

PROGRAM OF STUDY

Course work is divided into 5 categories, including ESGP Core courses. Methods and Numerical Skills courses. Environmental Education courses. Elective courses, and Thesis or Project. Total credits required are a minimum of 45 Cr for the M.S. and M.A. degrees and 108 Cr for the Ph.D. degree. Typical Programs of Study will include minimum credits as follow:

Subject Area	M.S. & M.A. Degrees	Ph.D. Degree
ENSC Core Courses	6 Cr	6 Cr
Methods and Numerical Skills	6-8 Cr	9-10 Cr
Science Focal Area Courses	15 Cr min.	30 Cr min.
Electives	11 Cr max.	26 Cr max.
Thesis or Project	6 Cr	36 Cr
Total	45 Cr	108 Cr

ESGP CORE COURSES

ENSC 515 Environmental Perspectives and Methods (3) (Fall term)
ENSC 520 Environmental Analysis (3) (Winter term)

ETHICS

CITI Responsible Conduct for Research (free training through OSU) or equivalent (0 Cr). Instructions are found at this link: <https://gradschool.oregonstate.edu/environmental-sciences/student-handbook-environmental-science-graduate-program>

METHODS AND NUMERICAL SKILLS COURSES

6-8 Cr for the M.S. and M.A. degrees and **9 Cr minimum** for the Ph.D. degree. These courses are to ensure students have sufficient skills in research methods including mathematics, statistics, and computer science. Courses are to be selected by the student, advisor, and advising committee from the list below and from other offerings.

The courses below are a suggested partial listing and are to be selected by consensus of the graduate advisor, advising committee, and student.

Additional online courses may be included in the program of study that are not listed below. Search the Schedule of Classes by keyword or prefix for additional course options:

https://classes.oregonstate.edu/?keyword=ensc&srcdb=999999&coursetype=coursetype_o2&camp=DB,DI

COMM 514 Communication Research Methods (3)
FES 520 Posing Research Questions (3)
FES 522 Research Methods in Social Science (4)
FES 523 Quantitative Analysis in Social Science (4)
FES 524 Natural Resource Data Analysis (4)
PPOL 523 Qualitative Research Methods (4)
ST 511, 512, 513 Methods of Data Analysis (4 each)
ST 515 Design and Analysis of Planned Experiments (3)
ST 522 Introduction to Mathematical Statistics (4)
ST 531 Sampling Methods (3)

SCIENCE FOCAL AREA COURSES

15 Cr minimum for the M.S. and M.A. degrees and **30 Cr minimum** for the Ph.D. degree. Courses in the science focal area are to supplement the student's science background upon entering the program. Science focal area courses may be selected from life science, physical science, social science, and related disciplines. Science focal area courses may be selected from the Ecological Area of Concentration, other ES areas of concentration, or courses from the Colleges of Science, Agricultural Sciences, Oceanic and Atmospheric Sciences, Forestry, or Engineering. The combination of science courses taken prior to admission to the program, and science focal area courses, are intended to develop a coherent area of scientific study. Science focal area courses are to be selected by consensus of the graduate advisor, advising committee, and student.

PEDAGOGICAL SKILLS COURSES

Pedagogical skills courses should reflect the area of environmental sciences in which the ESGP graduate student is founded, and the type of students or groups the ESGP graduate student anticipates will be taught. Courses that will satisfy the pedagogical skills requirement will be chosen by the graduate advisor, advising committee, and the student, and may include the following courses:

AED 555 Laboratory Pedagogy (3)
ED 622 Qualitative Research Techniques in Education (3)
ED 624 Quantitative Research Design and Critical Analysis (3)
ED 650 Equity and Education Policy (3)
LEAD 533 Teaching and Leading Techniques for Outdoor Activities (3)
SED 535 Communicating Ocean Sciences to Informal Audiences (3)
SED 623 Curriculum Theory (3)
SED 621 Survey of Research on Teaching (3)

COMMUNICATIONS

COURSES

Communication skills courses should reflect the area of environmental sciences in which the ESGP student is founded, and the type of students or groups the ESGP graduate student anticipates will be taught. Courses that will satisfy the communication skills requirement will be chosen by the graduate advisor, advising committee, and the student, and may include the following courses:

COMM 514 Communication Research Methods (3)
COMM 540 Theories of Conflict and Conflict Management (3)
COMM 554 Advanced Argumentation (3)
COMM 564 Rhetorical Criticism (3)
COMM 572 The Rhetoric of Popular Culture (3)
EAH 512 Environmental Science in Context (4)
GEOG 553 Effective Communication of Environmental Change Science (3)
H 549 Mass Media and Health (3)
HST 517 Oral History (3)
IB 519 Scientific Illustration (3)
LEAD 543 Leadership Through Conversations (3)
TRAL 593 Environmental Interpretation (4)

ELECTIVES COURSES

11 Cr maximum for the M.S. and M.A. degrees and **26 Cr maximum** for the Ph.D. degree. Students will work with their graduate advisor and committee to select elective courses to develop necessary background, and to add breadth and depth to the student's Program of Study.

Search the Schedule of Classes by keyword or prefix for additional course options:
https://classes.oregonstate.edu/?keyword=ensc&srcdb=999999&coursetype=coursetype_o2&camp=DB,DI

THESIS OR PROJECT

6 Cr for the M.S. and M.A. degrees and **36 Cr** for the Ph.D. degree.