

## **Environmental Studies Major Course Requirements**

### **Major Options:**

Environmental Studies majors will have four options to choose from in constructing their major curriculum. Each student's course of study will be structured by three factors: 1) the student's choice whether to pursue a double-major within a degree or the longer concurrent dual degree option 2) the emphasis of the student's alternate major (humanities, arts, social science or science; and 3) the student's more specific focus developed through his/her plan of study in conjunction with the UNAE Associate Director for Academics.

### **BACHELOR OF SCIENCE IN ENVIRONMENTAL STUDIES**

2. Double major within the Bachelor of Science degree: Students who have a major in a course of study leading to a Bachelor of Science degree can choose the B.S. in Environmental Studies as a second major within the degree program. This second course of study will concentrate on arts/humanities/social studies to balance the science focus of the primary major.

### **BACHELOR OF ARTS IN ENVIRONMENTAL STUDIES**

3. Double major within the Bachelor of Arts degree: Students who have a major in a course of study leading to a Bachelor of Arts degree can choose the B.A. in Environmental Studies as a second major within the degree program. This second course of study will concentrate on science and policy issues to balance the arts/humanities focus of the primary major.
4. Concurrent dual degree (B.A. & B.S.): Students who have a major in a course of study leading to a Bachelor of Science degree can pursue a dual degree in the Bachelor of Arts in Environmental Studies. Students pursuing this option must complete all major degree requirements of the Bachelor of Arts, including foreign language requirements. For more information, consult the College of Liberal Arts general degree requirements in the General Catalog. This course of study meets the university's requirement of fulfilling 128 credits of study in the original major, plus an additional 32 credits focusing on arts/humanities/social studies to balance the science emphasis of the B.S. degree. For most students, this option will require an additional year of study.

Regardless of the student's chosen course of study, all ES majors must fulfill these additional common requirements:

- Each ES major must complete a detailed **program of study** form, in close consultation with the UNAE Associate Director of Academics, to guide his/her course of study. This program of study form must be updated annually.

- In addition to meeting the general University of Nevada Reno requirements for degree completion, (including all core curriculum requirements) all ES majors must fulfill the ES major core requirements outlined below.

**ENVIRONMENTAL STUDIES CORE MAJOR REQUIREMENTS.....24 credits**

The ENV major core is structured vertically around three courses unique to the major. These are designed to integrate students into interdisciplinary cohorts with an emphasis on cross-disciplinary communication and collaboration as well as real-world application of learned skills and theoretical principles. Additional courses in the major core fulfill agreed-upon principles of environmental literacy.

**A. Freshmen/New Student Introduction...3 credits**

UNAE 110: Multidisciplinary Topics in Environmental Studies: Water in Arid Lands  
 Fall, 2007(new course) 3

**B. Ecology...6 credits**

BIOL 314 Ecology and Population Biology\* 3 **AND**

Choose three credits from the following list:

ANTH 430	Anthropology and Ecology	3	
BIOL 420	Aquatic Ecology*	3	
BIOL 485	Population and Community Ecology*		3
NRES 440	Wetland Ecology and Management*	3	
NRES 347	Plant Ecology*	3	
NRES 475	Applied Landscape Ecology*	3	
NRES 495	Fire Ecology and Management*	3	
NRES 310	Wildlife Ecology and Management*	3	

**C. Environmental/Statistical Methods course...3 credits**

Choose three credits from the following list:

APST 270	Introduction to Statistical Methods*	3
APST 412	Applied GIS*	3
APST 470	Linear Regression and Time Series*	3
APST 207	Practical Statistics*	3
CEE 417	Intro to Environmental Quality and Analysis*	3
GEOG 205	Applications of GIS	3
GEOG 405	GIS I*	3
NRES 451	Remote Sensing of Natural Resources*	3

**D. Experiential Learning...3 credits**

This topic area can be fulfilled with an off-campus learning experience related to the student's environmental studies program, with prior approval from the ENV advisor. It is expected that the requirement will be fulfilled with an environmentally-oriented field course, off-campus internship, or international studies experience. Available courses are listed below; however, students may pursue other options in consultation with the UNAE Associate Director for Academics.

Choose three credits from the following list:

BIOL 320	Experimental Field Ecology*	3
ENV 401	Environmental Internship	3
GEOG 314	Field Methods	3
GEOG 470	Geographic Explorations	3
GEOL 451	Summer Field Geology*	3
GEOL 440	Neotectonic Field Trips	3
ANTH 448	Field School in Archaeology	3
GEOL 450	Field Methods*	3
HE 215	Outdoor Leadership	3
PSC 490F	Internship: Public Service	3

### **E. Communications...3 credits**

Choose three credits from the following list:

COM 113	Fundamentals of Speech Communication	3
COM 315	Small Group Communication	3
COM 329	Business and Professional Speaking	3
ENG 321	Expository Writing	3
JOUR 102	Media Writing*	3

### **F. Third-Year Practicum...3 credits**

UNAE 310	Environmental Problem-Solving Practicum (new course)	3
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*To enroll in this course, students must first complete the following:*

- University core curriculum requirements, except diversity and capstone
- UNAE 110
- Environmental Statistical Methods course
- Experiential Learning

### **G. Senior Thesis Seminar...3 credits**

- UNAE 410 Senior Thesis Research Seminar in Interdisciplinary Environment
- To enroll in this course, students must first complete ENV 3## and all University core curriculum requirements.

## **2. ENVIRONMENTAL STUDIES TOPICAL SUITES**

Each of the following topical suites is thematically organized to provide multidisciplinary breadth and balance to the scientific and quantitative emphasis of the second major. See "Major Options," above, for the clusters unique to each of the three major options.

### **a. Concepts of Time and Place .....6 credits**

Although "environment" is a term often used in the abstract, human societies historically tend to interact with specific places. Climate, topography, and availability of resources have had wide-ranging impact on the various types of human cultures and civilizations. At the same time, humans imagine and create their own sense of place through art, literature, and architecture. Courses in this category explore the role of place in framing human understandings of and interactions with the environment. Students can choose a regional emphasis (that

is, the American West, Great Basin or arid lands) focus within these course listings, if they so choose.

Choose 6 credits from the following list:

ANTH 442A	Historical Archaeology
ANTH 442B	Industrial Archaeology
ANTH 443	Environmental Archaeology
BIOL 446	Desert and Montane Ecosystems*
ENG 429C	Literature of the American West*
ENV 467/NRES 467	Regional and Global Issues in Environment and Natural Resource Sciences*
GEOG/BIOL 434	Biogeography
GEOG 437/637	Geography of Past Environments*
GEOG 438	Western Water Resources and Management
GEOG 456	Land Use Planning
GEOG 472	Geography of Arid Lands*
GEOG 473	Nevada: Patterns on the Land
GEOL 102	Historical Geology (lab 4 cr) *
GEOL 402/602	The Oceans
GEOL 405	Geology of the National Parks (cap)
HIST 417	Nevada and the West
HIST 417C	The West as National Experience (capstone)
HIST 441	Environmental History of America
HIST 488C	Topics in Nature and Culture
HIST/GEOG 488	Creating North American Landscapes (cap) <b>or</b>
HIST 488B	Landscape of Lake Tahoe

**b. Language and Representation.....6 credits**

The forms by which we imagine, depict, and communicate ideas about the environment are powerful agents for framing environmental issues and defining environmental relationships. Courses in this topic area give students the theoretical and practical knowledge to analyze environmental discourse.

Choose 6 credits from the following list:

ART 397	Advanced Field Study
ENG 265	Nature in Literature
ENG 491A	Major Texts of the Environmental Movement*
ENG 492A	Language, Science and Society*
ENG 492B	Language, Literature and Culture*
ENG 497B	Ethnicity, Gender, and American Identity*
GEOG 210/GEOL 103	Exploring, Measuring and Mapping Planet Earth
GEOG 311	Maps and Image Interpretation
GEOG 350	Climate and Myth
GEOG 477	Geography and Film (cap)
HIST 487	Topics in American Studies
HIST 488C	Topics in Nature and Culture
MINE 242	Introduction to Mineral Mapmaking and Mine Surveying*

c. Values, Aesthetics and Decision-making.....6 credits

Courses in this category explore the roles of human values and aesthetics in structuring social interaction with the environment – and of the role of environment in structuring values and defining options. Societal interrelationships form the contexts giving rise to opportunities, distribution of decision-making authority, and impacts of environmental costs and benefits among groups within society. These courses encourage students to examine the role of culture, values, and aesthetics as well as policy formulation, economics, individual choice and social systems in the context of society's relationship to its environment.

Choose six credits from the list:

APEC 332	Economics of Public Lands Resources*
APEC 436	Natural Resource use in Native American Communities*
APEC 460/660	International Economics of Growth, Resources and Environment*
APEC 464	Valuation of Environmental Resources*
CEE 204	Technology, Environment and Society*
CEE 415	Water Rights
ENG 497B/697B	Ethnicity, Gender, and American Identity*
GEOG 400/NRES 400	International Issues for Water Development
GEOG 460	Ethnic Geography
GEOG 464	Race, Gender & the Environment
PHIL 135	Introduction to Ethics
PHIL 244	Bioethics
PSC 353	Identity Politics in the United States*
PSC 403D	Global Environmental Policy*
PSC 403E	Environmental Law
PSC 403G	Land and Water Resource Policy
PSC 457	Environmental Policy*
SOC 345	Social movements and collective behavior*
SOC 379	Ethnic and Race Relations*

d. Natural Systems and Dynamic processes.....6 credits

This group of courses focuses on analysis of systems in states of dynamic interaction, ranging from biotic ecologies, to watersheds, to urban societies. Courses in this category develop understanding of the forces that shape the physical environment and the human systems that structure our relationships with that environment.

Choose 6 credits from the following list:

ANTH 430:	Anthropology and Ecology
ANTH 431R:	Plants and People
APEC 332:	Economics of Public Lands Resources*
APEC 415:	Water Resource Economics*
APEC 460	International Economics of Growth, Resources and

	Environment*
ATMS 117	Meteorology*
ATMS 414:	Physical Climatology
BIOL 420	Aquatic Ecology*
BIOL 429:	Biological Diversity*
BIOL 485:	Population and Community Ecology*
GEOG 421:	Climatology*
GEOG 452:	Urban Geography*
GEOL 100:	Earthquakes, Volcanoes and Natural Disasters
GEOL 202/203:	Earth Surface Processes and Deposits I & II,* or
GEOL 211/212:	Earth Materials and Geochemistry I & II*
MINE 456:	Mining and Sustainable Development*
NRES 304	Principles of Hydrology*
NRES 310:	Wildlife Ecology and Management*
NRES 345:	Range and Forest Plants
NRES 347:	Plant Ecology*
NRES 421	Conservation Biology*
NRES 440	Wetland Ecology and Management*
PHYS 400:	Energy: Principles, sources and problems*

NR

**e. Science, Technology, and Society...6 credits**

Courses in this category focus on the analysis of scientific thinking, technology, social systems and their interaction with the natural environment.

Choose 6 credits from the following list:

ANTH 442B	Industrial Archaeology
APEC 332	Economics of Public Lands Resources*
ATMS 360	Atmospheric Instrumentation
ATMS 412	Introduction to Air Pollution*
CEE 204	Technology, Environment and Society*
CEE 390	Fundamentals of Environmental Engineering*
CEE 417	Introduction to Environmental Quality and Analysis*
CEE 458	Fundamentals of Environmental Chemistry*
ENG 492A:	Language, Science and Society*
ENV 100	Humans and the Environment*
GEOG 305	Community Environmental Problems*
HIST/PHIL 481A	Science, Technology & Society
HIST 281/PHIL 281	Intro to the History of Science I
MECH 474	Active Solar Engineering*
NRES 210:	Environmental Pollution*
NRES 211	Conservation, Humans and Biodiversity
NRES 432	Advanced Environmental Toxicology*
PHIL 224	Introduction to Philosophy of Science
PHYS 400:	Energy: Principles, sources and problems*
PHIL 438	Problems in the History and Philosophy of Science

NR

f: Applied methods Quantitative analysis.....3 credits

Courses in this category focus on the “how to” questions whereby practitioners gather and analyze data, and will equip students with necessary skills to pursue environmental work or advanced study.

Select 6 credits from the following list:

APST 270	Introduction to Statistical Methods*
APST 412	Applied GIS*
APST 470	Linear Regression and Time Series*
APST 207	Practical Statistics*
CEE 417	Intro to Environmental Quality and Analysis*
GEOG 205	Applications of GIS*
GEOG 405	GIS I*
NRES 451	Remote Sensing of Natural Resources*
PSC 320:	Policy Analysis