

For the complete curriculum associated with this proposal, visit the Curriculum Review website: http://www2.csusm.edu/academic_programs/Curriculum_review_09_10/index.htm#UCC_Packet_12. This proposal is in Packet #12.

Proposed Catalog Language for the Bachelor of Arts in Environmental Studies

The Environmental Studies Program at Cal State San Marcos will provide a collaborative setting for faculty, students, and community partners to study environmental and land-use issues. The degree provides introductory training in physical sciences, life sciences, social sciences, land-use planning, geographic information systems (GIS), environmental policy and law, research methods, and environmental arts and humanities. Students will be prepared to pursue diverse careers in land management agencies, environmental policy, environmental review processes in both private and public sectors, outdoor recreation, government, environmental education, and non-profit organizations.

The multidisciplinary core of the degree comprises four general areas (*italicized*):

- *Life and Physical Sciences*: Provides the scientific background for the major, consisting of courses in biology, chemistry, physics, ecology, and geomorphology.
- *Social Sciences and Policy* exposes students to institutional and legal frameworks of environmental policy, and to processes by which policy is established.
- *Research Methods* prepares students with the quantitative tools – GIS, statistics, and research methods – necessary for applied work in the professional arena and also for graduate studies.
- *Environmental Arts and Humanities* encourages students to think critically, ethically, and aesthetically about the environment.

Degree Requirements

Courses taken for the B.A. degree in Environmental Studies or in preparation for the Major must be taken for “Credit.” A grade of C (2.0) or better must be received in each course. At least 18 units of the required upper-division courses for the degree must be taken at Cal State San Marcos.

Bachelor of Arts in Environmental Studies

GE requirements

51 units

Preparation for Major

21-24 units

Required upper-division courses

12 units

Major Elective Courses

24 units from approved course lists below

General Electives

Sufficient to bring total of units to 120

Required Courses for B.A Degree in Environmental Studies:¹

<u>Preparation for Major</u>		<u>21-26 units</u>
ENVS 100 ²	Introduction to Environmental Studies	3
ENVS 105 ³	Introduction to Biology/Ecology	3
GES 101 ⁴	Matter, Molecules, Life and the Environment I (or CHEM 150 ⁵)	3
ES 100	The Earth and Its Place in the Universe	3
ENVS 200	Geomorphic Processes (or 3 units of Geography and 3 units of Geology)	3
ENVS 210	Research Methods: Introduction to GIS (prerequisite is ENVS 100)	3
<i>Plus one course from:</i>		
PSYC 220	Introductory Statistics in Psychology	3
SOC 201	Introductory Statistics for Social Sciences	3
BIOL 215	Experimental Design and Statistical Analysis	4
MATH 242	Introduction to Statistics	3
<u>Upper Division Core Requirements</u>		<u>12 units</u>
ENVS 310	Environmental Impact Analysis (prerequisite is ENVS 100)	3
ENVS 490	Capstone in Environmental Studies	3
PHIL 340	Ethics and the Environment	3
CHEM 311	Chemicals and the Environment	3

Major Elective Courses

24 units chosen from courses listed in Arts and Humanities, Social Science, and Natural Sciences with at least six units completed in each area (see below). Courses listed in multiple areas can only be counted as part of the six units in one area.

¹ Required coursework satisfies General Education areas B1, B2, B3, and D or D7.

² Satisfies General Education area D7 (Interdisciplinary Social Sciences) or area D (Discipline Specific or Second Interdisciplinary Social Science)

³ Satisfies General Education area B2 (Life Science).

⁴ Satisfies General Education areas B1 (Physical Science) and B3 (Laboratory).

⁵ Students who substitute CHEM 150 for GES 101 are required to take PHYSICS 351 to fulfill 3 units of their Physical and Life Sciences electives – this is to assure some physics exposure in their course studies. A student may substitute CHEM 150 for GES 101 without taking CHEM 150L (laboratory) but, in this case, then must satisfy General Education area B3 (Laboratory) with another course selection

Major Elective Course Lists:**A. Arts and Humanities Course****List**

ANTH 370	Environment, Population, Culture	3
ANTH 470	Community Ethnobotany	3
ANTH 480 ⁶	Local Archaeological Practice	3
HIST 340	Environmental History of the US	3
VSAR 313	Digital Arts and The Environment	3
VSAR 330	Art and Science: Historical and Contemporary Practice	3
VSAR 331	Art, Science, and Technology	3

B. Social Science Course List

ANTH 370	Environment, Population, Culture	3
ANTH 470	Community Ethnobotany	3
BRS 453	Border Water Conflicts	3
ECON 325 ⁷	Economics of the Environment and Natural Resources	3
ENVS 320	Environmental and Land Use Design	3
GEOG 320	Patterns of San Diego County	3
HIST 340	Environmental History of the US	3
LBST 307	Children and the Environment	3
PSCI 420	US Environmental Policy	3
PSYC 338	Environmental Psychology	3

C. Physical and Life Science Course List

BIOL 336	Coastal Environments	3
BIOL 338	Human Impact on the Environment	3
BIOL 339	Conservation Biology	3
BIOL 363 ⁸	Principles of Conservation Biology	3
BIOL 388 ⁹	Marine Communities	3
PHYS 351	How Things Work	3
CHEM 313	Energy and Society	3
ES 314	The Geosphere in Context	3

⁶ ANTH 480 has an enrollment requirement of ANTH 200.

⁷ECON 201 and 202 are prerequisites for ECON 325.

⁸ BIOL 210 and 211 are prerequisites for BIOL 363.

⁹ BIOL 210 and 211 are prerequisites for BIOL 363.

New Course Descriptions

ENVS 100 - Introduction to Environmental Studies (3). An introduction to the ways in which human behavior impacts and is connected to environmental systems. The course integrates multiple perspectives of environmental issues from the natural sciences, behavioral sciences, social sciences, culture, ethics, and the arts and humanities. Topics include energy use, resource depletion, water supply, air pollution, population growth, urbanization, climate change, biodiversity, and more.

ENVS 105 - Introduction to Biology/Ecology (3). An introduction to the natural and physical processes governing environmental systems, as well as the ways in which human behavior impacts and is connected to the environment. The course studies how living organisms function and evolve with the natural world, covering a diversity of organisms and physical environments. Examples of topics covered in the course include energy flow, nutrient cycling, population dynamics, and the ecological and biological consequences of human activities.

ENVS 200 - Geomorphic Processes (3). The course studies relations between water, wind, gravity, and humans in the formation and deposition of land and sea landforms. The course introduces landform terminologies and processes that shape the earth's environmental landscape. The connection between geomorphic processes and human activities is a central focus.

ENVS 210 – Research Methods: Introduction to Geographic Information Systems (GIS) (3). Students are provided the foundations of spatial landscape analysis through computer-based, geographic information systems. The course emphasizes spatial data collection, processing, analysis, and presentation using GIS software within the context of environmental and urban design. The course introduces spatial variations and interactions of rural, suburban, and urban landscape. In addition, the course examines land-use planning issues such as transportation, economic development, housing, open space preservation, environmental protection, urban design, and public finance.

ENVS 310 - Environmental Impact Analysis (3). The course introduces methods for analyzing and quantifying human impacts on the environment. Theoretical and applied aspects of environmental impact assessment are covered, with particular focus on preparation processes of environmental impact reports (EIRs) and statements (EISs) mandated by state and federal statutes. California planning statutes are studied, as well as the political processes surrounding land-use decisions. The course introduces such topics as cost-benefit analysis, EIR/EIS review processes, and litigation and mediation of EIRs. Prerequisite is ENVS 100.

ENVS 320 - Environmental and Land-Use Design (3). Building on ENVS 200, this course further develops methods to study human impacts on the environmental landscape associated with land-use planning. Spatial variations and interactions of rural, suburban, and urban landscapes are studied. In addition, land-use planning approaches are examined within legal,

administrative, comparative perspectives, and applied research methods. Course examines policies like transportation, open space preservation, housing, economic development, environmental protection, urban design, and public finance. Prerequisite is ENVS 200.

ENVS 490 - Capstone in Environmental Studies (3). The capstone requires students to apply concepts from their coursework to complete an original research project. At least *one faculty member* approves and advises the student on a project that is mutually designed to satisfy the student's intellectual interests and professional objectives. The capstone project should demonstrate the student's ability to integrate coursework from throughout the major in a project that examines a particular environmental topic, issue, or creative endeavor. Prior to enrolling in ENVS 490, a student must complete all course requirements listed under "Preparation for the Major" as well as ENVS 310 and CHEM 311 (concurrent enrollment in ENVS 310 and/or CHEM 311 is allowed with consent of the faculty advisor.)

VSAR 313 – Digital Arts and the Environment (3). Course investigates a broad range of artistic practices and contemporary artists who use digital media to comment on and shape current environmental debates. Explores a broad range of environmental perspectives to enrich our understanding of current environmental concerns and their interpretation through digital media. Lectures, screenings, interviews, group discussions, research. Final projects include site-specific art exhibitions, artist's books, photographic series, video. May be repeated one time for credit for a total of 6 units.

VSAR 330- Art and Science: Historical and Contemporary Practice (3). The course surveys the connection between art and science from the Renaissance to the present focusing on themes including space, time, process, pattern and material. Students will be introduced to the structural parallels between art and science as well as the cultural and ethical issues surrounding science as they are reflected through art.

VSAR 331 - Art, Science and Technology (3). This advanced studio course focuses on the juncture of art and science in contemporary art practice. Students will be exposed to different approaches, materials, and technologies used by artists today, and they will develop their own projects based in themes including environmental art and science, the body (biology and medicine), and space, time and light (physics). Prerequisites: 21 units of lower division classes in either VSAR or in the sciences.