

ENVIRONMENTAL STUDIES

Assessment Plan

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Introduction:

This document describes the assessment plan for Chaminade University's Environmental Studies (ES) Program. This Plan aims to document the specific types of assessment vehicles that will be employed by the ES Program, and the different types of measurable outcomes/data that each assessment method provides.

The design of this Plan was arrived at through the help of a number of influential factors. These were:

- ❖ The advice of Drs. Robert Santee and Ronald Becker at Chaminade University
- ❖ Past assessment experience
- ❖ Attendance at a number of conference assessment workshops and presentations
- ❖ Environmental Studies Program Assessment/Accreditation documents from the following universities and colleges:
 - UC Santa Cruz: Environmental Studies "Non-GPA Outcome Indicators"
 - UC Santa Barbara: Environmental Studies *2005 Alumni Survey*
 - Southern Oregon University: *Environmental Studies Accreditation Executive Summary*
 - The University of the South ("Sewanee"): Environmental Studies assessment plan
 - The Technical University of Valencia, Spain: Environmental accreditation system proposal

[These documents are all available in the ES office]

Recent Program Revisions:

Chaminade's Environmental Studies Program was simplified in 2006 from a major requiring 57 credits, 12 of which were taken as a part of a more focused curriculum "path," to a major containing 45 credits with no paths. This change streamlined advising, scheduling, and program assessment efforts, since all ES majors now take exactly the same courses within their major.

Program Learning Outcomes and Course Linkages:

The ES Program Student Learning Outcomes were revised and reduced in number in 2007. These changes reflected the Program's curricular streamlining, and focused the Outcomes specifically on learning acquired through courses in the ES major (and not a students' General Education experience).

Environmental Studies Program Student Learning Outcomes:

The Environmental Studies student will demonstrate an understanding of:

1. The central importance of spirituality, ethics and worldviews in the "environmental movement"
2. The importance of the environment in our own health and well being
3. The major environmental issues and their potential solutions
4. Problem-solving skills from diverse disciplines for diverse populations

5. Scientific reasoning and methodology
6. The roles and importance of laws, politics and economics in environmental issues
7. Career opportunities in the environment

The courses that comprise the ES major are as follows:

The Environmental Studies Major:

Pre-major requirements: ENV 100, CH103 and CH 103L, ENV 201 and ENV 201L, ENV 202 and ENV 202L, GEO 204 and BU 200. (24 credits)

Major requirements: ENV 300, ENV 313/EC313, RE 331, SOC 317, EN 405, PSY 434, ENV 400 and ENV 485. (21 Credits)

Each ENV course is guided by a set of course learning outcomes that have been linked to each of the seven Program Learning Outcomes (Appendix A).

Program Assessment Plan:

The guiding principles in developing this Assessment Plan were the following:

- **Create assessment vehicles that provide data that can verify if ES Program Learning Outcomes are achieved**
- **Develop benchmarks for declaring Program success**

Important factors in achieving ES Program Assessment goals are the following:

- **Gather baseline data for new majors**
- **Gather both quantitative and qualitative data**
- **Develop a comprehensive objective exit exam**
- **Measure success and satisfaction with field experiences**
- **Measure perceived learning**
- **Measure success and satisfaction of graduates**

The ES proposed Program Assessment plan is “five-pronged.” These five prongs are aimed at making possible the accomplishment of all of the above goals.

1. ENV 100: Course Pre-Test. A course post-test will determine course success at achieving course learning outcomes. Questions will be repeated as part of the Comprehensive Exit Exam. Aimed at determining incoming students’ base-line knowledge of major environmental issues.

Rationale: This assessment vehicle will provide baseline quantitative data of the knowledge-state of majors early in the pursuit of their degree.

2. ENV 400: Portfolio. Gathered from every ES major when they take ENV 400: Current Global Environmental Issues. Aimed at determining how thoroughly students understand the causes, consequences and solutions of current complex

environmental issues. These essays and Power Point presentations will be retained as portfolios and graded.

Rationale: These qualitative assessment vehicles allow ES faculty to assess the ability of majors to cognitively comprehend, synthesize the elements of, and problem-solve environmental issues.

3. ENV 485: Capstone Experience. Students work in the field as a researcher or project participant and write an exit reflection paper. Agency sponsors complete an exit survey assessing the students performance. Aimed at providing student with a real-world environmental field experience.

Rationale: This assessment will allow ES faculty to assess agency satisfaction with students' skills and knowledge and students' ability to work on and understand real world problems through real-world experience.

4. Comprehensive Exit Exam. Several Universities have developed or are attempting to develop a comprehensive Environmental Studies exit exam. There is not outside standard ES exam. Questions on Chaminade's exam will come from each of the courses in the major. The ES Program Director will work on developing such an exam with all of the CUH faculty teaching courses in the ENV major. Each faculty member will be asked to contribute a fixed number of objective questions pertaining to the Program Learning Outcomes and linked to their course learning outcomes. All questions will comprise a single exam given at the beginning of the students' ENV 485 capstone course. Students performing below benchmark success will have to retake the exam at the end of ENV 485. Faculty will grade that section of the exam they developed or give the Program Director an objective key to use to grade the exams. Exams will be retained by the ES Program.

Rationale: This assessment will enable us to objectively measure student learning when students have almost completed the ES major. It also gives the student a chance to recognize their own knowledge state and provides an opportunity for them to improve it by studying further and retaking the exam.

5. Alumni Survey. UC Santa Barbara developed a comprehensive ES Alumni Survey and surveyed alumni from all 35 years of its Program's history. They received 504 responses from 4,100 total ES alumni. Chaminade's ES Program Director has a copy of this survey and the Final Report. Both will be used to develop a CUH ES Alumni Survey. The results from UC Santa Barbara will be used to help gage CUH success.

Rationale: UC Santa Barbara is one the United States oldest, most well-known and most successful ES programs. CUH can use their survey and results as a benchmark to help determine the relative success and satisfaction of our own graduates.

Appendix A

Course and Program Learning Outcomes and Linkages

Environmental Studies Program Student Learning Outcomes

The Environmental Studies student will demonstrate an understanding of:

8. The central importance of spirituality, ethics and worldviews in the “environmental movement”
9. The importance of the environment in our own health and well being
10. The major environmental issues and their potential solutions
11. Problem-solving skills from diverse disciplines for diverse populations
12. Scientific reasoning and methodology
13. The roles and importance of laws, politics and economics in environmental issues
14. Career opportunities in the environment

Student Learning Outcomes and Course Linkages: A student graduating with a bachelor of science in Environmental Studies will be able to...

- **Demonstrate an understanding of the central importance of spirituality, ethics and worldview in the “environmental movement”**
 1. Demonstrate an understanding of diverse environmental ethics and their implications for the treatment of nature [ENV100; ENV201; ENV313]
 2. Demonstrate an understanding of the potential positive role the Judeo-Christian, traditional Polynesian and other worldviews can play in environmental problem solving [ENV100; GEO204; ENV313]
 3. Demonstrate an understanding of the historical role the Western worldview played in “separating” people from nature [ENV100; EN405]
 4. Demonstrate an understanding of how Catholic Marianist values support environmental efforts [ENV313]
 5. Demonstrate Marianist values through environmental service [ENV100; ENV201; ENV400]
 6. Demonstrate a strong conservation ethic [ENV100, ENV201, GEO 204; EN405; ENV485]
 7. Demonstrate “Passion Power” for the environment through activism [ENV100; ENV201; ENV400; ENV485]
 8. Demonstrate an understanding of the spiritual importance of natural resources/biodiversity to diverse peoples [ENV100; ENV313]
 9. Demonstrate an understanding of the history of the environmental movement in the U.S. [ENV100; EN405]
 10. Demonstrate knowledge of the writings of Aldo Leopold, John Muir, Loren Eiseley, Rachel Carson, Lynn White and Garrett Hardin [EN405]
- **Demonstrate problem-solving skills from diverse disciplines for diverse populations**
 1. Demonstrate the ability to take a systems approach to problem solving [ENV100, ENV201, ENV485]
 2. Demonstrate an awareness of the limitations within systems [ENV201; ENV300; ENV301; ENV400]
 3. Demonstrate knowledge of the process of conflict resolution [GEO204; ENV202; ENV300; PSY434]
 4. Demonstrate the ability to discern the difference between fact and opinion [ENV201; ENV202; ENV300]
 5. Demonstrate the ability to take a balanced outlook [ENV100; ENV202; BU242; ENV301]

6. Demonstrate an awareness of the perspectives and value systems of others [ENV100; GEO204; ENV300; ENV301; ENV313; EN405; PSY434]
 7. Demonstrate an understanding of the role of cultural diversity in creating and problem-solving environmental issues [ENV100; GEO204; COM310; ENV301; ENV400; EN405; PSY434]
 8. Demonstrate cross-cultural communication skills [ENV100; PSY434; through service learning]
 9. Demonstrate the ability to collaborate with others [ENV100, ENV301]
 10. Demonstrate an understanding of the importance of being to supervise and manage people successfully [BU200; PSY434]
 11. Demonstrate the ability Be able to arrive at creative solutions [ENV100; ENV202; EN405; ENV485]
- **Demonstrate an understanding of science and scientific investigation**
 1. Demonstrate an understanding of Earth Systems Science [CH102, CH102L; ENV201, ENV201L; ENV202, ENV202L; GEO204]
 2. Demonstrate an understanding of the major material causes of environmental degradation [CH102, CH102L; ENV201, ENV201L; ENV202, ENV202L; GEO204]
 3. Demonstrate an understanding of the importance of biodiversity to the functioning of the Earth System [ENV201, ENV201L; ENV313]
 4. Demonstrate an understanding of GIS mapping techniques [GEO204]
 5. Demonstrate an understanding of the role of GIS maps and mapping in environmental problem solving [ENV 201; GEO 204]
 6. Demonstrate the ability to conduct statistical analyses pertinent to environmental problem solving [SOC317]
 7. Demonstrate an understanding of the principles of conservation biology [ENV201]
 8. Demonstrate knowledge of Hawaiian ecosystems and their components [ENV201; ENV201L]
 9. Demonstrate an understanding of the major taxonomic groups [ENV201, ENV201L]
 10. Demonstrate knowledge of the major threatened Hawaiian ecosystems and taxonomic groups [ENV201; GEO204]
 11. Demonstrate environmental field skills [CH102L; ENV201L; ENV202L]
 12. Demonstrate adequate physical conditioning to conduct field work [via service learning]
 13. Demonstrate the ability to monitor terrestrial and aquatic ecosystems [CH102L; ENV201L]
 14. Demonstrate general agricultural/crop production knowledge [ENV201; ENV400]
 15. Demonstrate an understanding of the costs and benefits of pesticide, herbicide and fertilizer use [ENV100; ENV400]
 16. Demonstrate an understanding of the potential risks and benefits of bio-engineered crops [ENV100; ENV400]
 17. Demonstrate an understanding of organic, multi-crop, mono-culture and indigenous agricultural techniques [CH102; ENV201; ENV400]
 18. Demonstrate an understanding of the various liquid waste treatment methods [CH102; ENV201]
 19. Demonstrate an understanding of the different types of wastes and disposal methods for each [CH102]
 20. Demonstrate an understanding of the benefits of recycling [ENV202; ENV301; ENV400]
 21. Demonstrate an understanding of the effects each individual has on the environment [ENV201]
 22. Demonstrate the ability to calculate their ecological footprint [ENV201L]
 23. Demonstrate the ability to assess the veracity of information [ENV100; CH102; ENV201; ENV202]
 24. Demonstrate the ability to conduct statistical analyses and use statistical software [SOC317]

25. Demonstrate the ability to comprehend primary scientific literature [ENV201; ENV202]
 26. Demonstrate an understanding of the varying stringency placed on information presentation [ENV201]
 27. Demonstrate the ability to design a research project [ENV201L; SOC317; ENV485]
 28. Demonstrate the ability to conduct research [ENV201L, ENV202L; SOC 317; ENV485]
 29. Demonstrate an understanding of the role science plays in environmental problem-solving [ENV100; CH102; ENV201, ENV201L; ENV202; ENV202L, GEO204; ENV313]
 30. Demonstrate the ability to put science into common written or spoken language [ENV100; ENV 201L; ENV485]
 31. Demonstrate the ability to write a proposal [SOC317]
 32. Demonstrate the ability to write a scientific research report [CH102L; ENV201L; ENV202L; ENV485]
- **Demonstrate and understanding of the roles and importance of laws, politics and economics in environmental issues**
 1. Demonstrate the ability to name and describe the general purview each of the major environmental acts [ENV300]
 2. Demonstrate knowledge of current major environmental justice issues [ENV100; ENV300; ENV400]
 3. Demonstrate an understanding of policy development procedures [ENV300]
 4. Demonstrate an understanding of the often central role of economics in environmental problem-solving [ENV301; ENV400]
 5. Demonstrate an understanding of some of the notable actual and proposed economic solutions to environmental issues [ENV301]
 6. Demonstrate an understanding of the role economics can/has played in generating environmental issues [ENV100; ENV301]
 7. Demonstrate an understanding of economic steady-state as well as growth models [ENV100; ENV301]
 8. Demonstrate an understanding of microeconomic principles [BU200]
 9. Demonstrate knowledge of the major socioeconomic issues that impact environmental issues [ENV301; ENV400; PSY434]
 10. Demonstrate an understanding of the economic challenges of recycling [ENV202; ENV301; ENV400]
 11. Demonstrate knowledge of the economics of urban infrastructure [ENV301]
 12. Demonstrate knowledge of the community planning processes [ENV300]
 13. Demonstrate knowledge of natural resource management [ENV100]
 14. Demonstrate knowledge of the economic values of natural resources [ENV301]
 15. Demonstrate knowledge of the economic values of biodiversity [ENV201]
 16. Demonstrate natural resource management field skills [ENV201L]
 17. Demonstrate an understanding of the role of politics in the environment [ENV100; ENV300; ENV400; ENV400]
 18. Demonstrate knowledge of the federal and state governmental agencies involved in the environment [ENV100; ENV300; ENV400]
 19. Demonstrate an understanding of the complexities of international environmental politics and lawmaking [ENV100; ENV300; ENV400]
 20. Demonstrate the ability to lobby/advocate via speech and writing [ENV100; COM310; EN405]
 - **Demonstrate an understanding of the major environmental issues and their potential solutions**
 1. Demonstrate the ability to identify and describe the major environmental threats to human health [ENV 100; CH102; ENV400]
 2. Demonstrate the ability to identify and describe the major threats to the health of global ecosystems [CH102; ENV201; ENV201; ENV400]

3. Demonstrate an understanding of the major socioeconomic and political causes of environmental issues [ENV301; ENV300; ENV400]
 4. Demonstrate an understanding of the environmental threats of urban sprawl [ENV400]
 5. Demonstrate an understanding of the complexity of environmental issues [ENV100]
 6. Demonstrate an understanding of the most current and pressing environmental issues in Hawaii and Oceania [ENV201; GEO204; ENV3XX; ENV400]
 7. Demonstrate an understanding of the role of non-governmental organizations in the process of environmental problem-solving [ENV100; through service learning]
 8. Participate in a “grass roots” effort conducted by NGO’s [through service learning]
 9. Demonstrate knowledge of some of the proposed solutions to each of the major global and local environmental issues [CH102; ENV201; ENV202; GEO204; ENV400]
 10. Demonstrate knowledge of “green” urban design [ENV201]
- **Demonstrate an understanding of the importance of the environment in our own health and well being**
 1. Demonstrate an understanding of how we are all directly and indirectly dependant on healthy nature for survival [CH102; ENV201]
 2. Demonstrate an understanding of the importance of nature experiences for our development [ENV100; ENV 331]
 3. Demonstrate an understanding of the role of building design to our well being [GEO 204]
 - **Demonstrate an understanding of how to seek a career in the environment**
 1. Demonstrate the ability to find environmental scholarships/internships while an undergraduate [through Enviro Studies Office]
 2. Gain experience working with diverse environmental professionals [via service learning; ENV485]
 3. Gain a number of environmental professional contacts in Hawaii [ENV100; ENV201; ENV300; ENV485]
 4. Demonstrate an understanding of what college experiences are valued by environmental employers [ENV100]
 5. Demonstrate an understanding of the varieties of environmental career opportunities [ENV100]
 6. Demonstrate an understanding of how to look for a job in the environment [ENV100; ENV485]
 7. Demonstrate an understanding of what kinds of graduate environmental programs there are [ENV485]
 8. Demonstrate an understanding of how to properly ask for a letter of recommendation [ENV485]
 9. Demonstrate an understanding of how to prepare a resume for employment [ENV485]
 10. Demonstrate an understanding of how to properly apply for a job in the environment/graduate school [ENV485]
 11. Demonstrate an understanding of how to successfully interview for a job [Chaminade Career Center]