Academic Affairs

ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT

Presented By:

Donald Rodriguez, Ph.D.
Chair and Assistant Professor

Overview of Degree with Learning Outcomes

Bachelor of Science in Environmenal Scence and Resource Management
Emphasis in Environmental Science
Emphasis in Resource Management
Minor in Environmental Science and Resource Management

Today's environmental problems call for individuals who are educated in more than one discipline, highly trained in technical skills, and aware of the political, economic, and social dimensions of environmental decisions. The Bachelor of Science in Environmental Science and Resource Management provides solid training in basic physical, biological, and social sciences, and application of management science to reduce adverse impacts of human activity on the environment and to maximize the benefits that accrue from environmental resources.

The B.S. program has two emphases: environmental science and resource management. This program prepares graduates specializing in one emphasis that understand basic principles embedded in the other related emphasis. Most required courses are those offered in related disciplines. The curriculum fosters cross-disciplinary communication in the several required courses common to both degree programs and particularly in the Environmental Science and Resource Management courses.

Students graduating from the ESRM program will be able to:

- identify the scientific, social scientific and huaisc apsects of environmental issues.
- identify, locate, evaluate, synthesize and present current research and information on environmental issues.
- define environmental problems from the perspectives of both environmental science and resource management.
- identify possible causes and propose solutions to environmental problems from the perspectives of both environmental science and resource management.
- evaluate proposed solutions to environmental problems from the perspectives of both environmental science and resource management.
- use the methodologies of the natural and social sciences to formulate testable hypotheses concerning environmental problems and issues.
- collect, organize, analyze, interpret and presnt quantitative and qualitative data.
- make use of current, technological tools in the collection, organization, analysis and interpretation of data.

Unique Attributes of the Program

The ESRM program has developed a strong sense of engagement and community presence through service learning and community based research projects. The program has successfully developed cooperative agreements and partnerships with the following organizations: Minerals Management Service, National Park Service: Channel Islands National Park, Santa Monica Mountains NRA, Department of Defense, Stanford University & Kafkas University in eastern Turkey, West Coast Environmental and Engineering, Weston Solutions Environmental Consulting, California Coastal Conservancy, Camrosa Water District, Ventura College, Moorpark College, University of Nevada Reno, Great Basin Institute, Western Foundation for Vertebrate Zoology, Ventura County Weed Abatement and Vector Control, University of California Cooperative Extension, Wishtoyo Foundation, Impact Sciences, ENSR, and Earthwatch Institute. These organizations have been research partners, provide student internships, and assist with service learning opportunities within the ESRM curriculum.

Careers

This curriculum prepares students for professional careers in Environmental Science and Resource Management and for subsequent graduate study. For graduates completing the program of study required for the BS degree in Environmental Science and Resource Management, there are ample career opportunities working on environmental problems in industry, government, and non-profit organizations. The degree also prepares students for graduate programs in either emphasis. For example, students might pursue a Ph.D. in Environmental Science at UCLA or in Environmental Science and Policy at UC Santa Barbara.

Accomplishments

Students (2004-2007)

Amy Spandrio (CSUCI ESRM Class of 2004). Assessing water quality on the Revolon Slough. Poster presented at the 32nd Annual Southern California Conference on Undergraduate Research. University California Riverside. November19, 2005.

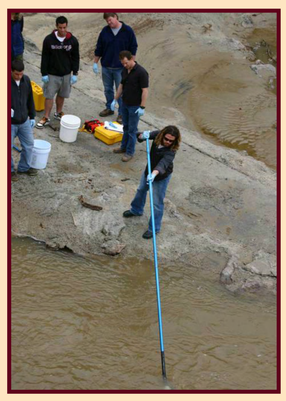
Sierra Kelso (CSUCI ESRM class of 2006) recently published in Ecological Restoration Dec. 2006 (24), 4 Visual cues to seed viability in Arundo Donax.

90% of all ESRM Graduates working in the environmental field as: Water Quality Analysts, City Planners, Environmental Assessment Specialists, Environmental Consultants, Geo-technical Consultants, Federal, State, and County Resource Management.

Faculty (2003-2007)

Created the ESRM Community Advisory Board to link with local environmental professionals and provide a mentor network for students Pi and Co-PI on grants totaling $568,000.00 at CSUCI and in partnership with Ventura College Geosciences Program

Made 15 presentations at invited symposia and conferences Published 4 peer reviewed journal articles and conference proceedings Published 4 technical reports.



Assessment Activities

This year, the ESRM program assessed the degree to which students can collect, organize, analyze, interpret and present quantitative and qualitative data. Students enrolled in their capstone course complete an empirical independent project and create a poster summarizing their projects. This year, ESRM and ESRM-affiliated faculty independently scored student presentations (for a total of 38 assessments) at the end of the Spring 2006 semester. Both the printed poster and student responses to reviewers' questions were considered in this evaluation and given an aggregate score from 1 (unacceptable) to 5 (excellent). Aggregate program assessments (grand mean=4.64, SD=0.45) averaged between "Very Good" (4) and "Excellent" (5). From this, ESRM concluded that students had achieved this learning outcome. Even so, ESRM determined that students' greatest shortcomings identified for improvement were aspects of the final technical presentation. In response to these findings faculty have developed a five-point plan to modify the program in ways designed to improve students' skills in this area.