



Global Sustainability Resource Center (GSRC)

2012-2013 Sustainability Related Majors and Minors at UC Irvine

B.A. Environmental Science

Gain a solid foundation to recognize the impacts of human activities on the environment. The Gulf Oil Spill. Global Climate Change. Drought and Water Supply. These topics illustrate the continuing need for environmental professionals with training in the natural sciences, social sciences, economics, and public policy. The Environmental Science (B.A.) program prepares students interested in environmental problem solving by linking an understanding of natural science with socioeconomic factors and public policy. The curriculum combines an understanding of environmental science, chemistry, and biology with studies of social science, policy, and economics to provide a foundation for careers in environmental policy, resource management, education, environmental law, and related fields. [<http://www.ess.uci.edu/undergrad/ba/requirements>]

B.S. Earth System Science

Gain a fundamental understanding of oceanographic, atmospheric and terrestrial sciences. Trekking through forests. Taking water samples at the beach. Analyzing the chemical content of samples. These activities illustrate the range of scientific exploration conducted by undergraduate students in Earth System Science (B.S.). ESS classes provide fundamental knowledge of oceanography, meteorology, geology, hydrology and environmental science. Through lab and field activities, students gain an understanding of how individual aspects of the environment interact, including the influence of humans. Students have the opportunity to conduct independent research alongside expert faculty, graduate students, and researchers. [<http://www.ess.uci.edu/undergrad/bs/requirements>]

B.S. Civil Engineering

Civil Engineering is described as the art of sustainably harnessing the natural environment to meet human needs. The success of this endeavor is evident all around us. The arid plain which greeted the early settlers in Southern California has been transformed into a thriving metropolis largely by the application of civil engineering. The goal of the Civil Engineering curriculum is to prepare graduates for a career in practice, research, or teaching. At the undergraduate level a common core of fundamental subjects is provided, and students are required to specialize in their senior year. Specializations are offered in General Civil Engineering, Environmental Hydrology and Water Resource Engineering, Structural Engineering, and Transportation Systems Engineering. Concentrations are offered in Computer Applications, Engineering Management, Infrastructure Planning, and Mathematical Methods. Graduate opportunities are in three major thrust areas: structural analysis, design, and reliability; transportation systems engineering; and water resources and environmental engineering.
[<http://plaza.eng.uci.edu/degree-program/civil>]

B.S. Environmental Engineering

Environmental Engineering involves designing environmental protection or remediation strategies for multiple resources-water, air, and soil, often with combinations of physical chemical, and biological treatment methods in the context of a complex regulatory framework. The goal of the Environmental Engineering curriculum is to prepare graduates with a strong basic science background, particularly in chemistry and biology, and to provide students with a broad exposure to several environmental engineering science disciplines. Courses relating to transport processes, water quality control, air quality control, and process design are included in the core.[<http://plaza.eng.uci.edu/degree-program/environmental>]

B.S. Ecology and Evolutionary Biology

The undergraduate major in ecology and evolutionary biology is designed for those students interested in the basic principles underlying organismal change over time, and how organisms interact with each other and their environment. The major is very diverse, and encompasses a wide variety of approaches. Courses cover topics in molecular biology, physiology, population and community biology, and ecosystem-level processes.
[<http://ecoevo.bio.uci.edu/undergrad/major.html>]

B.A. Social Ecology

The BA in Social Ecology prepares students for careers in a wide variety of

occupations. The training is explicitly interdisciplinary, providing a broad perspective that views ecological systems in a holistic fashion. [<http://socialecology.uci.edu/core/undergraduate-program>]

B.A. Urban Studies

Enables undergraduates a wide-range of curriculum choices in areas like Community Development, Environmental Sustainability, Environmental Design and Urban Governance. As the department name suggests, the Policy, Planning and Design Department is committed to weaving together the field of urban planning, public policy, and environmental design to produce graduates who are prepared to solve the complex problems of the 21st century. [<http://students.soceco.uci.edu/pages/urban-studies-major>]

B.S. Public Health Science

Students will gain an in depth understanding of the public health sciences while also engaging in the study of genetics, epidemiology, infectious and chronic diseases and global and environmental health sciences. Community engagement and research is available and encouraged in all programs of public health.

[http://publichealth.uci.edu/ph_docs/new_ugrad/phmajor_req_bs]

B.A. Public Health Policy

Students will gain the basic understanding principles of the health sciences as well as learn about the cultural, economic, social aspects of public health policy and management. Students will develop the skills to incorporate public health impacts into societal functions that ground their understanding of public problems. Community engagement and research opportunities are available and encouraged in all programs of public health.

[http://publichealth.uci.edu/ph_docs/new_ugrad/phmajor_req_ba]

Minor in Public Health

Coursework provides students with the fundamental knowledge and principles, applications, and skills needed to develop a firm appreciation of health and disease prevention at the population level, and the opportunity to use this special knowledge to transform the experience of their major education into innovative approaches for solving problems in health care and assessment. [http://publichealth.uci.edu/ph_docs/new_ugrad/phminor]

Minor in Earth and Atmospheric Sciences

The science of the Earth as a system has implications for many fields of study.

Students interested in understanding how the Earth's systems work can earn a bachelor's degree, while completing the requirements for a minor in Earth and Atmospheric Science. The program is primarily designed for students in the natural sciences and engineering who wish to explore interdisciplinary problems and broaden their studies to include the application of their fields to understanding the Earth system. [<http://www.ess.uci.edu/undergrad/eas>]

Minor in Global Sustainability

The Interdisciplinary Minor in Global Sustainability trains students to understand the changes that are needed for the human population to live in a sustainable relationship with the resources available on this planet. [<http://www.ess.uci.edu/undergrad/ga>]

Minor in Urban Studies

Urban planners design cities that thrive, manage government agencies that deliver, and build a better tomorrow for citizens in communities large and small. They work-locally, regionally, globally-as transportation planners, economic development specialists, city managers, landscape architects, urban designers, community health workers, city and regional planners. [<http://ppd.soceco.uci.edu/pages/minor-urban-studies>]

Minor in Civic and Community Engagement

Historically, civic engagement and community service emerged on US college campuses in the 1980's as "co-curricular" projects and activities, including student clubs and volunteer opportunities. Leaders in higher education recognize that, for maximum impact, civic and community engagement should also be firmly tied to the academic curriculum. Students benefit from opportunities to ground their classroom- based knowledge in real-world experiences. Students also gain more from community service when that service is based in a relevant academic framework. Finally, students who are interested in social and environmental issues can increase their impact by learning how to promote change, including through public policy, through the work of community-based and non-profit organizations, and through the development of leadership skills. [http://www.due.uci.edu/engagement_minor/index.html]