

**UCSB STARS Course List
March 2016**

Course Title	Department	Course #	Crosslistings	Professor(s)	Related or Focused	Env, Soc, Econ Component	Undergraduate/ Graduate?	Official Course Description	Justification (Developed for the purpose of STARS)
The Anthropology of Food	Anthropology	111		Kundu, Manasendu	Focused	Env, Soc, Econ	Undergraduate	Critical survey of different anthropological approaches of food production and consumption: biological implications of diet; relations between agricultural forms and political systems; the meanings of feasting; cooking, class; and gender; food and national identity.	This course examines the complex interaction between human biology, local environment, existing culture, global economy, and politics in the context of the selection of food we eat. The course looks at food as a resource and examines the implications of the production and scarcity of food in the world.
Issues in Contemporary Anthropology	Anthropology	235B		Hoelle, Jeffrey	Related	Env, Soc, Econ	Graduate	Survey of major theoretical trends since the 1960's. Topics include: political economy and Marxism; evolution, history, and anthropology; symbolic anthropology; development studies; gender studies; colonialism and nationalism; structuralism/post-structuralism; modernity and post-modernity; ecological anthropology. Topics may vary with each professor.	Ecological anthropology and human relationship with the natural environment since the 1960's are topics that are examined in this course.
Research Methods in Cultural Anthropology	Anthropology	240A		Hoelle, Jeffrey	Related	Env, Soc	Graduate	Designed to give students a solid grounding in basic research methods in cultural anthropology. Focus on the role of fieldwork, preparation for field research (ethics, health, and gender), systematic data collection, qualitative data base management and analysis.	This course is designed to give students an overview of basic research methods in cultural anthropology. The course also focuses on key issues and topics of importance for conducting fieldwork which includes the relationship people have with the environment around them.
Field Training Archaeology	Anthropology	194		Ford, Anabel	Related	Env, Soc, Econ	Undergraduate	Introduction to design of research projects and techniques of data collection in archaeology. The number of units taken in one course will depend on the amount of training and experience received.	This course involves working with data collection in the Maya forest and archaeological sites. The course correlates with Dr. Ford's research involving agroecology, environmental anthropology, and economic botany in the Maya city of El Pilar.
Gauchos, Cowboys & Indians	Anthropology	197JH		Hoelle, Jeffrey	Related	Env, Soc	Undergraduate	Intensive studies or projects focused on special problems related to Anthropology which are not covered by other courses.	This course analyzes the nature-culture dichotomy through examining the ways in which Western and Indigenous relationships with the environment are represented in history, myth, popular culture, and contemporary debates about environmental sustainability. Students will conduct research on local landscapes and cultural sites to uncover the ways that the nature-culture dichotomy continues to structure our perceptions of and engagement with the natural world.
Language, Culture and Place	Anthropology	115		Hoelle, Jeffrey	Related	Env, Soc	Undergraduate	Focuses on the dialectical interplay between humans and the environment and how people use language to classify, make sense of, and attribute moral and symbolic meaning to places and landscapes.	This class explores how humans use language to attribute meaning to the natural environment and landscapes
Seminar on Primate and Human Sexual Behavior	Anthropology	153T		Jaeggi, Adrian	Related	Env	Undergraduate	A critical examination of the nature and determinants of human sexuality, emphasizing evolutionary and cross-cultural approaches.	Students in this class learn about primate extinction as a result of habitat loss.
Behavioral Ecology of Hunter Gatherers	Anthropology	129MG		Jaeggi, Adrian	Related	Env, Soc	Undergraduate	A thorough introduction using a behavioral ecology approach to the diversity of behaviors found among foragers in Africa, South America, Southeast Asia, and Australia. Topics include: diet and subsistence, mating, demography, social behavior, mobility and settlement patterns, gender, indigenous rights, and conservation.	This course uses a behavioral ecology approach to study the behaviors of foragers in various regions of the world. Diet and subsistence, mobility and settlement patterns, and conservation are some of the topics which are discussed.
Hunters and Gatherers	Anthropology	127		Jochim, Michael	Related	Env, Soc	Undergraduate	What do Pygmies, Aborigines, and Eskimos have in common? What is the relationship between nature and culture in these simple societies? These questions and others will be examined through case studies and cross-cultural comparisons.	This course uses case studies to examine the relationship that societies such as Pygmies, Aborigines and Eskimos have with nature. The connection between natural environment and culture is examined further through cross-cultural comparisons.
Ethnology in Rural California: Transformations in Agriculture, Farm Labor, and Rural Communities	Anthropology	168		LaMon, Shelley	Related	Env, Soc	Undergraduate	Provides a systematic review of research by anthropologists and other social scientists on the development of agriculture and its effects on rural society. Special emphasis is given to the settlement of immigrant farm workers and the formation of new communities.	This course examines research that anthropologists and social scientists have conducted on the relationship between land/environment and societies by looking at the development of agriculture and effects on rural society. The course focuses on the settlement of immigrant farm workers and formation of new communities.

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Water and Society	Anthropology	147		Walsh, Casey	Related	Env, soc	Undergraduate	Covers the longstanding debate over the relation between irrigation and state formation, as well as current developments in the study of water and society. Emphasis is placed on people living in arid and semi-arid environments.	This course analyzes the relationship of society and water as a scarce resource. Topics covered are irrigation, arid and semi-arid environments and state formation.
Environmental Anthropology	Anthropology	152		Hoelle, Jeffrey	Related	Env, Soc		Examines human behaviors and perceptions of the environment across time and in different settings	Examines the ways that human beings interact with, use, and perceive the environment and nature. Beginning with contemporary American views of the environment and ideas of environmentalism, this course explores the social, historical, political, and economic foundations of human-environment relationships across time and in different parts of the world. The course also strives to give students a better understanding of the complexity of contemporary environmental issues and a grasp of core social scientific theoretical approaches to the study of the environment.
Coupled Human and Natural Systems: Risks, Vulnerability, Resilience, and Disasters	Anthropology/Environmental Studies	130A	Anthropology and Environmental Studies	Maldonado, Julie	Related	Env, Soc, Econ	Undergraduate	Examines human dimensions of global environmental change in developing countries from an interdisciplinary social science perspective. Compares and contrasts alternative conceptual and analytical models of dynamic, interrelated human-environmental systems and presents recent approaches to understanding risk, vulnerability, resilience, and disasters.	This course is intended to help students understand environmental problems from a multivariate view that includes historical, social, cultural, economic, and political factors, as well as perspectives from the biophysical sciences. The course introduces conceptual and analytical models of social-ecological systems and applies them to understanding environmental issues and natural systems.
Models and Experiments	Biology College of Creative Studies	101		Tyler, Claudia	Focused	Env, Soc, Econ	Undergraduate	Interplay between models and experimentation in the development of an understanding of the principles of biology.	This course title encompasses a variety of different courses. One course -- Ecology of Food -- considers the ecological, environmental, economic, and social impact of human's consumption of several different species of plant and animal.
The Urban Dilemma	Black Studies	129		White, Mia	Related	Env, Soc	Undergraduate	Examines the evolution of African-American urban communities. Focuses on theoretical and historiographical debates including: social organization; conditions; daily life; culture; social movements; sustainable development; and class, gender, race relations. Analysis of current policy debates and community initiatives.	This course examines the evolution of African-American urban communities and includes segments discussing the sustainable development and environmentally related social justice issues of these communities.
Race, Space, and Place (Official course title: Senior Thesis Seminar in Black Studies)	Black Studies	190		White, Mia	Related	Env, Soc	Undergraduate	Capstone course for the Black Studies major, designed to sharpen knowledge of major themes and strengthen skills in research, critical analysis, and writing. Emphasizes primary research and the writing of a major paper or thesis based on that research.	This course explores four topical themes: environmental justice/community health; gang injunctions; redistricting; and property ownership, in order to explore the relationship between the social and the spatial, the human and the environment, the racial and the spatial, and the political and the historical.
Race and the Just City	Black Studies	193MW		White, Mia	Related	Env, Soc	Undergraduate	Seminars focus on a specific topic chosen by the professor, involve in-depth reading of a number of works and the writing of papers on subjects chosen in consultation with the instructor. See department website for seminar titles.	This course examines issues of race and social justice in the context of social and environmental sustainability.
The Science and Engineering of Energy Conversion	Chemical Engineering	141		McFarland, Eric	Focused	Env	Undergraduate	Framework for understanding the energy supply issues facing society with a focus on the science, engineering, and economic principles of the major alternatives. Emphasis will be on the physical and chemical fundamentals of energy conversion technologies.	This course provides a rational framework for understanding the magnitude of the present challenges, beginning with the evolution of our current reliance on fossil hydrocarbons, a survey of potential energy resources, and a detailed study of the science and engineering principles of energy interconversion.
Biomaterials and Biosurfaces	Chemical Engineering	202	Chemical Engineering 102	Israelachvili, Jacob	Related	Env, Soc	Graduate	Fundamentals of natural and artificial biomaterials and biosurfaces with emphasis on molecular level structure and function and the interactions of biomaterials and surfaces with the body. Design issues of grafts and biopolymers. Basic biological and biochemical systems reviewed for nonbiologists.	This course looks at the chemical foundation of life and its impact on human nutrition.
Chemical Process Design	Chemical Engineering	184A		Doherty, Michael	Related	Env, Econ	Undergraduate	Application of chemical engineering principles to plant design. Spreadsheets and flowsheeting methods. Engineering cost principles and economic aspects.	This course focuses on the application of chemical engineering principles to plant design. Parts of the class include units on economic decision making and energy integration as related to plants.

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Chemical Process Design	Chemical Engineering	184B		Doherty, Michael	Related	Env, Econ	Undergraduate	The solution to comprehensive plant design problems. Use of computer process simulators. Optimization of plant design, investment and operations	This course focuses on the application of chemical engineering principles to plant design. Parts of the class include units on economic decision making and energy integration as related to plants.
Fundamentals of Environmental Chemistry	Chemistry and Bio Chemistry	123		De Vries, Mattanjah S.	Related	Env	Undergraduate	Study of Earth's biogeochemical cycles with respect to carbon, nitrogen, and sulfur. Introduction to the science of climate change, including effects of global warming on terrestrial and aquatic ecosystems. Environmental impacts of fossil fuel and biofuel technologies. Chemistry of the atmosphere, hydrosphere, and lithosphere, with emphasis on ozone depletion, photochemical smog, acid rain, global ocean acidification, soil and groundwater contamination, and environmental costs of industrialized agriculture.	Focuses of this course include the science of climate change, effects of global warming on terrestrial and aquatic ecosystems, and environmental impacts of fossil fuel and biofuel technologies.
The Brown/Black Metropolis	Chicano Studies	171		Armbrust-Sandoval	Related	Env, Soc	Undergraduate	Traces the transition of Browns/Blacks from a rural urban population and examines trends in family size, language, usage, segregation and social inequality. Issues of urban decay and community conflict are also examined.	This course examines social justice issues between Brown/Black urban populations and includes a section on environmental justice issues in relation to race and class.
Groundwater Hydrology	Earth Science	173	Geography 116	Clark, Jordan	Focused	Env	Undergraduate	Analysis of groundwater flow in complex geologic environments, aquifer properties, wells and groundwater contamination, surface water-groundwater interactions. Laboratory: basic groundwater experiments, Darcy's law, flow nets, solute dispersion, field measurements of bedrock groundwater, analysis of pumping-test data.	This course covers important topics in groundwater hydrology and hydrogeology. The course prepares students to analyze groundwater flow processes and applies key concepts in problem-solving, laboratory, and field practice.
Global Warming – Science and Society	Earth Science	130		Khider, Deborah	Focused	Env, Soc, Econ	Undergraduate	Introduction to the scientific and societal issues surrounding global climate change. Includes introduction to physical climatology, greenhouse effect, climate history, anthropogenic changes, and future predictions. Student discussion and debate on the potential societal scenarios available to mitigate future climate change.	This course examines the social, economic, environmental, and political impacts and implications of global warming and the future of energy and fossil fuels.
Earth's Climate: Past and Present	Earth Science	205		Lea, David	Related	Env, Soc	Graduate	Description and quantitative analysis of climate processes and paleoclimate proxies. Processes include radiation and the Earth's energy budget, the influence of orbital cycles, ocean circulation, monsoons, ENSO, and ice sheets. Paleoclimate reconstructions from tectonic-scale to the last millennium, with emphasis on glacial cycles and Plio-Pleistocene climate evolution.	This course examines human-environment interactions through the history of Earth's climate and its development into the climate today. The course examines Earth processes that affect climate, such as tectonics, the greenhouse effect, and glacial cycles. This course is the upper division form of EARTH 105.
Tracer Contaminants	Earth Science	169	Earth Science 269	Clark, Jordan	Related	Env	Undergraduate	Introduction to principles of chemical and isotope tracer hydrology. Emphasis on methods of groundwater dating, the use of tracers as management tools, and contaminate plume monitoring.	This course focuses on shallow groundwater and problems associated with groundwater contamination plumes, aquifer storage and recovery, and agricultural impacts.
Tracer Contaminants	Earth Science	269	Earth Science 269	Clark, Jordan	Related	Env	Graduate	Introduction to principles of chemical and isotope tracer hydrology. Emphasis on methods of groundwater dating, the use of tracers as management tools, and contaminate plume monitoring.	This course focuses on shallow groundwater and problems associated with groundwater contamination plumes, aquifer storage and recovery, and agricultural impacts.
Intro to Oceanography	Earth Science	4		Lea, David	Related	Env, Soc, Econ	Undergraduate	An introduction to oceanography covering the major physical, chemical, and geological features of the oceans, their role in earth history, and potential use as a natural resource. Lab and lecture.	This course includes a unit discussing the ocean's potential use as a natural resource.
Earth's Climate: Past and Present	Earth Science	105		Lea, David	Related	Env, Soc	Undergraduate	Description and quantitative analysis of climate processes and paleoclimate proxies. Processes include radiation and the Earth's energy budget, the influence of orbital cycles, ocean circulation, monsoons, ENSO, and ice sheets. Paleoclimate reconstructions from tectonic-scale to the last millennium, with emphasis on glacial cycles and Plio- Pleistocene climate evolution.	This course examines human-environment interactions throughout the history of Earth's climate and their development in today's climate. The course examines Earth processes that affect climate, such as tectonics, the greenhouse effect, and glacial cycles.
Physical Geology	Earth Science	2		Thomas, Sabina	Related	Env	Undergraduate	Introduction to the science of the Earth; properties and processes of its surface and interior, including plate tectonics, volcanism, earthquakes, glaciation, mountain building, formation of rocks, minerals, and the structural basis of landforms.	This course includes a unit discussing climate change and the study of Earth's resources.

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Antartica	Earth Science	10		Gautier, Catherine		Env	Undergraduate	The interrelations of the physical and biological environments on the continent Antarctica; Antarctica as an Earth System. Included are studies of tectonic history, global warming, ozone depletion, mineral resources, and the history of scientific exploration of the continent.	This course discusses climate change issues from the perspective of Antarctica. Topics covered include: tectonic history, global warming, ozone depletion, and mineral resources.
Environmental Justice in Asia	East Asian Culture Studies	141		Lewallen, Ann-Elise	Focused	Env, Soc	Undergraduate	Applies environmental justice, a tool for addressing social and ethnic/racial inequality in environmental conditions, to analysis of Asia. Contrasts mainstream environmental and sustainability models with the justice-based approach to analyze how local communities devise solutions for environmental crises.	This course examines issues of race and social justice in the context of social and environmental sustainability in Asia. The class also focuses on alternative approaches to traditional sustainability models.
Indigenous Movements in Asia	East Asian Culture Studies	140		Lewallen, Ann-Elise	Related	Env, Soc	Undergraduate	Examines the emergence of indigenous peoples as a new kind of political community in Asia. Reading across ethnographic, historical, and politic-legal perspectives, we will explore the material and symbolic benefits of claiming to be indigenous in non-western contexts.	This course includes a unit on indigenous people, development, and the environment.
Foundations of Ecosystem Restoration	Ecology, Evolution, and Marine Biology	128	Environmental Studies 128/Ecology, Evolution, and Marine Biology 228	D'Antonio, Carla	Focused	Env	Undergraduate	Integrates ecological principles with practical issues involved in ecosystem restoration. Beginning with the challenge of selecting goals and establishing a target trajectory, students evaluate how ecological knowledge can guide restoration and whether sustainable states or trajectories can be achieved.	This course examines various models and approaches to ecosystem restoration. It examines the application of restoration processes, as well as the adaptive management strategies used.
Ecological Constraints to Ecosystem Restoration	Ecology, Evolution, and Marine Biology	228	Environmental Studies 128, Economics 128	D'Antonio, Carla	Focused	Env	Undergraduate	Integrates ecological principles with practical issues involved in ecosystem restoration. Beginning with the challenge of selecting goals and establishing a target trajectory, students evaluate how ecological knowledge can guide restoration and whether sustainable states or trajectories can be achieved.	This course examines various models and approaches to ecosystem restoration. It examines the application of restorations, as well as the adaptive management strategies used.
Introduction to Ecology	Ecology, Evolution, and Marine Biology	120		Holbrook, Sally	Focused	Env, Soc, Econ	Undergraduate	Major concepts in population and evolutionary ecology. Theoretical, experimental, and field studies pertaining to population growth and regulation, competition, predation, diversity, adaptation and life history strategies.	Integral to this class is the idea of regulation as it pertains to population growth. This introduces a human element and implies a balance of various economic and social aspects.
Parasitology	Ecology, Evolution, and Marine Biology	111		Kuris, Armand	Focused	Env, Soc, Econ	Undergraduate	An ecological approach to parasitism. Survey of parasites of humans and other animals. Discussion of evolutionary, genetic, immunological, sociological, political, and economic aspects. Laboratory stresses anatomy and life cycles of living material	This class addresses the sociological, political, and economic consequences of parasitism, using an ecological approach.
Ecology of disease	Ecology, Evolution, and Marine Biology	40		Latto, John	Focused	Env	Undergraduate	Uses topical examples of emerging and resurgent diseases to illustrate key principles in ecology and epidemiology. Examines how changing disease ecology influences disease prevalence and how such changing patterns of disease have influenced human history.	This class examines how changing disease ecology influences disease prevalence and how such changing patterns of disease have influenced human history.
Plant Biodiversity	Ecology, Evolution, and Marine Biology	127		Mazer, Susa	Focused	Env	Undergraduate	Introduction to plant biology; the importance of plants to humans; taxonomic and ecological diversity; and evolutionary processes. Will serve as a foundation for all upper-division plant biology courses. Emphasis on life history variation; pollination; reproduction and mating strategies.	This class contains units on plants as they pertain to the human food supply and medical applications. It also looks at the evolutionary adaptations to such major shifts as climate change.
Ecology and Management of California Wildlands	Ecology, Evolution, and Marine Biology	119	Environmental Studies 119	Nate Emery	Focused	Env	Undergraduate	Explore ecological processes in California habitats and the challenges of their management through field trips, discussions with land managers, lectures and readings. Focus on regional habitats including specialized habitats such as coastal salt marsh and vernal pools, and more widespread such as oak savanna and chaparral.	This class looks at the challenges and constraints of managing wildlife ecosystems for conservation values. The class field trips include discussions with managers and visiting scientists who explore how ecological knowledge is used to manage wildland habitat or threatened species.
Ecosystem Processes	Ecology, Evolution, and Marine Biology	171		Schimmel, Joshua	Focused	Env, Soc	Undergraduate	An examination of the key processes that regulate ecosystem productivity and function in terrestrial ecosystems. Specific foci include: plant- soil linkages including decomposition and nutrient supply, and the role of above- and below-ground community composition on element cycles.	This class looks at the key processes that regulate ecosystem productivity and functions in terrestrial ecosystems. The nature of regulating ecosystems may include elements of human interaction.

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Levels of Biological Organization II: Communities & Ecosystems	Ecology, Evolution, and Marine Biology	509		Melack, John	Related	Env	Graduate	This is the second in a set of advanced courses in ecology and evolution, and includes modules on the origins of diversity, species interactions and coexistence, the causes and consequences of food-web complexity, and ecosystem level processes.	See course description
Ocean Processes	Ecology, Evolution, and Marine Biology	142B		Carlson, Craig	Related	Env	Undergraduate	A discussion of biological, chemical, physical, and optical processes in marine and freshwater environments and the linkage between these processes. Emphasis on primary production, global biogeochemical cycles, nutrient dynamics, and synoptic mapping of biological and physical patterns.	See course description
Biology of Fishes	Ecology, Evolution, and Marine Biology	106		Caselle, Jennifer	Related	Env	Undergraduate	The evolution, systematics, biogeography, and ecology of fishes.	See course description
Concepts and Controversies in the Biological Sciences	Ecology, Evolution, and Marine Biology	22		Even, Thomas	Related	Env, Soc	Undergraduate	Introduction to the principles of evolution as a foundation for understanding topics such as adaptation, physiology and ecology. Focuses on areas of biology that encompass important political, economic, social, and philosophical issues. Examines perspectives on currently relevant, and biologically based topics such as evolution / scientific creationism, sociobiology, biotechnology, right to life issues, animal rights, AIDS and other epidemics, and overpopulation.	This course mainly looks at evolution through species interactions; units on social issues such as the right to life and the effects of overpopulation on an ecosystem are included.
Issues in Marine Conservation	Ecology, Evolution, and Marine Biology	94		French, LeeAnn	Related	Env, Soc, Econ	Undergraduate	Seminar course exploring a variety of current conservation issues affecting California's coastal ecosystems. Seminars include a range of guest speakers working on the scientific issues underlying the marine conservation challenges.	Topics for this seminar course include major threats currently facing California marine ecosystems and many proposed approaches for mitigating threats and sustainably managing ecosystems. Case studies are used to highlight the biological, socio-economic, and political aspects of marine conservation.
Global Change Biology	Ecology, Evolution, and Marine Biology	55		Hofmann, Gretchen	Related	Env	Undergraduate	A general overview of the physical science of environmental change but with an emphasis on living organisms, the ecosystems in which they live, and the biological consequences of a changing planet. The course will cover terrestrial and aquatic systems with special emphasis on ocean and critical marine ecosystems.	This class looks at the biological consequences of a changing planet. Topics include an emphasis on living organisms, the ecosystems in which they live, and effects on critical marine organisms.
Global Change Biology	Ecology, Evolution, and Marine Biology	155C		Hofmann, Gretchen	Related	Env	Undergraduate	Explores the impact of environmental change (e.g., global warming, ocean acidification, drought) on ecosystems and organisms. Case studies and readings from the primary literature will be used. The course will cover both terrestrial and aquatic ecosystems.	Explores the impact of environmental change (e.g., global warming, ocean acidification, drought) on ecosystems and organisms. Case studies and readings from the primary literature will be used. The course will cover both terrestrial and aquatic ecosystems.
Applied Marine Ecology	Ecology, Evolution, and Marine Biology	152	Environmental Studies 152	Holbrook, Sally	Related	Env	Undergraduate	Introduction to the application of ecological principles and methods to environmental problems in marine habitats. Focus on problems that are local, regional, and global in scale. Concepts illustrated with case studies.	This course contains many sections on marine dynamics and communities. There is one specific section devoted to the impacts of climate change on marine ecosystems.
Conservation Ecology	Ecology, Evolution, and Marine Biology	168		Latto, John	Related	Env, Soc, Econ	Undergraduate	Introduction to the practical application of biological principles to conserving biodiversity. Covers tools and theory derived from both ecology and evolutionary biology such as metapopulation theory and population viability analysis as applied to real world examples.	Introduction to the practical application of biological principles to conserving biodiversity. Units may include emphasis on social and economic constraints to biodiversity conservation.
Conservation and Restoration Seminar	Ecology, Evolution, and Marine Biology	188 RE		Stratton, Lisa	Related	Env	Undergraduate	Seminar explores current topics in conservation biology and restoration ecology including basic and applied questions related to the conservation, restoration and management of populations, communities and ecosystems. Presentations and discussions may include model ecosystem studies, hands on restoration or conservation projects & lessons learned, and political, economic and philosophical issues.	This seminar course invites local professionals working on restoration projects to share information on the successes and difficulties behind a specific project. Speakers have represented such organizations as the National Park Service, the Coal Oil Point Reserve, and the Matilija Creek Arundo Control and Restoration Project.
Biodiversity and ecological Restoration Education Practicum	Ecology, Evolution, and Marine Biology	189	Environmental Studies 191	Thorsch, Jennifer	Related	Env, Soc	Undergraduate	Blending the science of biodiversity and ecological restoration with teaching and curriculum development for grades K-12. Topics include: science education, phenology, local biodiversity, plant and animal identification, and the watershed concept from coastal water to the near shore marine environment.	This class offers students the opportunity to design a curriculum which focuses on the environment or sustainability.

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Introductory Biology III	Ecology, Evolution, and Marine Biology	3		Carlson, Craig and Various		Env	Undergraduate	Introduction to the major groups of microbes, plants, and animals.	This course touches upon how diversity of life on our planet helps to maintain the large scale biogeochemical cycles as well as ecosystem services.
Natural Resources	Economics	260A		Andrew Plantinga	Focused	Env, Econ	Graduate	Capital theory and welfare economics applied to the primarily dynamic questions concerning the uses of nonrenewable resources such as minerals, the use of renewable resources such as fisheries and forests, and the preservation of species and natural environments.	This course examines the operation of markets for natural resources, including minerals, fossil fuels, forest resources, fish, water, and natural environments. The use of natural resources is ultimately linked to the release of waste products into the environment, so the course includes considerations of environmental degradation.
Collective Action and Open Access	Economics	260C		Libecap, Gary	Focused	Env, Econ	Graduate	Collective action problems addressing open access losses, including uncertainty, heterogeneous parties and information costs. Covers timing and nature of regulation and the assignment of property rights. Empirical topics include; water, air pollution, oil and gas extraction, and climate change.	This class provides a better understanding of the timing, nature, and impact of responses to open access losses. Such topics include the management of groundwater and oil and gas reservoirs; factors leading to deforestation; effective (and not so effective) responses to overharvest in fisheries; and transboundary problems, such as global emissions and migratory species.
Environmental Economics	Economics	260B		Oliva, Paulina	Focused	Env, Soc, Econ	Graduate	The primarily static theory of externalities and their correction. Covers basic theory of public bads and externalities, regulation theory related to environmental problems and applications, the valuation of environmental goods, transboundary pollution, and international trade and the environment.	The class focuses on the theory of public bads/externalities, regulation theory, and empirical analysis in the context of environmental problems and environmental valuation. By including transboundary pollution and the effects of international trade on the environment the course also offers a global dimension.
Natural Resource Economics	Economics	122	Environmental Studies 179	Deacon, Robert T.	Focused	Econ, Soc	Undergraduate	Microeconomic theory and capital theory applied to problems of conservation and management of natural resources. Analysis of public policy with special emphasis on nonrenewable energy resources, management of forests, deforestation and species extinction, and use of fish and game resources.	This class integrates economic and biological concepts in modeling. It examines how ownership institutions affect resource use and sustainability, as well as how economic concepts and analytical tools must be adapted to address natural resource topics.
Intermediate Environmental Economics	Economics	115	Environmental Studies 175	Oliva, Paulina	Focused	Env, Soc	Undergraduate	Provides a rigorous treatment of environment economics. Topics include welfare analysis, ethical dimensions of economic criteria for protecting the environment, measuring the demand for environmental goods, property rights, economic incentives, including marketable permits and emission fees, and regulating risk.	This class uses economic concepts to analyze issues related to the environment and natural resources. The course focuses mainly on developing the relevant economic methodologies but also uses current issues in environmental economics to discuss their application. The course is slightly short on policy and long on theoretical developments in the area of environmental economics.
Economic Development	Economics	114		Benelli, Cynthia	Related	Econ	Undergraduate	Applications of economic theory to the problems of developing nations.	This course studies the special problems faced by less developed countries (i.e. poverty and malnutrition) and the economic mechanisms in raising living standards. Topics include population growth, rural-urban migration, and agriculture issues.
Cultural Representations: Nature and the Environment	English	122NE		Gilmore, Timothy	Related	Env, Soc	Undergraduate	Perceptions of nature have changed throughout history and vary across cultures. Course explores changing expressions of our changing relations to the world we live in, with emphasis on cultural movements (films, literature, newspapers, etc.) that have affected contemporary American experience.	This course focuses on representations of environmental sustainability in literary and cultural texts from the Brundtland report of 1987 to the present day. This course also traces the history of sustainability in order to understand how sustainability affects and accommodates a changing world.
Cultural Representations: Nature and the Environment	English	122NE		Gilmore, Timothy	Related	Env	Undergraduate	Perceptions of nature have changed throughout history and vary across cultures. Course explores changing expressions of our changing relations to the world we live in, with emphasis on cultural movements (films, literature, newspapers, etc.) that have affected contemporary American experience.	This course focuses on representations of environmental sustainability in literary and cultural texts from the Brundtland report of 1987 to the present day. This course also traces the history of sustainability in order to understand how sustainability affects and accommodates a changing world.
Cultural Representations : Literature and the Environment: Imagining Asia and the Pacific	English	122AP		Shewry, Teresa	Related	Env	Undergraduate	Students on the wait-list must attend the first day of lecture/section to enroll in the course. For more information see the English Department Crash Policy.	This course explores how nature and the natural world are perceived of in literary texts. The course specifically focuses on texts from Asia and the Pacific.

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Cultural Representations : Literature and the Environment: Imagining Asia and the Pacific	English	122AP		Shewry, Teresa	Related	Env	Undergraduate	A study of literary works, paintings, films, and other representational forms as they influence cultural attitudes. The courses offered will focus on such topics as the body, the city, the everyday, the marketplace, and the machine.	This course explores how nature and the natural world are perceived of in literary texts. The course specifically focuses on texts from Asia and the Pacific.
Cultural Representations: Literature and the Environment	English/Environmental Studies	122LE	English	Horton, Zach	Focused	Env, Soc	Undergraduate	Environmental survey of Western literature that explores the often-ignored literary history of the natural world.	This course explores how nature and the natural world are imagined through literary texts. The course seeks to understand contemporary attitudes toward the environment through literary history.
Environmental Modeling	Environmental Science and Management	232		Dozier, Jeff	Focused	Env	Graduate	Introduction to the development, evaluation, interpretation, and presentation of models as applied to environmental problems. Course consists of theory and many practical examples building and interpreting models using computers.	Introduction to the development, evaluation, interpretation, and presentation of models, as applied to environmental problems. Course consists of theory and many practical examples of building and interpreting models, using computers.
Climate Change Biology	Environmental Science and Management	240		Airame, Satie	Focused	Env	Graduate	Biological changes in response to climate, their causes, emerging conservation responses and policy implications.	This course looks at biological changes in response to climate, their causes, and emerging conservation responses and policy implications.
Environmental Politics and Policy	Environmental Science and Management	241		Anderson, Sarah	Focused	Env, Econ	Graduate	The politics of environmental policy making from agenda formation to the stages of implementation, assessment, and reforms. Emphasis on national and state level policy making in the U.S. coupled with a consideration of interactions across levels of social organization and comparisons across socio-political systems.	This course focuses on the politics of environmental policy making from agenda formation to the stages of implementation, assessment, and reforms. It takes into consideration the interactions across levels of social organization and socio-political systems.
Environmental Policy Analysis	Environmental Science and Management	243		Anderson, Sarah	Focused	Env, Soc, Econ	Graduate	Developing and analyzing environmental policies involves balancing social, political, and economic considerations. This process is covered, including problem identification, formation of alternative policy responses, methods of analyzing and selecting the most appropriate policy response, and effective communication of results to clients/policymakers.	This class gives students the opportunity to develop and analyze environmental policies that balance social, political, and economic considerations.
Management of Soil and Groundwater Quality	Environmental Science and Management	223		Brown, Norm	Focused	Env	Graduate	Focuses on protection and remediation of contaminated aquifers. Covers the determination of groundwater quality objectives based on risk assessment, approaches for protecting or remediating aquifers and contaminated soils, and cost evaluation of management strategies.	The course focuses on protection and remediation of contaminated aquifers. It covers the determination of groundwater quality objectives, based on risk assessment, approaches for protecting or remediating aquifers and contaminated soils, and cost evaluation of management strategies.
Groundwater Management	Environmental Science and Management	226		Brown, Norm	Focused	Env	Graduate	Examines the principles and tools for groundwater management and stewardship of groundwater resources in the US and includes examples drawn from global groundwater management challenges.	This course looks at the principles and tools needed for groundwater management and stewardship of groundwater resources in the US; examples are drawn from challenges faced in global groundwater management.
Economics of Environmental Management	Environmental Science and Management	204		Costello, Christopher	Focused	Env, Econ	Graduate	Environmental regulation (incentives and command and control), asymmetric information (cost revelation and auditing), regulatory incidence, dynamics and discounting, exhaustible and renewable resources, valuation, environmental macroeconomics, trade and the environment, comparative regulatory analysis.	This course provides students with the economic analysis tools needed to address environmental problems. Topics covered in the class include environmental economics, the costs of environmental projects, benefits of environmental protection, and renewable natural resources.
Natural Resource Economics and Policy	Environmental Science and Management	242		Costello, Christopher	Focused	Env, Econ	Graduate	Economic principles and policy issues of the use of exhaustible and renewable resources including fossil fuels, water, minerals, fisheries, forests, and biodiversity. Management of resource markets on regional and international scale.	This class looks at the economic principles and policy issues of the use of exhaustible and renewable resources, including fossil fuels, water, minerals, fisheries, forests, and biodiversity. It also looks at the management of resource markets on regional and international scales.
Introduction to Entrepreneurship and New Venture Creation	Environmental Science and Management	256A		Cotter, Emily	Focused	Soc, Econ	Graduate	Introduction to entrepreneurship for students interested in launching a new product or service that offers an environmental and/or social benefit. Provides an entrepreneurial perspective and overview of the venture creation process. Emphasis on idea generation, opportunity recognition and initial concept development.	This class offers an introduction to entrepreneurship for students interested in launching a new product or service that offers an environmental and/or social benefit.
Advanced Special Topics in Environmental Science	Environmental Science and Management	299		Davis, Frank	Focused	Env	Graduate	Advanced Special Topics in Environmental Science.	This special topics class focuses on issues in environmental science. Topics vary from class to class, but include more than 50% sustainability-related content. Examples of issues covered: Biodiversity survey and monitoring methods.

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Earth System Science	Environmental Science and Management	203		Dozier, Jeff	Focused	Env	Graduate	Energy and mass transport as applied to the atmosphere, oceans, and land models of the earth's climate and hydrology.	We live on a planet. This course explains how the planet functions. General objectives include understanding global processes, such as climate change, the radiation balance of Earth, the hydrologic cycle, the natural and human influence on global patterns of soil erosion, and the interaction between policy-making and environmental predictions.
Mountain Snowpack	Environmental Science and Management	236		Dozier, Jeff	Focused	Env	Graduate	Intensive field, laboratory and classroom study of physical processes in mountain snowpack. Snow accumulation and ablation, metamorphism physical and chemical properties, and remote sensing. Role of snow in watershed hydrology, water resources and recreation. Normally offered spring break.	See course description
Remote Sensing of the Environment	Environmental Science and Management	266		Dozier, Jeff	Focused	Env	Graduate	Advanced introduction to remote sensing theory, technology, and applications in environmental science and management. Survey of principles and analytical methods throughout the electromagnetic spectrum. Integration of remote sensing with other tools.	See course description
River Restoration	Environmental Science and Management	233		Dunne, Thomas	Focused	Env	Graduate	Review of hydrologic, geomorphic, and engineering principles used in restoration of rivers, floodplains, and riparian zones for safety, land management, and ecosystem improvement. The course involves lectures and the analysis and reporting of general principles and case studies.	This class teaches students the principles and practice of restoring rivers and their underlying ecosystem values and services. It reviews the hydrologic, geomorphic, and engineering principles behind river restoration. Units include lectures on land management, ecosystem improvement, and floodplain restoration. This is important in order to recognize and reverse many of the negative impacts of human activities on rivers, and floodplains and return these environments to conditions that will sustain the ecological functions.
River Systems	Environmental Science and Management	234		Dunne, Thomas	Focused	Env	Graduate	Hydrologic and geomorphic basis of environmental management problems concerning large river systems. Analysis of the processes of flooding, sedimentation, and morphological change in channels, flood plains, deltas, and alluvial fans. Effects of climate, land use, and engineering.	This class covers the hydrologic and geomorphic basis of environmental management problems concerning large river systems. It looks at issues with river management, as well as the effects of large dams on reservoirs as related to sedimentation and morphological changes. Large river lowlands also sustain the livelihoods of millions of people and ecosystems around the world but are attractive environments for human activity. The course teaches the principles and practice of balancing hazards and productive resources to sustain economic activities as well as ecological values.
Watershed Analysis	Environmental Science and Management	235		Dunne, Thomas	Focused	Env	Graduate	Hydrologic and geomorphic basis of environmental management problems concerning land surfaces and channels in small drainage basins, including the effects of land use and engineering. Emphasis placed on the use of theory and field methods.	This course looks at the effects of land use and engineering on small drainage basins. It examines various environmental management problems related to hydrologic and geomorphic issues. The course teaches the principles and practices of land and water management to sustain landscapes that are productive and safe for humans while minimizing degradation of aquatic ecosystems.
Financial Management and Environmental Accounting	Environmental Science and Management	279		Edwards, Eric	Focused	Env, Econ	Graduate	Corporate financial management and reporting and environmental accounting. Function of stock markets, discounted cash flows, investment appraisal and decisions, valuation of bonds and stocks, the capital structure decision, the accounting model, management and control of enterprises, financial reporting and financial statement analysis.	This class focuses on corporate financial management and reporting and environmental accounting.
Geographic Information Systems	Environmental Science and Management	263		Frew, James	Focused	Env	Graduate	Advanced introduction to Geographic Information System (GIS) theory and technology, emphasizing spatial analysis and cartographic presentation. Typical algorithms and data structures. Role of GIS in environmental information management. Integration of GIS with other analytical tools.	This is an advanced introduction to Geographic Information System (GIS) theory and technology. The course emphasizes the role of GIS in environmental information management.

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Web Mapping/Publishing	Environmental Science and Management	264		Frew, James	Focused	Env	Graduate	Tools and techniques for publishing, accessing, and manipulating environmental information on the World Wide Web, including: web-services; scientific and geographic markup languages; virtual globes; distributed geographic information systems; open-source tools; geographic mash-ups.	This course examines the tools and techniques for publishing, accessing, and manipulating environmental information on the internet. This can help us better understand certain environmental issues.
Advanced Special Topics in Climate and Energy	Environmental Science and Management	293		Gaines, Steve	Focused	Env, Soc	Graduate	Advanced topics in climate and energy.	This special topics class focuses on issues in climate and energy. Topics vary from class to class, but include more than 50% sustainability-related content. Examples of issues covered: Science & Policy - Do they Mix?
Life Cycle Assessment	Environmental Science and Management	273		Geyer, R Palazzo, J	Focused	Env	Graduate	Advanced introduction to life cycle assessment (LCA) tools and practice. Students will conduct an LCA according to ISO 14040/44 (2006) using professional LCA software. Goal and scope definition, parametric life cycle inventory modeling, impact assessment, sensitivity analysis, reporting.	This course is an advanced introduction to life cycle assessment (LCA) tools and practice. Students will conduct an LCA related to environmental issues and management.
Industrial Ecology	Environmental Science and Management	282		Geyer, Roland	Focused	Env	Graduate	Introduction to the study of material and energy flows in industrial and consumer activities, their environmental impacts, and economic and operational implications. Course covers concepts such as green supply chain management, industrial ecosystems, life cycle assessment, and material flow analysis.	This course is an introduction to the study of material and energy flows in industrial and consumer activities, their environmental impacts, and economic and operational implications. The course covers concepts such as green supply chain management, industrial ecosystems, and life cycle assessment.
Energy, Technology and the Environment	Environmental Science and Management	288		Geyer, Roland	Focused	Env, Econ	Graduate	Covers the main physical principles of energy conversion and the environmental impacts related to it. Also explores the balance between resource availability and demand, and the relationship between energy use and technology.	This course covers the main physical principles of energy conversion and the environmental impacts related to it. It also explores the balance between resource availability and demand and the relationship between energy use and technology.
Conservation Planning and Priority Setting	Environmental Science and Management	270		Halpern, Benjamin	Focused	Env, Soc, Econ	Graduate	Analytical approaches that can be used to direct energy and resources toward conservation that yields the greatest return on investment. Case studies of how government agencies, international multilateral institution and non-governmental agencies identify where to invest their conservation efforts.	This course provides analytical approaches that can be used to direct energy and resources toward conservation that yields the greatest return on investment. Case studies include how government agencies, international multilateral institutions, and non-governmental agencies identify where to invest their conservation efforts.
Advanced Special Topics in Environmental Management	Environmental Science and Management	296		Halpern, Benjamin	Focused	Env, Econ	Graduate	Advanced Special Topics in Environmental Management.	This special topics class focuses on issues in environmental management. Topics vary from class to class but include more than 50% sustainability related content. Examples of issues covered: Applying Ecological Models to Manage & Conserve Natural Resources, Equity in the Managed Environment and Environmental Leadership.
Conservation Planning Practicum	Environmental Science and Management	270P		Halpern, Benjamin	Focused	Env	Graduate	In depth development and analysis of a specific conservation plan, from start (goal setting) to finish (spatially explicit recommendations). Practical application of theory and tools from ESM270. If appropriate, MESM Group Project locations can be used as the case study.	This course provides students with the opportunity to apply analytical approaches in conservation planning to a specific example.
Ethical Decision-Making for the Environment	Environmental Science and Management	276		Harris, Laurie	Focused	Env, Soc	Graduate	Ethical and legal issues surrounding environmental decision-making by individuals and in organizations. Environmental challenges facing public, non-profit and for-profit organizations. Analysis of behavior according to ethical standards; examination of opportunities for corporate social responsibility and initiatives; application of ethical frameworks to decision-making.	This course looks at the ethical and legal issues surrounding environmental decision-making by individuals and in organizations. It focuses on environmental challenges facing public, non-profit, and for-profit organizations.
Coastal Marine Policy & Management	Environmental Science and Management	257		Hastings, S	Focused	Env, Econ	Graduate	Overview of international, U.S. and California coastal and marine policy and management, including case studies and tools that can be used to inform and shape current and future policy and management actions.	This class presents an overview of international, U.S., and California coastal and marine policy and management, including case studies and tools that can be used to inform and shape current and future policy and management actions.

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Bioremediation	Environmental Science and Management	214		Holden, Patricia	Focused	Env	Graduate	Concepts and approaches to correct and alleviate the effects of environmental pollution using biological processes. Biochemical, ecological, and physicochemical aspects of remediation and mitigation. Assessing and monitoring applicability/efficacy of biological treatment. Natural and engineered methods for adversely affected biological resources.	This class looks at the concepts and efforts to alleviate effects of environmental pollution by using biological processes. It focuses on remediation, as well as mitigation of the adverse effects of pollution.
Microbial Processes in the Environment	Environmental Science and Management	219		Holden, Patricia	Focused	Env	Graduate	Microbes are the most abundant organisms on earth and are responsible for most biogeochemical cycling. Who and where are they, what do they do, and how? This course provides an integrated understanding applicable to managing the environment and natural resources.	This class focuses on the role of microbes in the environment. It emphasizes the importance of microbes in terms of the management of the environment and natural resources.
Advanced Data Analysis for Environmental Science and Management	Environmental Science and Management	244		Horst, Allison	Focused	Env	Graduate	Learn to use specialized data analysis techniques commonly employed in ESM. Topics include: environmental monitoring, incorporating methods for censored data and for time series; spatial data interpolation and prediction; and multi- criteria decision analysis.	This class teaches students to use specialized data analysis with regards to environmental management.
Principles and Practice of Environmental Planning	Environmental Science and Management	275		Jacobson, Tom	Focused	Env, Soc, Econ	Graduate	Principles, concepts, and techniques of environmental planning at the state, regional, and local government levels, with emphasis on emerging trends in addressing environmental problems. Green plans, sustainable communities, coastal planning, agricultural land preservation, smart development, new urbanism, and mitigation monitoring.	This course looks at the principles, techniques, and emerging trends in environmental planning at the local, regional, and state government levels. City and county "general plans" and their potential to address a wide range of environmental issues, climate action plans, healthy community planning, natural hazards and resiliency planning, planning and environmental impact assessment.
Organizations and Environmental Leadership	Environmental Science and Management	280		Jostes, J	Focused	Env, Soc	Graduate	Individuals play an important role in leading organizations toward environmental sustainability. Participants learn about their own behaviors, which can effectively influence the environmental decision-making of groups, organizations, and society. This course explores both theory and practice.	Individuals play an important role in leading organizations toward environmental sustainability. In this class, participants learn that their own behavior can effectively influence the environmental decision-making of groups, organizations, and society. This course explores both theory and practice of adaptive leadership as it pertains to environmental stewardship and change.
Environmental Negotiation	Environmental Science and Management	283		Jostes, John	Focused	Env, Econ	Graduate	Strategic negotiations take place daily. Their successful outcome depends on the competence of the negotiators. Using environmental case studies and negotiation exercises, course participants gain a hands-on understanding of the negotiation process and how they can influence it.	Using environmental case studies and negotiation exercises, course participants gain a hands-on understanding of multi-issue, multi-party negotiation dynamics and how they can craft long-lasting, sustainable environmental agreements.
Fate and Transport of Pollutants in the Environment	Environmental Science and Management	222		Keller, Arturo	Focused	Env	Graduate	Transport and biogeochemical transformation of pollutants in the environment. Review of pollutant properties and media characteristics that affect transport, accumulation, and degradation of pollutants. Basic tools for managing pollutants in the environment, including prevention, detection, and remediation.	This course reviews pollutants in the environment as related to transport, accumulation, and degradation. It includes units on managing pollutants in the environment to prevent, detect, and remediate.
Sustainable Watershed Quality Management	Environmental Science and Management	224		Keller, Ed	Focused	Env	Graduate	Integrates environmental science and management to address sustainable watershed management. Learn the elements of a watershed management plan and become familiar with the development process that takes into consideration various issues and concerns and provides concrete actions to address them.	This class looks at the human disturbance of the water cycle and the release of pollutants, the quantification of impacts and effects, and possible approaches to sustainable watershed management.
Laboratory in Management of Soil and Groundwater Quality	Environmental Science and Management	223L		Keller, Ed	Focused	Env	Graduate	A hands-on approach to learning how to sample and treat contaminated soil and groundwater. The series of lab modules covers field sampling, analysis, unit treatment processes, and a remediation design project. Students are presented with state-of-the-art technologies for dealing with contamination.	This class offers a hands-on approach to learning how to sample and treat contaminated soil and groundwater. Students develop solutions to soil and water contamination.
Corporate Environmental Management	Environmental Science and Management	281		Kelly, Sofia	Focused	Env	Graduate	This course prepares students to use creatively conceptual tools and management strategies to improve the environmental performances of firms. Corporate, societal, and political barriers to implementing these innovative strategies will be analyzed and methods for overcoming these constraints discussed.	This course prepares students to use creative conceptual tools and management strategies to improve the environmental performances of firms. Corporate, societal, and political barriers to implementing these innovative strategies are analyzed, and methods for overcoming these constraints are discussed.

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Advanced Climate Change Science for Policy Makers	Environmental Science and Management	239		Lea, David	Focused	Env	Graduate	This course will examine the science of climate change with a focus on those issues most relevant to policy makers. Professor Lea will draw on his experience serving as science advisor to the Special Envoy on Climate Change in the U.S. Department of State. Topics include: Climate Forcing Agents and their Efficacy; Climate Sensitivity and Feedbacks; Anthropogenic Climate Change; Extreme Events; Energy and Greenhouse Gas Emissions; Global Temperature Limits and Mitigation Scenarios; and Geoengineering. Discussion will focus on topical issues at the nexus of climate policy and science, such as mitigation of short-lived climate pollutants like black carbon.	This course will examine the science of climate change with a focus on those issues most relevant to policy makers. Professor Lea will draw on his experience serving as science advisor to the Special Envoy on Climate Change in the U.S. Department of State. Topics include: Climate Forcing Agents and their Efficacy; Climate Sensitivity and Feedbacks; Anthropogenic Climate Change; Extreme Events; Energy and Greenhouse Gas Emissions; Global Temperature Limits and Mitigation Scenarios; and Geoengineering. Discussion will focus on topical issues at the nexus of climate policy and science, such as mitigation of short-lived climate pollutants like black carbon.
Coastal Marine Ecosystems Processes	Environmental Science and Management	254		Lenihan, Hunter	Focused	Env	Graduate	Examination of physical, chemical, and geological processes in coastal ecosystems, including estuaries, that are influenced by human activities. Focus centers on dynamical processes that control biological communities and resources, and the relationship of the science to marine resource management and policy.	This class examines the physical, chemical, and geological processes in coastal ecosystems, including estuaries, that are influenced by human activities. It looks at the relationship of science within marine resource management and policy.
Applied Marine Ecology	Environmental Science and Management	260		Lenihan, Hunter	Focused	Env	Graduate	The application of ecological principles and methods to environmental problems in marine ecosystems. Emphasis is placed on design and execution of field sampling and experiments to assess biological impacts of anthropogenic disturbances and restoration activities. Concepts illustrated with case studies.	This class focuses on the application of ecological principles and methods to environmental problems in marine ecosystems. Emphasis is placed on design and execution of field sampling and experiments to assess biological impacts of anthropogenic disturbances and restoration activities.
Cost-Benefit Analysis and Nonmarket Valuation	Environmental Science and Management	245		Libecap, Gary	Focused	Env, Econ	Graduate	Economic theory of environmental policy, with special emphasis on the role of cost-benefit analysis. Techniques for estimating economic values for nonmarket environmental resources. Case studies involving ecosystem protection, pollution control, and other topics to illustrate the necessary analytical tools.	This class focuses on the economic theory of environmental policy, with special emphasis on the role of cost-benefit analysis. It teaches students techniques for estimating economic values for nonmarket environmental resources. Case studies include ecosystem protection and pollution control.
Environmental Markets	Environmental Science and Management	285		Libecap, Gary	Focused	Env, Soc, Econ	Graduate	Environmental and resource problems are due to incomplete property rights. Defining rights and using environmental markets can be an alternative to regulation. Emphasis on when this might be the case and analysis of markets in fisheries, water, land use, and emissions.	Environmental and resource problems are due to incomplete property rights. Defining rights and using environmental markets can be an alternative to regulation. This class provides an emphasis on when this might be the case and an analysis of markets in fisheries, water, land use, and emissions.
Ecotoxicology	Environmental Science and Management	213		Means, Jay	Focused	Env	Graduate	Ecotoxicology will examine the biochemistry and biology of the responses of organisms in ecosystems to the presence of substances in the environment that can cause adverse effects upon the organisms. The course will also present case studies from recent literature.	This course offers students the opportunity to study the adverse biological effects of various toxins in the environment and learn to perform risk assessments. These toxins can be natural or human-introduced.
Environmental Biogeochemistry	Environmental Science and Management	202		Melack, John	Focused	Env	Graduate	Biogeochemical processes as applied to the earth's atmosphere, oceans, land and inland water, and applications to environmental issues such as eutrophication, toxic pollution, carbon sequestration and acidification.	This course contains units on understanding air/water quality issues, drivers of pollution and solutions with regards to the carbon cycle, and emerging pollutants.
Science, Economics and Policy of Climate Change	Environmental Science and Management	229		Meng, Kyle	Focused	Env, Soc, Econ	Graduate	Natural and social science of climate change. Human causes, expected impacts and how systems might adapt. Greenhouse gas generation, possible mitigation strategies and policy actions, assessments of current and projected future change and strategies for ameliorating impacts. Use of an integrated assessment model.	Natural and social science of climate change. Human causes, expected impacts, and how systems might adapt. Greenhouse gas generation, possible mitigation strategies and policy actions, assessments of current and projected future change, and strategies for ameliorating impacts. Use of an integrated assessment model.
Business and the Environment	Environmental Science and Management	210		Potoski, Matt	Focused	Env, Econ	Graduate	Introduction to business objectives and structure, discuss new business models and tools that incorporate principles of environmental management and corporate performance. Emphasis on corporate strategies that deliver value to shareholders while responding to environmental concerns.	This course aims to better understand the factors affecting firm responses to the environment and resource problems, as well as how to work with firms as leaders to explore strategies for providing environmental and resource benefits. Topics include introduction to finance and marketing, environmental strategy and marketing environmental products, and environmental management within companies.

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Environmental Law and Policy	Environmental Science and Management	207		Salzman, James	Focused	Env, Soc	Graduate	Basic elements of the legal system as it specifically relates to environmental issues. Study of the different stages and different institutions involved in environmental policy making.	This class places equal emphasis on the scientific, political, and economic issues driving environmental conflicts. It examines environmental policies, such as the Clean Air Act, the Clean Water Act, NEPA, and the Endangered Species Act.
Advanced Special Topics in Environmental Law	Environmental Science and Management	294		Salzman, James	Focused	Env, Soc	Graduate	Advanced Special Topics in Environmental Law.	This special topics class focuses on issues in environmental law. Topics vary from class to class, but include more than 50% sustainability-related content. Examples of issues covered: Water Law, Climate Justice and Energy regulation law.
Carbon footprints and Carbon Accounting	Environmental Science and Management	271		Suh, Sangwon	Focused	Env, Econ	Graduate	Using the BSI's PAS 2050, the WRI's GHG Protocols, and the ISO14067, basic skills and knowledge necessary to establish corporate carbon accounts and to calculate carbon footprints will be covered.	This course teaches basic skills and knowledge necessary to establish corporate carbon accounts and to calculate carbon footprints.
Energy and Resource Productivity	Environmental Science and Management	272		Suh, Sangwon	Focused	Env, Soc, Econ	Graduate	Options for improving energy and resources productivity are evaluated from technology, economics, and policy point of view. Energy, housing, transportation and agro-food sectors will be elaborated, and energy-resource nexus will be discussed.	This class focuses on the options for improving energy and resources productivity from a technological, economic, and policy point of view. Energy, housing, transportation, and agro-food sectors are elaborated, and energy-resource nexus is discussed.
Climate Change Impacts and Adaptation	Environmental Science and Management	237		Tague, Christina	Focused	Env, Soc	Graduate	How does a changing climate impact natural and human-dominated systems. The use of observations and models to identify impacts that are already occurring and to project future changes and vulnerability. Strategies for adaptation at local, regional and global scales.	This course looks at adaptation strategies for the impacts of climate change on the local, regional, and global scale.
Group Project in Environmental Science and Management	Environmental Science and Management	401A		Tague, Christina (All Bren)	Focused	Env	Graduate	First quarter of a year-long group study of an environmental problem. Includes in-class training sessions to develop skills necessary to efficiently and effectively conduct the study.	This course is the first part of a year-long group study of an environmental problem. It includes in-class training sessions to develop skills necessary to conduct the study.
Ecology of Managed Ecosystems	Environmental Science and Management	201		Tilman, David	Focused	Env	Graduate	Principles of individual ecology, population ecology, community ecology, and ecosystem ecology. Emphasis on applications (conservation, resources management, ecological effects of pollution and habitat fragmentation, etc.).	This course looks at issues relating to human impact on the functioning, productivity, and sustainability of ecosystems at local to global scales. Such topics include human domination of global ecosystems, human population increase and dynamics, sustainable harvests of fish, sustainable agriculture, environmental impacts on food, the importance of biodiversity loss, climatic variations, and energy systems.
Water Policy	Environmental Science and Management	225		Wilkinson, Robert	Focused	Env, Soc, Econ	Graduate	Explores key water policy issues in the context of science, technology, and the practical management of water systems. Focuses on the nexus of science, technology, economics, law, and the role social and political factors play in the policy process.	Explores key water policy issues in the context of science, technology, and the practical management of water systems. Focuses on the nexus of science, technology, economics, law, and the role social and political factors play in the policy process.
Grassroots Organizing, Outreach & Campaigning	Environmental Science and Management	442		Alario, Celia	Related	Env	Graduate	Reviews the role and effectiveness of grassroots environmental efforts on local, statewide, and national scales. Students will explore organizing strategies and tactics based on various theories of change, addressing topics such as community outreach and collaboration, policy campaigning and more.	This course investigates the theory and practice of grassroots organizing, outreach and campaigning. The class offers an exploration of civic engagement and public action of all sorts. A deeper understanding of the communications strategies and tactic behind a variety of campaigns to create environmental justice and improve sustainability practices is developed.
Social Media and the Environment	Environmental Science and Management	445		Alario, Celia	Related	Env	Graduate	Students will learn about and use different social media tools to engage and activate social networks to generate environmental awareness and action	The class explores contemporary social media communication tools and practices utilized to communicate about the environment and sustainability.
Survey Design and Environmental Public Opinion	Environmental Science and Management	269		Anderson Sarah	Related	Env, Econ	Graduate	Issues of survey design, including sampling, questionnaire design, data collection and data processing. Students will design and field an original survey, analyze the survey data and report the results.	This class addresses issues of survey design, including sampling, questionnaire design, data collection, and data processing. Students can design an original survey, usually based on environmental public opinion.
Landscape Ecology	Environmental Science and Management	215		Best, Benjamin	Related	Env	Graduate	Relationship between spatial patterns in landscape structure (physical, biological, and cultural) and ecological processes. Role of ecosystem pattern in mass and energy transfers, disturbance regimes, species' persistence, and applications of remote sensing and GIS for landscape characterization and modeling.	This course allows students to study the relationships between spatial patterns in landscape structure (including physical, biological, and cultural patterns) and ecological processes.

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Strategic Planning for Non-Profit Ventures	Environmental Science and Management	230		Cotter, Emily	Related	Soc, Econ	Graduate	Strategic planning issues unique to non-profits. Provides an entrepreneurial perspective for charitable organizations, non-government organizations, social ventures and not-for-profit organizations. Topics include stakeholder analysis, the mission statement, strategic objectives and goals, board development, fiscal management and fundraising.	This class focuses specifically on Non-Profit organizations, thereby providing students with the tools to set up successful Non-profits that address environmental and social issues.
New Venture Opportunity Analysis	Environmental Science and Management	256B		Cotter, Emily	Related	Env, Soc, Econ	Graduate	Development of the analytical and conceptual skills required to assess the feasibility of a new venture opportunity. Topics include industry analysis, concept development, market definition, customer discovery, elements of a business model and competitive analysis.	This class focuses on examining the feasibility of a business solution that addresses both a customer problem and environmental problem.
New Venture Formation	Environmental Science and Management	402A		Cotter, Emily	Related	Env, Soc, Econ	Graduate	This course teaches students how to pursue opportunities for new ventures and transform them into real enterprises, focusing on development of viable business models.	Students in this course work on developing a viable business model that offers an environmental or social benefit.
Advanced Environmental Communication	Environmental Science and Management	440		Hutton, Richard	Related	Env, Soc	Graduate	Workshop to provide effective strategies for workplace writing. Focus of this course is on concise and targeted communication of a clear message. Students will also learn data visualization techniques and effective presentation slide and poster design.	Students in this course study how to effectively communicate environmental themes to a diversity of audiences, including the general public, policymakers, and funders. The course also examines how to develop compelling stories from good ideas, using conflict, drama, and character, and gain an understanding of the complex media environment so students can successfully get their environmental message out.
Applied Population Ecology	Environmental Science and Management	211		Kendall, Bruce	Related	Env	Graduate	Examination of the application of population ecology to conservation of rare species and management of harvested populations. Topics include population regulation, population viability analysis, fisheries management, metapopulation dynamics, and population monitoring.	In this class, students learn how to do quantitative risk assessment for endangered species and identify potentially efficacious management actions.
Writing about the Environment for the Public	Environmental Science and Management	444		Todd, Michael	Related	Env, Soc	Graduate	Explores written genres for scientists to educate and influence public audiences. Students will analyze and practice message/story development with emphasis on interviewing, analyzing and framing environmental issues in news. Students will complete course with media-ready work.	The focus of the class is teaching prospective scientists and policymakers how to present important and innovative environmental topics to the public and policymakers via the media.
Introduction to the National Environmental Policy Act and the California Environmental Quality Act	Environmental Science and Management	430		Willis, Mel	Related	Env	Graduate	This one-day workshop provides a basic understanding of the NEPA and CEQA processes for conducting environmental impact assessment (EIA) and familiarizes students with the differences between NEPA and CEQA	The course provides an overview of federal and California environmental law and policies for evaluating the environmental impact of proposed actions.
Quantitative Thinking in Environmental Studies	Environmental Studies	25		Berry, Lisa	Focused	Env	Undergraduate	Improve students' ability to deal with quantitative aspects of environmental topics by developing skills in algebra, computer use (Excel), graphing, and processing and conceptualizing environmental data by using numerical modeling. Collaborative learning is emphasized.	This course develops quantitative analytical approaches to examining environmental issues, such as agriculture, climate change, and ecology.
Industrial Ecology: Designing for the Environment	Environmental Studies	118		Brown, Michael	Focused	Env, Econ	Undergraduate	Industrial Ecology is a philosophical and methodical framework interwoven with concepts in ecology and economics used to aid in understanding of how industrial systems interact with the environment. Capital, energy, and material flows are examined and viewed in cultural context.	This course is an introduction to the field of industrial ecology and the practical application of sustainability principles to organizations and communities. The course explores theories of sustainability, resource and material flows, methodologies used in the field and the relationship between industrial ecology, business and innovation.
Waste Management: Product Stewardship, Recycling and Renewable Energy	Environmental Studies	172		Fore, Matthew	Focused	Env, Econ	Undergraduate	Overview of policy, technology, and economic dimensions of managing wastes in the twenty-first century. Covers the emergence of product stewardship, domestic and international recycling, composting of organic materials, conversion of organic materials to renewable energy, waste incineration and land filling.	This course studies the archaeology of waste; U.S. and European waste and composting; landfills and incinerators; product design for recyclability, waste reduction, and zero waste; and technologies to convert waste to energy, producing biofuels, electricity, and fuel chemicals.

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Chemistry of the Environment	Environmental Studies	15		Gardner, Helene	Focused	Env	Undergraduate	Application of chemical principles such as kinetics, equilibria, radioactive decay, and system modeling to environmental problems. Problems discussed include global cycles, carbonate chemistry, and global change. Interactions and consequences of human actions on the chemistry of the environment will be emphasized. Knowledge of algebra is assumed.	This course discusses the chemical processes behind many environmental issues, such as global climate change, energy from combustion, acid rain, and radioactivity.
Air Quality and the Environment	Environmental Studies	147		Gardner, Helene	Focused	Env	Undergraduate	Types, sources, effects, and control of air pollution. Topics include gaseous pollutants particulates, toxic contaminants, atmospheric dispersion, photochemical smog, acid rain control measures, the clean air act and regulatory trends, indoor air.	This course applies fundamental chemical principles in the context of atmospheric problems.
Introduction to the Social and Cultural Environment	Environmental Studies	3		Graves, Gregory	Focused	Env, Econ, Soc	Undergraduate	An introduction to the relationship of societies and the environment from prehistorical times to the present. The course is global in perspective, and includes history, literature, philosophy, economics, science, and culture as evidence for examining the human social environment.	This course assesses the relationship of human societies and cultures with the environment, from their beginnings to the present day. Particular emphasis is placed on contrasting various cultures with regard to their practices of environmental manipulation.
American Environmental History	Environmental Studies	173	History 173T	Graves, Gregory	Focused	Env, Soc	Undergraduate	Traces the history of American attitudes and behavior toward nature. Focus on wilderness, the conservation movement, and modern forms of environmentalism.	This course examines how historical changes in attitudes have resulted in society's attitude towards the environment today. The course traces economic, social, cultural, geographic, and scientific issues throughout history to understand how land, water, and resource issues of today are addressed.
Introduction to Environmental Science	Environmental Studies	2		Keller, Ed	Focused	Env, Soc	Undergraduate	Provides integration of fundamental science with environmental topics. Includes impacts of human population increase; principles of systems and change, biogeochemical cycles, ecosystems and global climate; energy and laws of thermodynamics; water supply and pollution; toxicology and risk analysis; air pollution and stratospheric ozone depletion.	This course studies the Earth as an interconnected living system. Students develop a modest acquaintance with the complex interactions of human use of the environment that society is struggling with. The course focuses on how to think critically about human population growth, sustainability, biogeochemical cycles, ecosystem processes, ecosystem management, global warming, and other issues.
Engineering and Environmental Geology	Environmental Studies	113		Keller, Ed	Focused	Env	Undergraduate	Application of geologic and environmental principles to civil engineering problems. Includes: rock and soil mechanics; landslides; hydrology; earthquakes; and professional practice.	This course discusses sustainability with regards to hazard and sustainable land-use planning.
Form, Process And Human Use Of Rivers	Environmental Studies	144		Keller, Ed	Focused	Env	Undergraduate	Basic understanding of fluvial (river) hydrology. In-depth evaluation of channel form and fluvial processes and impact of human use of rivers.	This course has some discuss of river restoration and river sustainability.
World Population, Policies, and the Environment	Environmental Studies	112		Kundu, Manasendu	Focused	Env, Soc	Undergraduate	History of global population growth, with emphasis on developing nations. Its socio-economic effects on a society and factors behind migration. Different views of Malthus, Marx, Boserup, and others and governmental policies to check rapid population growth will also be discussed.	This course examines the history of global population growth and current factors involved in population growth around the world. The course investigates how the world's population growth affects e socio-economic situations and the bio-physical environment
Human Behavior and Global Environment	Environmental Studies	132		Kundu, Manasendu	Focused	Env, Soc	Undergraduate	Study of global environmental impacts of major human technological innovations, including the use of fire, development of agricultural tools, and the process of industrialization. Evaluation of prospects for altering human behavior to encourage sustainable development is included.	This course focuses on how the current environmental crises of the planet developed and investigates the human behavior that may have been root causes of environmental issues. The course looks at the impact of anthropogenic forces, such as agriculture, industrialization, and a global economy and how they affect the environment. Also it compares the differences of values toward nature found in eastern and western cultures. Finally, the course attempts to determine the ideal behaviors that could bring a sustainable future.
Foundations of Environmental Education	Environmental Studies	127A		Lewin, Bridget	Focused	Env, Soc	Undergraduate	Introduction to the underlying principles to be an environmental educator. Includes understanding the fundamental characteristics and goals of Environmental Education (EE), evolution of the field, instructional methodologies, and how to design, implement, and assess effective EE instruction in a variety of disciplines, including: nature connection, environmental justice, outdoor education, and primary, secondary, and higher education. Course includes presentations by local EE professionals and field trips.	Within this course, the students engage in learning the pedagogy for environmental education and sustainable development education, with the intention of completing a practicum in which they teach a unit of instruction to local students and varied audiences.

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Advanced Environmental Education	Environmental Studies	127B		Lewin, Bridget	Focused	Env, Soc	Undergraduate	Students learn advanced teaching skills, mentoring strategies, and methods of assessing Environmental Education (EE). Course provides the opportunity to implement and evaluate one's own EE project in a self-selected local organization, school, agency, or other educational setting. Provides real-world teaching experience with support from EE professionals. Students create a portfolio to showcase their community environmentally educational placement.	The course provides the opportunity to learn advanced teaching skills within Environmental Education. Students work with the community and gain hands-on sustainability-related teaching experience.
Environmental Policy And Economics	Environmental Studies	174		Lewin, Roland	Focused	Env, Econ	Undergraduate	Introductory course on economic analysis of environmental policy. Topics include incentives and regulation, protection of the stratospheric ozone layer, global climate change, and equity issues.	This course examines how our market-based system has played a role in environmental degradation. The course also covers the environmental, economic, and social factors in issues such as environmental policy, energy, population growth, and sustainable development.
Water Quality	Environmental Studies	162	Geography 162	Loaiciga, Hugo	Focused	Env	Undergraduate	Study of physio-chemical and biological characteristics of natural waters, analysis of water pollution and treatment, water-quality regulations. Laboratory: independent and supervised research of water pollutants and treatment, quantitative analysis of water-quality data and one-day field work.	This course conducts a comprehensive review of the physical, chemical, and biological characteristics of surface water and ground waters and studies the treatment and management of chemically and biologically polluted waters.
Solar and Renewable Energy	Environmental Studies	105		Manalis, Melvyn	Focused	Env, Soc, Econ	Undergraduate	How solar and renewable energy fits with environmental-energy options in both developed and developing nations. Technologies are studied in terms of their effects on the physical, social, and biological environment. Demonstrations, field trips, and guest lecturers.	This course examines direct and indirect solar technologies in terms of their effects on the physical, social, and economic environments. The course also discusses environmental-energy relationships, energy crises, and solar energy utilization. Other topics covered include passive and active solar heating and cooling, energy from photosynthesis, photovoltaics, wind and wave energy, ocean thermal energy conversion, and other solar electric systems.
Energy and the Environment	Environmental Studies	115		Manalis, Melvyn	Focused	Env, Soc, Econ	Undergraduate	Focus on learning how to use energy efficiently in accordance with the laws of thermodynamics and in harmony with the environment. Topics include the nature of energy and the fundamentals for a sustainable environmental energy policy.	This course examines the basic issues surrounding the environment, the global economy, and major social problems as they relate to energy and energy efficiency.
Environmental Impact Analysis	Environmental Studies	165B		Mohr, Greg	Focused	Env, Soc, Econ	Undergraduate	Advanced seminar during which students prepare their own focused environmental impact report on a specific development project. Includes in-depth discussion of baseline, mitigation, impacts, and public comments. Assignments based on research and fieldwork provide reality professional environmental planning experience.	This course expands on the fundamental ideas presented in ENV S 165A in regards to environmental impact assessment and applies them in an environmental impact report project that is completed throughout the quarter. This project is supplemented with seven written assignments that build up to the final product. Emphasis is given to identifying potentially significant adverse impacts of a hypothetical development project on campus; the identification of feasible measures to avoid or reduce such impacts; and describing project alternatives that would accomplish the basic project objectives while avoiding or reducing such impacts. Field work also is involved: one visit to the project site and another to see actual mitigation measures being implemented for actual campus development (sites vary, based upon best opportunities).
Critical Thinking About Human-Environment Problems and Solutions	Environmental Studies	106		Pulver, Simone	Focused	Env, Soc	Undergraduate	Focus on two interrelated aspects of human-environment interactions where shortfalls in critical thinking are important - our thinking about human-related "problems and causes" and potential "solutions." Gain feel for seductiveness of common misconceptions and learn why to move beyond them.	This course critically evaluates how humans interact with the environment, based on information, technology, incentives, and values. The course also investigates human behavior and techniques for interacting with the environment, as well as how the above strategies are involved in formal and disruptive politics to affect individual choices.
International Environmental Law and Politics	Environmental Studies	131		Pulver, Simone	Focused	Env, Soc	Undergraduate	An examination of the actors and institutions of international environmental law and politics, with an emphasis on explaining patterns of success and failure in addressing global environmental problems.	This course investigates global environmental problems such as climate change and biodiversity loss through the lens of international environmental politics.

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Business and Environment	Environmental Studies	139		Pulver, Simone	Focused	Env, Soc	Undergraduate	Analysis of the practices of environmentally responsible firms and of the drivers of business greening at the level of individual firms, particular industries, and of the economy as a whole.	This course explores the strategies corporations use when they "go green" and what prompts corporate behavior to adopt sustainable production and management systems.
EcoPsychology	Environmental Studies	129		Pye, Lori	Focused	Env, Soc	Undergraduate	Course explores the theories and practices of psychologists, educators, and others whose work is focused on the connections between "inner" human nature and "outer" nature within which humans experience themselves and the rest of the world.	Ecopychology recognizes that the psychology of the individual is reflected in the psychology of the culture, of our nations, and in our world's complex issues, and that all life systems (personal, social, ecological, economic, and cultural) are linked through multiple narratives and relationships. This course investigates how humans, as individuals and as a culture, have come to interact with the planet in an "eco-suicidal" way. The course examines and discusses how a sustainable psychological system directly impacts the sustainability in all other systems.
Endangered Species Management	Environmental Studies	143		Schindlinger, Michael	Focused	Env, Soc	Undergraduate	Examination of the protection and management of endangered species through analysis of the state and federal endangered species acts. Topics include biodiversity, speciation and extinction rates, the history of endangered species legislation, and selected species' case studies.	This course examines issues of species conservation and how to identify and address the causes and challenges of endangered species management.
Environmental Impact Analysis	Environmental Studies	165A		Stone, David	Focused	Env, Soc, Econ	Undergraduate	Analyzes the historical and theoretical approaches to environmental assessment methodology and procedures for preparing and reviewing environmental impact reports. Explores strengths and weaknesses of current public policy context.	This course covers the basis for undertaking development project environmental impact assessments. It presents strategies used by environmental planners to illustrate the environmental outcome of these projects by comparing them to existing conditions, analyzing the significance of project disturbances, and identifying design solutions (mitigations) to avoid or minimize potential damage and promote sustainable policy objectives. The course also explores how these techniques are used to influence short- and long-term decisions that shape our community.
Principles of Environmental Planning	Environmental Studies	135A		Wack, Paul	Focused	Env, Soc	Undergraduate	Introduction to the history, theory, and trends of urban, regional, and environmental planning in both California and the United States. Field trips to local urban areas.	This course looks at environmental planning and the natural and human systems involved. The course covers the economic, social, and environmental factors involved in sustainable environmental planning.
Advanced Environmental Planning	Environmental Studies	135B		Wack, Paul	Focused	Env, Soc	Undergraduate	Advanced seminar applying principles presented in environmental studies 135A to regional and local government planning processes. Field analysis of local planning issues.	This course investigates environmental planning, specifically in terms of prevention of future environmental degradation. Comprehensive and strategic land use planning and planning for future sustainability are core topics in this course.
Building Sustainable Communities	Environmental Studies	116		Wilkinson, Robert	Focused	Env, Soc, Econ	Undergraduate	Examines sustainability, communities, and urban systems in a global context. Covers impacts cities have on the environmental systems that support them, and explores ways to improve urban systems through technology, policy, and design.	This course examines sustainability through the context of urban systems. The course examines the environmental systems, economic costs and benefits, and social involvement in urban systems.
Science and Policy Dimensions of Climate Change	Environmental Studies	117		Wilkinson, robert	Focused	Env, Soc, Econ	Undergraduate	Climate change and variability due to global warming is a critical environmental, social, and economic issue. Course will review the scientific basis of our understanding of climate change and policy responses to the problem including "no regrets" and multiple-benefit responses.	This course examines climate change and variability due to global warming as a critical environmental, social, and economic issue.
Water Policy in the West: Linking Science with Environmental and Economic Values	Environmental Studies	176A		Wilkinson, Robert	Focused	Env, Soc, Econ	Undergraduate	Examines water supply and use, the science of water systems and watersheds, key concepts in water policy, and the basics of water law as a fundamental element of the history and context for water policy in the West.	This class explores water policy and the nexus between water policy, energy and climate policy, environmental issues, and economics. The course examines these issues and their broad environmental, social, and economic significance.
Advanced Study of Water Policy	Environmental Studies	176B		Wilkinson, Robert	Focused	Env, Soc, Econ	Undergraduate	Students are in the field full-time for approximately two weeks to study watersheds and water systems including Yosemite/Hetch Hetchy, Mono Lake, and the state and federal water systems in California.	This course is a follow-on from ENV 176A and includes a field study of the same material. The course still focuses on policy issues of broad environmental, social, and economic significance.

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Introduction to Environmental Studies	Environmental Studies	1		Alagona, Peter	Related	Env, Soc	Undergraduate	"Environmental Studies" requires insights from many disciplines, including the social as well as biophysical science and the humanities. This introduction offers an overview of the field, examining both our planet and the ways in which we humans depend on it.	This course explores some of the big questions in the field of environmental studies and provides a holistic, integrative, and interdisciplinary perspective on a range of complex environmental problems and solutions. This course is divided into three sections: environmental processes, environmental policies and politics, and major environmental problems.
Environmental Communications: Contemporary Strategies and Tactics	Environmental Studies	161		Alario, Celia	Related	Env, Soc	Undergraduate	Surveys strategies and tactics for communicating about the environment and sustainability in various organizational, political, cultural, business, mass media and social media contexts. Students will analyze, evaluate and practice communications methods using a spectrum of communications channels.	This course surveys contemporary communications practices utilized to address issues of the environment and sustainability.
Colloquium On Current Topics In Environmental Studies	Environmental Studies	190		Alario, Celia	Related	Env	Undergraduate	Required attendance a six public lectures dealing with environmental topics. Weekly discussion sections on the lectures and brief written evaluations of six lectures. Open to all students.	This course provides insight into current issues in diverse areas that constitute environmental studies.
Human Environmental Rights	Environmental Studies	185		Cremers, Mathea	Related	Env, Soc	Undergraduate	Introduction to human environmental rights. Examines the expansion of human rights to include human environmental rights, abuses of human environmental rights, associated social conflicts, and emergent social movements including environmental justice and transnational advocacy networks.	<i>This course expands human rights to include human environmental rights, therefor examining the role social groups and emerging social conflicts play in environmental protection.</i>
Gender and the Environment	Environmental Studies	184		Cremers, Mathea	Related	Env, Soc	Undergraduate	A philosophical, evolutionary, and cross-cultural analysis of the ways women and men may relate differently to their environment resulting in the design of gender-sensitive and sustainable policies for planning and development in both the developing and the developed world.	This course examines the different ways men and women relate to the environment. The course investigates the role of ecofeminism and the way gender affects specific development projects that affect the environment. The course connects the anthropological debate of nature, culture, and female and male with the environment.
The Ethics of Human-Environment Relations	Environmental Studies	188		Graves, Gregory	Related	Env, Soc	Undergraduate	Survey of contemporary environmental ethics, focusing on both philosophical and applied issues. Topics include anthropocentrism and its alternatives, the role of science and aesthetics, multicultural perspectives and the problem of relativism, and the conflict between radical and reformist environmentalism.	This course connects human behavior and the environment through the discussion of ethics. The course explores the historical development of environmental ethics and modern issues of environmental ethics.
Coastal process and Management	Environmental Studies	134		Keller, Ed	Related	Env	Undergraduate	Using representative coastal regimes, students study the major processes at work in our nation's coastal zones and examine the nature and efficacy of the planning and management programs that have been put in place in these areas.	This course includes a unit on coastal zone management.
Principles of Environmental Law	Environmental Studies	125A		Krop, Linda	Related	Env	Undergraduate	An introduction to the history and methodology of law as it relates to human use of the environment. Case studies are used to examine common law, constitutional and modern environmental laws, with an emphasis on current theories and principles.	This course focuses primarily on federal environmental law and assesses the development of environmental law through a review of ethical, cultural, and legal principles.
Land Use and Planning Law	Environmental Studies	125B		Krop, Linda	Related	Env	Undergraduate	An examination of local, state, and federal laws regulating land use and development. Selected problems analyzed through case studies.	This course focuses on the development of land use laws in California and how the legislative process concerning these laws affects the government and the people of California.
American Environmental Literature	Environmental Studies	160		Kryder, LeAnne	Related	Env, Soc	Undergraduate	Assesses contributions of literary texts to american environmental movements. Examines influences of writers such as Thoreau, Rachel Carson, and Edward Abbey upon environmental perceptions, values, and attitudes in american cultural history and upon rhetorics and politics of contemporary environmental debates.	In this course, students read, discuss, and write about classics from American Environmental Literature by authors such as Thoreau, Aldo Leopold, Rachel Carson, and Edward Abbey as they explore human-environmental connections.
Religion and Ecology in America	Environmental Studies	189	Religious Studies 193	Talamantez, Ines	Related	Env, Soc	Undergraduate	An overview of the growing field of religion and ecology in the Americas. Focus on spiritual traditions and landbased knowledge indigenous to the Western hemisphere.	This course explores the connection between our inner human nature and the natural world by examining the environmental impact that arose out of colonialism. The course also discusses how the perception of nature has changed across culture over time.

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Environmental Ecology	Environmental Studies	100		Tyler, Claudia	Related	Env, Soc, Econ	Undergraduate	A study of principles of ecology and their implications for analyzing environmental problems. Focus on understanding the processes controlling the dynamics of populations, communities and ecosystems. Specific examples emphasize the application of these concepts to the management of natural resources.	This course includes a unit on sustainable harvests, invasive species control, and conservation and restoration ecology.
Films of the Natural and Human Environment	Environmental Studies	183		Wack, Paul	Related	Env, Soc	Undergraduate	Course presents a series of popular films and professional documentaries representing a range of trends, images, and issues associated with the natural and human environments. Visual images and critical thinking skills are combined to enhance understanding of environmental issues presented by the media.	This course presents a series of popular films, professional documentaries, and short subjects that represent a wide range of trends, images, and issues associated with the natural and human environment. The course demonstrates the importance of understanding the power of "media literacy" and applies this skill in evaluating the message provided by a film when portraying the environment.
Perspectives on Women's Health	Feminist Studies	130		Oaks, Laury	Related	Env, Soc	Undergraduate	Investigation of the power that medicine has in shaping health experts' and lay individuals' understandings of health and health practices. Particular attention is paid to how women's health issues come to be seen as "social problems," past and present.	This course includes a segment that discusses activism by women in the realm of environmental justice in relationship to women's health.
Media and Environment: Climate Justice	Film Studies	252CJ		Walker, Janet	Focused	Env, Econ	Graduate	Close examination of a topic in cultural studies.	This course is designed to realize, study, and act in relation to media's profound embeddedness in local and global media ecologies of extraction, production, distribution, consumption, inhabitation, representation, and wastage. Topics to be addressed through the critical literature of what is necessarily an interdisciplinary endeavor include: sustainable media practices; "digital earth" mapping; the biopolitical and the geologic; social ecologies of disaster and disadvantaged communities; critical and participatory GIS; and green media activism.
Introduction to Environmental Media	Film Studies	182		Hutton, Richard and Hessler, Jennifer	Focused	Env, Soc	Undergraduate	Ties the acquisition of critical viewing skills for film to the practice of conceiving and writing short environmental documentaries. Students screen narrative films and documentaries, deconstruct them, and use their new proficiency to write their own documentary treatments.	This course ties the acquisition of critical viewing skills for film to the practice of conceiving and writing short environmental documentaries. Students screen narrative films and documentaries, deconstruct them, and write their own documentary treatments.
Sponsored Campus Production	Film Studies	118		Jenkins, Chris	Related	Env	Undergraduate	An interface with campus "clients" who provide the budget and goals for crew projects.	This 4-unit course is a project-based environmental media production course. Students work in small teams to create their own environmental video production to increase awareness about the environment and the ways in which these issues are represented and communicated.
Cities of Italy	French and Italian	148X		Snyder, Jon	Related	Env, Econ	Undergraduate	A close-up look at the great texts, histories, and cultures of Italian cities such as Rome, Venice, Florence, Ferrara, and Naples. In English.	The first half of this course considers Venice and its Lagoon, and the problem of sustainable development in relation to the environment, with which the city--perhaps the most beautiful built by humankind--exists in an increasingly precarious equilibrium (rising sea levels, pollution, mass tourism, etc.). The second half of the term is on Naples and its relationship with Vesuvius, upon whose slopes the city is growing uncontrollably: the problems of sustainability vs economic growth, urban planning, environmental crime are all interrelated aspects of life under the volcano.
Seminar on Climate Change	Geography	280		Michaelson, Joel	Focused	Env	Graduate	A series of lectures and seminars on diverse research topics on climate change.	Focuses on diverse research topics related to climate change.
Population Geography	Geography	141A		Banks, Jacqueline	Focused	Env, Econ	Undergraduate	Various geographic dimensions of human population dynamics: fertility, mortality, and migration. The concepts and language of demography are introduced. The causes and consequences of population dynamics are investigated, including links among population, environment, and development.	The goal of this course is for students to understand population dynamics, how populations change over time and space, current and past trends etc., so that they can think critically about population trajectories and their implications. The consequences and covariates of population change affect the economy, the environment, cultures and societies. Thus, sustainability is a recurring theme within these focuses.

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Introduction to Marine Resources	Geography	158		Bell, Thomas	Focused	Env	Undergraduate	Introduction to the marine resources of the California coast. The interplay of oceanographic, climatic, biogeochemical and geologic factors and the influences of humankind will be addressed. Topics include: climate, circulation, biogeography, fisheries, marine mammals, petroleum, pollution and exploration history.	This course looks at human interactions with marine resources. Main focuses of the course include fishery management, marine reserves, and pollution.
The Alaskan and Arctic Environments Under Siege	Geography	113		Dickey, T D	Focused	Env, Soc	Undergraduate		This seminar course looks at the Alaska and Arctic regions through lectures by guest speakers. Themes that are examined include the flora and fauna of the region, the future resources and world economy, ecotourism, and overall human interaction and impacts on the ecology of the Alaska and Arctic regions.
Oceans and Atmosphere	Geography	3A		Dickey, T D	Focused	Env	Undergraduate	Introduction to the oceans and atmosphere and their role in the Earth's climate and its weather patterns. Focus on the flows of solar energy through the ocean and atmosphere systems. Human impacts of the Earth's climate are also introduced.	This course considers human impacts on the Earth. Course objectives include posing meaningful question concerning problems in atmospheric sciences and oceanography, as well as learning about methodologies/technologies applied to monitoring, studying, and predicting the states of the atmosphere and the ocean.
Living with Global Warming	Geography	8		Gautier, Catherine	Focused	Env	Undergraduate	Overview of global warming and climate change processes. Description of complex relationships between scientific, technological, economic, social, political, and historical facets of global warming and climate change. Introduction to the concept and practice of climate modeling.	This course gives an overview of global warming and climate change processes.
Environmental Hydrology	Geography	112		Loaiciga, Hugo	Focused	Env	Undergraduate	Analysis of the water cycle with emphasis on land-atmosphere interactions, precipitation-runoff, flood, snow melt, and infiltration processes.	This course examines the protection of rivers and lakes. It considers the sustainability of hydrologic ecosystems and water supply systems in relation to urban and agricultural users.
Climatic Change and Its Consequences	Geography	119		Michaelsen, Joel	Focused	Env	Undergraduate	Mechanisms and processes which produce climate change. Methods for reconstructing paleo-climates. Impacts of past climate change on human societies.	This course looks at how climate change is produced and how it has impacted human societies.
Transportation Futures	Geography	101		Niblett, Timothy	Focused	Env	Undergraduate	Introduction to transportation problems involving energy, the environment, congestion, infrastructure, and future trends. Historical perspective on transportation innovations and their impacts on urban form. Reviews current problems, including the movement of freight and the development of transit-oriented neighborhoods.	This course looks at explicit environmental, social, and economic problems relating to current and future transportation trends.
Transportation Planning & Modeling	Geography	211A		Goulias, Kostas	Related	Env	Graduate	Issues, problems, technologies, policies, plans, and the transportation-environment relationship. Transportation systems simulation, data collection, and model building. Applications in planning, design, and operations. Lab: Critically examine transportation plans and programs and explore travel surveys.	Students learn about air quality issues.
Activity and Travel Behavior Analysis	Geography	211C		Goulias, Kostas	Related	Env	Graduate	Time-use, activity analysis, travel behavior in space, time, and social context. Cross-sectional and longitudinal data collection and analysis with emphasis on using time, travel, technology, information, and telecommunication. Applications using simultaneous equations, multilevel, latent class, and structural equations models.	Students learn about electric/hybrid technology.
Water Resource Systems Analysis	Geography	208		Loaiciga, Hugo	Related	Env, Econ	Graduate	Quantitative methods (operations research, applied mathematics and statistics, numerical simulation) are used to analyze and synthesize complex water resources systems. Topics include economic analysis, hydropower, flood control, groundwater management, and reservoirs.	This course looks at hydrology-human-environment interactions. The course prepares students to analyze water resource processes and further conceptualize and derive solutions to water resources management.
Geography of Latin America	Geography	255		Lopez-Carr, David	Related	Env, Soc	Graduate	Graduate seminar supplements Geography 155 with further exploration of primary texts probing historical and spatial patterns of society, politics, and demographics with emphasis on human-environment interactions. Students discuss assigned reading and present in class, and write a term paper.	Through the course, students learn about the economic, social, and environmental consequences of Latin American economic liberalization and globalization and obtain an understanding of how these three forces coalesce to shape different geographies of (un)sustainable development throughout the diverse regions of Latin America.

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Environmental Optics	Geography	202A	Geography 102A	Roberts, Dar	Related	Env	Graduate	Basic physical principles of electromagnetic radiation in the environment and their application to physical geography and remote sensing. Radiative transfer in atmosphere, oceans, snow and ice, inland waters, rock, soil, and vegetation. Spectral signatures in remote sensing.	This course examines technology or processes which address environmental issues, such as heat flow in building and solar panel production.
Land, Water and Life	Geography	3B		Chadwick, Oliver	Related	Env	Undergraduate	Study of the interactions among water, landforms, soil, and vegetation that create and modify the surface of the Earth. Impacts of physical environment on human societies and humans as agents of environmental change.	This course looks at environmental changes, specifically how Earth is modified by human activities.
People, Place and Environment	Geography	5		Ervin, Daniel	Related	Env, Soc, Econ	Undergraduate	Survey of spatial differentiation and organization of human activity and interaction with the Earth's biophysical systems. Sample topics include human spatial decision-making behavior, migration, population growth, economic development, industrial location, urbanization, and human impacts on the natural environment.	This course considers human-environment relations and examines the issue of classifying hazards as natural versus anthropogenic.
Earth System Science	Geography	134		King, Jennifer	Related	Env	Undergraduate	Description of various components of earth system: climate and hydrologic systems, biogeochemical dynamics, ecological dynamics, human interactions, and global change. Observations and modeling of earth system.	Students investigate ways in which Earth is changing in response to human activities, and they look specifically at human-managed ecosystems.
The California Channel Islands	Geography	149	ENV S 111	Knapp, Denise	Related	Env	Undergraduate	Discussion of biological, geological, ecological, anthropological, and oceanographic characteristics of the Channel Islands area as well as the management and human uses of this region. Emphasis on islands and ocean waters off Southern California.	A segment of this course focuses on restoration ecology, as well as the management and human use of the Channel Islands.
The Urban Environment	Geography	130		McFadden, Joe	Related	Env	Undergraduate	Environment and climate of cities, suburbs, and other settlements, focusing on the built environment, soils, water, solar radiation, atmosphere, vegetation, and human thermal comfort. Students produce field reports on a range of sites along an urban to exurban gradient.	This course focuses on the built environment and climate of cities, suburbs, and other settlements. Soils, water, solar radiation, and human thermal comfort are examples of aspects of the built environment that are examined in these settlement areas.
Environmental Issues and Location Decision Making	Geography	185B		Niblett, Timothy	Related	Env	Undergraduate	Introduction to decision-making techniques with regard to land use allocation and planning. Emphasizes addressing conflicts involving environmental concerns and multiple objectives. Examples include water resources development, corridor location (rights-of-way), preservation of endangered species, and power plant siting.	This course teaches students decision-making techniques that address land use and planning processes. Specific emphasis is put on environmental concerns and solutions.
Environmental Data Analysis	Geography	175		Roberts, Dar	Related	Env	Undergraduate	Introduction to measurement and interpretation of physical-environmental data (temperature, humidity, precipitation) and integrated environmental measures (e.g. potential evapotranspiration). Working with micrometeorological towers deployed across an environmental gradient, students develop and test hypothesis using real-time tower data.	This course considers the relationship between earth systems, as measured with real data and analyzed by students.
Environmental Optics	Geography	102A	Geography 202A	Roberts, Dar	Related	Env	Undergraduate	Basic physical principles of electromagnetic radiation in the environment and their application to physical geography and remote sensing. Radiative transfer in atmosphere, oceans, snow and ice, inland waters, rock, soil, and vegetation. Spectral signatures in remote sensing.	This course examines technology or processes which address environmental issues, such as heat flow in building and solar panel production.
Geography of Surfing	Geography	20		Sweeney, Stuart	Related	Env	Undergraduate	Social and physical science concepts manifested in the sport of surfing. Topics include wave generation and forecasting, economics of the surf industry, spatial search, strategic behavior under crowding, territorialism, and the generation/diffusion of regional surf cultures.	An aspect of this course examines surfing as a reflection of global climate patterns interacting with reef formation and sedimentation. The course also considers how surfers tend to have a strong awareness of environmental issues and the potential negative human impacts on the environment.
Green Works- Exploring Technology and the Search for Sustainability	Gevirtz Graduate School of Education; Department of Education	136	Environmental Studies 136	Feldwinn, Darby	Focused	Env, Soc	Undergraduate	A multi-disciplinary class examining the interplay of technology, society, science, and history. Investigate green technologies in an interactive class format designed to encourage discussion and debate. Innovative science and social science labs provide hands-on learning.	This course explores green technologies, including energy, lighting, solar, green buildings, and vehicles/batteries. It covers not only the scientific side of these technologies, but also explores the connections with history, culture, and politics.

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Teaching science in grades 7-12 (Official course title: California Teach 2: Science)	Gevirtz Graduate School of Education; Department of Education	131		Johnson, Susan	Related	Env	Undergraduate	Introduction to learning and teaching science in grades 7-12. The two-credit option includes the weekly on-campus course and 15 hours of field placement in a local school. The three-credit option requires 30 hours of field placement.	This course covers teaching science education to students in grades 7-12. The students in this course are involved with projects that often deal with environmental and sustainability issues.
Teaching Science in grades K-8 (Official course title: California Teacher 1: Science)	Gevirtz Graduate School of Education; Department of Education	4A		Johnson, Susan	Related	Env	Undergraduate	Introduction to learning and teaching science in grades K-8. The two-credit option includes the weekly on-campus course and 15 hours of field placement in a local school. The three-credit option requires 30 hours of field placement.	This course covers teaching science education to students in grades K-8. The students in this course are involved with projects that often deal with environmental and sustainability issues.
The Research University and The Transfer Student Experience	Gevirtz Graduate School of Education; Department of Education	118		Lubach, Donald	Related	Env	Undergraduate	Introduces new transfer students to the mission of the research university, the role of higher education in society and their role, as students, within the community of scholars. Topics cover academic, social and personal issues relevant to college students, specifically transfer students.	This course has a unit which covers the history of UCSB, including its environmental impact and involvement in the environmental studies movement.
Introduction to Leadership Development	Gevirtz Graduate School of Education; Department of Education	173		Lubach, Donald	Related	Env	Undergraduate	This course is an overview of theoretical constructs and practical applications of leadership. Through lectures, readings, discussions, and projects, the course will assist students in developing individual approaches to effective leadership.	In this course, students in leadership teams take on projects, many of which are related to sustainability.
Introduction to the University Experience	Gevirtz Graduate School of Education; Department of Education	20		Roark, Isabella and Roark, Jeremy	Related	Env	Undergraduate	Designed to introduce first year students to the research university. Topics include: the university as a community of scholars, student subculture, student rights, university and community, university as policy, and personal growth in college.	This course has a unit which covers the history of UCSB, including its environmental impact and involvement in the environmental studies movement.
Global Environmental Politics	Global Peace and Security Program	271		Darian-Smith, Eve	Focused	Env, Soc, Econ	Graduate	Global environmental problems in our time, particularly climate change and its impact on resource scarcity, human security, energy geopolitics, and democracy in an unevenly structured world system, including the search for world order solutions.	Topics of this course focus on global environmental problems in our time, including climate change and its impact on resource scarcity, human security, energy geopolitics, and democracy in an unevenly structured world system.
Political Economy, Sustainable Development, and the Environment	Global Peace and Security Program	221		Nederveen, Pie	Focused	Env, Soc, Econ	Graduate	Critical examination of the political and economic aspects of globalization, focusing on the prospects and challenges of an economic development that is both socially equitable and environmentally sustainable. This specialization gateway course is required of all first year students.	This course looks at sustainable development, including the environmental, social, economic aspects.
Energy in Global Societies	Global Studies	173		Barandian, Javier	Focused	Env, Soc	Undergraduate	Examines how energy choices reflect the Earth's natural resources and reconfigure our views of nature, society and markets. We will read historical and contemporary accounts of energy politics to understand the linkages between the global and local.	This course looks at energy issues from a cultural, environmental, social, and political perspective.
Global Environmental Policy and Politics	Global Studies	161		Barandian, Javier	Focused	Env, Soc	Undergraduate	The evolution of international environmental negotiations, agreements, and organizations, and the role governmental and non-governmental actors are playing in shaping them are examined. Climate change, biodiversity conservation, and equitable global sustainable development are among the critical policy challenges considered.	This class looks at the evolution of international environmental negotiations, agreements, and organizations, and the roles that governmental and non-governmental actors are playing in shaping them are examined. Climate change, biodiversity conservation, and equitable global sustainable development are among the critical policy challenges considered.
Global Environmental Law & Policy	Global Studies	171		Darian-Smith, Eve	Focused	Env, Soc, Econ	Undergraduate	A focus on global environmental problems in our time, particularly climate change and its impact on resource scarcity, human security, energy geopolitics, and democracy in an unevenly structured world system, including the search for world order solutions.	This course focuses on global environmental problems in our time, particularly climate change and its impact on resource scarcity, human security, energy geopolitics, and democracy in an unevenly structured world system, including the search for world order solutions.
Global Socioeconomic and Political Processes	Global Studies	2		Appelbaum, Richard	Related	Env, Soc, Econ	Undergraduate	Examination of contemporary social, economic, political, and environmental change in a global context; the emergence of a global economy and new systems of world order; and the debate over "globalization" and whether or not it is desirable.	Topics of this course include issues regarding protection of the global environment, as well as alternative forms of sustainable development.
Global Indigenous Movements	Global Studies	152		Darian-Smith, Eve	Related	Env, Soc	Undergraduate	The course explores indigenous movements around the world. Issues examined are the construction of indigenous identity, transnational political and legal mobilization among native communities, human rights, environmental rights, and intellectual property rights as they impact indigenous peoples.	This course contains a unit on the development and idea of environmental rights and injustice.

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Global History, Culture and Ideology	Global Studies	1		Mccarty, Philip	Related	Soc	Undergraduate	A survey of the historical processes that have brought different areas of the world into closer contact. Topics include ideologies of nationalism, democracy, and liberalism; international trade and migrations; technological changes; colonialism; the globalization of culture; and the reactions to them.	This course contains a unit on the development of environmentalism as a global social movement.
Global Economy and Development	Global Studies	130		Mehta, Aashish	Related	Env, Soc, Econ	Undergraduate	Examines recent theories and perspectives on global political economy and development studies. Topics include, among others, the new global economy, transnational corporations, transnational labor markets, international trade and finance, social and economic development, and North-South relations.	This course contains units on externalities (environmental consequences), including climate change.
Introduction to Women, Culture, and Development	Global Studies	180A	Sociology 156A	Sapna Bhavnani	Related	Soc	Undergraduate	Critical examination of the interrelationships between women, culture and development. Topics include colonialism, violence, globalization and the state, health and reproduction, religion and nationalism, sustainable development, biotechnology, representation, and resistance movements.	Sustainable development is addressed in one unit of the course.
Workshop in Environmental History	History	295		Alagona, Peter	Related	Env, Soc	Graduate	Writing workshop, professionalization seminar, and guest lecture series for graduate students working in area of environmental history. Meets monthly throughout the academic year, and includes occasional campus events and field trips.	This course is a writing workshop, professionalization seminar, and guest lecture series for graduate students working in the area of environmental history.
Research Seminar in Environmental History	History	208A		Alagona, Peter	Related	Env, Soc, Econ	Graduate	A two-quarter graduate research seminar in environmental history.	Students learn about environmental history and how it pertains to environmental studies and environmental policy.
Research Seminar in Environmental History	History	208B		Alagona, Peter	Related	Env, Soc, Econ	Graduate	A two-quarter graduate research seminar in environmental history.	Students learn about environmental history and how it pertains to environmental studies and environmental policy.
Capitalism, Crisis, and Political Economy Readings (Official Title by Catalog: Advanced Historical Literature)	History	201 AM		Lichtenstein, Nelson	Related	Soc	Graduate	A reading course in a field of the professor's specialty. Introduces the student to the sources and literature of the field in question. Written work as prescribed by the instructor. AM. America.	Readings covered in this course include illustrations of how unplanned construction of western railroads wasted both human and natural resources and how development of irrigated farming in arid regions caused economic and environmental damage.
Food in World History	History	193F		Rappaport, Erika	Related	Env, Soc, Econ	Undergraduate	Explores the cultural, economic, and geopolitical roles of food and drink in world history. Topics include: trade, production, and consumption; global food chains; morality and food reform; identities and body image; scarcity, food scares, and food security.	This course discusses the history of food and includes a segment examining food scarcity and abundance. This segment of the course discusses the politics behind food production and consumption and also involves "Green Revolutions" and the future of food.
Wildlife in America	History	108W	Environmental Studies 108W	Alagona, Peter	Related	Env, Soc	Undergraduate	Explores the turbulent, contested, and colorful history of human interactions with wild animals in North America from the Pleistocene to the present. Readings will explore historical changes in science, politics, law, management, and cultural ideas about nature.	The goal of this course is to examine the changing relationships between people and wild animals over time. Students develop an understanding of how wildlife debates have been shaped by socioeconomic, cultural, and political factors and how history can inform current policy and management for wildlife in the United States and beyond.
Latin America and Globalization	History	151G		Cline, Sarah	Related	Env, Econ	Undergraduate	History of commodity chains, sustainable development, NGOs in modern Latin America.	This course teaches students about globalization responses, including NGOs, fair trade movements, and sustainable development.
Society and Nature in the Middle Ages	History	117E		Farmer, Sharon	Related	Env, Soc	Undergraduate	Human-environmental interaction from the fall of Rome to environmental and epidemiological disasters of the fourteenth century. Topics include agricultural impact on the environment, introduction of new animal species to northern Europe, and selective breeding of livestock and plant life.	This course looks at historical human-environmental interaction and considers such topics as the agricultural impact on the environment.
America in the Gilded Age, 1876 to 1900	History	165		Furner, Mary	Related	Env, Soc	Undergraduate	The responses of American people and institutions to the opportunities and problems of industrialization and rapid social change in the late nineteenth century.	Students learn about the impacts of coal-driven mechanization of production on community life and workers' health, how settlement of the West transformed ecological systems, and how Native American land use differed from Euro-American patterns imposed during expansion. They also explore how obstacles to effective regulation of labor standards by court decisions and limitations posed by the federal system of government delayed implementation of social insurance provision for the elderly, disabled, and involuntarily jobless.

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US Progressive Era (Official Course Title: United States in the Twentieth Century)	History	166 A		Furner, Mary	Related	Env, Soc, Econ	Undergraduate	Political, cultural, social, and economic development of the United States from 1900 to the present: A. 1900-1929.	This course covers the conservation movement and movements to preserve pristine natural areas during the Progressive Era in the United States. Students learn about efforts to improve ineffective urban sanitation and to implement public provision or regulation of basic infrastructure components such as provision of water, gas, and light and mass transportation.
Wealth and Poverty in the US, 1865-1950 (Official Course Title: Wealth and Poverty in America)	History	174 B		Furner, Mary	Related	Env, Soc, Econ	Undergraduate	Changing patterns and conceptions of inequality, seventeenth century to present. Examines influence of economic transformation, race, gender, class, attitudes towards work and welfare, social movements, social knowledge, law and public policy on opportunity, income, status, and power. Divides at Civil War and World War II.	In this course, students learn how poverty affected the living and work environments of the poor, how wealth and race and class privilege made demands on resources, how monoculture affected soil quality while also sustaining slavery and share-cropping, and how production of machines to mechanize agriculture and other new manufacturing and refining methods enabled the rise of monopoly and fueled both union growth and anti-union business practices.
The Atomic Age	History	105A		Hough, Kenneth	Related	Env, Soc	Undergraduate	The history of military uses of nuclear energy and the attendant problems. Topics included: Manhattan project, decision to use the bomb, legislation, AEC, arms race, testing, fallout, civil defense, disarmament efforts, foreign programs, espionage.	Portions of this course deal with sustainability. In particular, environmental concerns from using nuclear weapons (including testing), the health concerns from mining and storing nuclear materials, and the byproducts of nuclear energy - storage of nuclear waste - and the potential damage from meltdowns are considered.
History of the Oceans	History	108O	Environmental Studies 108O	Martin, Jennifer	Related	Env, Soc	Undergraduate	Explores how people have experienced, understood, transformed, and attempted to conserve the world's oceans throughout human history. Interdisciplinary approach includes aspects of science, technology, politics, law, culture, and material biophysical relationships.	This course examines the history of the ocean in history, science, culture, and law. It contains units that cover the oceans role in conservation, trade and energy, as well as discussing social justice involving the ocean.
American Urban History	History	178A		O'Connor, Alice	Related	Env, Soc, Econ	Undergraduate	A study of the political, economic, social, and intellectual impact of the city upon American history, and the impact of history upon the growth of American urbanization.	A significant portion of the course deals with environmental dimensions of urban history. Topics covered include relationships to the environment, efforts to control or remake the "limits" of nature.
American Urban History	History	178B		O'Connor, Alice	Related	Env, Soc, Econ	Undergraduate	A study of the political, economic, social, and intellectual impact of the city upon American history, and the impact of history upon the growth of American urbanization.	A significant portion of the course deals with environmental dimensions of urban history. Topics covered include relationships to the environment, efforts to control or remake the "limits" of nature.
Japan Under the Tokugawa Shoguns	History	187A		Roberts, Luke	Related	Env	Undergraduate	A survey of Japanese social and cultural history from the mid-sixteenth century to the nineteenth century.	The main textbook used in this course frames the history of the era in terms of human-environment interdependence, and some of the lectures address the issues of 17th century development and growth regarding population, irrigation, forestry, and mining.
History and Aesthetics of Sustainable Architecture	History of Art and Architecture	136O		Welter, Volker	Focused	Env	Undergraduate	Course examines history and theory of sustainable and "green" architecture since the early twentieth century. Emphasis is placed on the critical analysis of a distinct "green" architectural aesthetic; the scope is global.	The course examines both the history and theory of modern sustainable architecture as it developed from roughly the early twentieth century onwards. Emphasis is placed on the critical analysis of changing historical approaches to environmentally sound building practices and on attempts to express these practices in a distinct architectural aesthetic
Introduction to Architecture and Environment	History of Art and Architecture	5a		Welter, Volker	Focused	Env	Undergraduate	Architecture is an act of place-making with which man has intertwined ever closer his world with the natural one. The course discusses basic architectural construction methods, discipline-specific terminology, design strategies, and interpretative concepts. Students must keep a visual, architectural journal.	This course introduces basic architectural construction methods, design strategies, and architecture specific terminology, discusses interpretative approaches to architecture, and poses questions after universal fundamentals determining the multi-faceted and multi-sensory relationships between architecture and nature, and humans inhabiting both
Chinese Painting I	History of Art and Architecture	134C		Sturman, Peter	Related	Env, Soc	Undergraduate	Chinese painting and theory, from beginnings through the fourteenth century. Introduction to major developments and masters in their cultural context with a focus on meaning and agency.	Cultural relationship between humans and their natural environment is a theme that is explored.
Art and Modern China	History of Art and Architecture	134D		Sturman, Peter	Related	Env, Soc	Undergraduate	An exploration of trends and issues in nineteenth and twentieth-century Chinese art, as China awakens and responds to the challenges of modernity and the West. Topics include the continuity of tradition, the exile identity, and trends after Tiananmen (1989).	Cultural relationship between humans and their natural environment is a theme that is explored.

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The Art of the Chinese Landscape	History of Art and Architecture	134E		Sturman, Peter	Related	Env, Soc	Undergraduate	Chinese approaches to landscape as subject matter in art, with a focus on painting and garden architecture. The course begins with the immortality cult in the Han Dynasty (206 B.C.-A.D.221) and ends with contemporary artists of the twentieth century.	Cultural relationship between humans and their natural environment is a theme that is explored.
Deviant Domesticities	History of Art and Architecture	136Q		White, Jeremy	Related	Env, Econ	Undergraduate	Suburban landscape, single-family detached house and the nuclear family, is both an architectural and a social pattern. Despite its ubiquity in North America, it now poses an acute challenge to ecological and economic sustainability.	Suburban landscape, single-family detached house and the nuclear family, is both an architectural and a social pattern. Despite its ubiquity in North America, it now poses an acute challenge to ecological and economic sustainability.
Interdisciplinary Issues in Aquatic Sciences and Policy	Interdisciplinary	91		Cornejo Donoso, Jorge	Focused	Env, Econ	Undergraduate	A seminar-style course examining biological, environmental, political, and economic issues in aquatic topics, including oceanography, marine pharmacology and biotechnology, coastal geology and coastal processes, fisheries, and ocean policy.	This class covers sustainable practices and policies in oceanography.
Global Warming, a Hoax or a Disaster?	Interdisciplinary Studies	94QH		De Vries, Mattanjah S.	Focused	Env, Soc	Undergraduate	The number of Americans who worry about global warming has gone down in the last ten years from 75% to about 50%. Is there less to worry about? What really is the science of climate change? Are the skeptics right? We will explore both the science and the politics of what may (or may not be) either the greatest hoax or the greatest crisis facing planet earth.	This seminar explores both the science and politics of global warming and discusses whether or not it is the greatest hoax or the greatest crisis facing planet earth.
Environmental Ethics	Interdisciplinary Studies	156EE	Religious Studies 156EE	Jarrett, Gregory	Focused	Env, Soc, Econ	Undergraduate	Environmental Ethics probes questions of duty and policy regarding human impact on the natural world. Topics such as climate change, sustainable economics, population explosion, and the standing of non-human animals are examined from various perspectives.	This course examines human impact on the natural world with regards to policy and questions of duty. Topics such as climate change, sustainable economics, population explosion, and the standing of non-human animals are examined from various perspectives. The course also considers obligations to posterity, the relevance of ecosystems, environmental justice, the tragedy of the commons, and conflicts between solutions of policy vs. solutions of personal lifestyle.
Freshman Seminar: Working Across Disciplines for More Effective Food Production	Interdisciplinary Studies	94RY		Krintz, Chandra	Focused	Env	Undergraduate	Selected topics of interest to students pursuing various degrees in the College of Letters and Science. Small group discussions which emphasize active class participation. Topics will vary each quarter.	This course discusses world food production and how it relates to environmental sustainability. In the course, the analysis of problems relating to sustainable food security and food safety with web services (backed by cloud computing systems) and spatial analysis are discussed.
Introduction to Sustainability	Interdisciplinary Studies	94OV		Matthys, Eric	Focused	Env, Soc	Undergraduate	The Seminar will introduce the students to the concept of Sustainability and its implementation on campus and in the local community by various groups including student organizations. Various topics will be addressed such as Energy, Recycling, Water, Food, Land use etc. Professor Matthys has been teaching and researching issues related to Energy for many years. He has also taught broad-based non-technical Freshman Seminars about Energy to introduce students to the general concept of where Energy is coming from, how it's being used and how we will produce the needed Energy for the World in the future.	This seminar introduces students to the concept of sustainability and its implementation on campus and in the local community by various groups, including student organizations. Various topics such as energy, recycling, water, food, and land use are addressed.
Environmental Media	Interdisciplinary Studies	185EM		Portuges, Paul	Focused	Env	Undergraduate	This course introduces students to the theory and practice of writing short documentaries. Students will study approaches to non-fiction storytelling and create a treatment for a short film on an environmental topic.	In this course, students have the opportunity to write a short film on an environmental topic.
Imaging and Imagining Sea Level Rise	Interdisciplinary Studies	94QB		Walker, Janet	Focused	Env	Undergraduate	How do different communities from the populations of sinking islands to the residents of coastal California experience, visually represent, and respond to sea level rise? In conjunction with this year's Critical Issues in America theme of sea level rise, students will meet as a group and attend film screenings, guest lectures, and other special events.	This seminar explores how different communities experience, visually represent, and respond to sea level rise. Students in this seminar attend film screenings, guest lectures, and other special events to explore the theme of sea level rise in conjunction with this year's Critical Issues in America.

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Genetic Modification of Food Crops	Interdisciplinary Studies	94BZ		Christoffersen, Rolf	Related	Env	Undergraduate	The seminar will explore the implications of genetic modification of our food crops with special emphasis on the application of recombinant DNA technology for crop improvement. The scientific basis of these technologies will be explained at the level of a non-science major. Course materials will include a critical review of articles from the popular scientific press concerning the dangers and benefits of GM crops. The potential impact (both good and bad) on agriculture in developing countries will also be covered.	This seminar explores the implications of genetic modification of food crops, specifically emphasizing the application of recombinant DNA technology for crop improvement. Another topic covered is the potential impact of genetic modification on agriculture in developing countries.
Exciting Developments in Biology Research	Interdisciplinary Studies	94ES		Poole, Stephen	Related	Env	Undergraduate	Selected topics of interest to students pursuing various degrees in the College of Letters and Science. Small group discussions which emphasize active class participation. Topics will vary each quarter.	This seminar will explore topics related to current ongoing research within the departments of Ecology, Evolution and Marine Biology and Molecular, Cellular and Developmental Biology. One of the topics covered is the ecological effects of climate change.
Underserved Medicine	Interdisciplinary Studies	75		Prystowsky, Jason	Related	Soc	Undergraduate	Explores unique medical needs of vulnerable, underserved populations internationally and locally by using service and problem-based learning methodologies. Topics include refugee health, homelessness, humanitarian aid in conflict zones, veterans care, global health development, migrant farm workers care, and more.	This course contains topics which include the relationship between poverty and poor health, global health development, and sustainable capacity building.
Interdisciplinary Approaches to the History and Societies of Latin America and Iberia	Latin American and Iberian Studies	101		Figuroa, Terea Sanchez	Related	Env, Soc	Undergraduate	Issues central to the study of Latin America and Iberia across the social sciences and history. Topics include nationalism, revolution, politics and the state, economic development and international relations, labor, popularculture, race, gender, religion, migration, environment, imperialism, and colonialism.	This class includes units about environmental practices in Latin America.
University Writing for Multilingual Students	Linguistics	12		Gough, Judy	Focused	Env	Undergraduate	Students analyze academic discourse, develop rhetorical strategies for exposition and argument, practice examination writing, and write and revise papers.	Students research a problem related to sustainability, then interview sustainability group members at UCSB to determine how their group addresses the problem. For example, one small group of students reads about problems related to the use and disposal of plastics (published articles on plastic pollution). Students use what they learn through their research and interviews to write a 4-5 page paper, as well as to create an oral presentation in order to share what they learn with the class. This project is funded by a sustainability instructional grant. In 2014, three essays on sustainability written by students in the classes were published; in 2015, another two essays on sustainability were selected for publication, giving greater voice to EMS students as well as informing the campus community of sustainability issues and UCSB student organizations addressing them.
Environmental Media (Official Course Title: Subjects and Materials)	Literature College of Creative Studies	103/113		Portuges, Paul	Focused	Env, Soc	Undergraduate	Emphasis on style and content of literary texts: critical investigation of how matter and manner work together in serious literature. Extensive reading and exposition.	This course involves the study and practice of environmental media. Students study the ways and means of how to inform the world about environmental problems and issues, then learn the techniques of writing and shooting documentary media. Students either write a research paper on media and environmental issues (climate change, pollution, population, etc.) or write and/or make a short documentary video. In-class viewing and discussions of environmental documentaries (Food, Silent Spring, Fuel, An Inconvenient Truth, etc.) and feature films (Erin Brockovich, China Syndrome, etc.) take place.

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Energy Conversion	Mechanical Engineering	112		Matthys, Eric	Focused	Env, Soc	Undergraduate	Introduction to the field of Energetics. Topics may include energy sources and production, energy usage, renewable technologies, hardware, operating principles, environmental impact, energy reserves, national and global energy budgets, historical perspectives, economics, societal considerations, and others.	This course provides an overview of energy usage and production from prehistory to present times (technical, environmental, and societal issues). It includes a technical analysis of the modern means of energy production (fossil, nuclear, hydro, wind, solar, geothermal, biomass, etc.) and an investigation of operating principles, hardware, engineering issues, environmental impact, etc.
Science for the Common Good	Molecular, Cellular and Developmental Biology	194KF		Foltz, Kathleen	Focused	Env, Soc	Undergraduate	Required non major applicable course for UCSB Beckman Scholars. Designed to introduce outstanding undergraduate researchers to their role as citizen-scientists/engineers and leaders in applying scientific approaches to global problems. Students must be conducting research while taking this course.	As part of this course, students must identify a local, regional, or global challenge (health/environment-related), propose a solution, seek funding, and then try to resolve the challenge. In 2012, for example, the students compiled data regarding energy use and street lighting in Isla Vista, overlaying street light maps with crime incidence rates. They then partnered with other campus and community organizations to lobby the county to install LED lighting at more locations in IV.
Post-translational Protein Processing	Molecular, Cellular and Developmental Biology	145		Waite, Hebert	Related	Env	Undergraduate	Structure/function relationships in interesting macromolecules isolated from marine organisms. Focus is on well-characterized pathways from horseshoe crabs, abalones, mussels, and fish as well as others.	Future sustainability depends critically on engineering better exchange surfaces for energy conversion and storage, as well as for water and air purification. At present, such surfaces are fabricated with 50-200 m ² /g surface areas, which are only 25% or less of a typical biological exchange surface. The course focuses on the composition and biofabrication of several natural exchange surfaces, including diatom frustules, mussel adhesive plaques, and gradient-engineered squid beaks.
Environmental Politics and Policy	Political Science	294		Smith, Eric	Focused	Env	Graduate	This seminar focuses on development of the environmental movement in American politics and the resulting institutional responses. Environmental policy making and implementation is examined in light of relevant theories. Emergence of an environmental ethic in American politics is considered.	This course looks at public opinion of environmental issues, climate change, and environmental justice.
Comparative Environmental Politics	Political Science	177		Kuehl, Colin	Focused	Env, Soc, Econ	Undergraduate	Course is structured around the major issues in environmental politics, for example: global warming, nuclear waste, deforestation, and chemical pollution. The roles of economics, technology and social organization are each considered as explanatory variables for understanding environmental problems.	This course is structured around the major issues in environmental politics, i.e.: global warming, nuclear waste, deforestation, and chemical pollution. The roles of economics, technology, and social organization are each considered as explanatory variables for understanding environmental problems.
Political Interest Groups	Political Science	153		Han, Hahrie	Related	Soc	Undergraduate	The nature and function of organized interest groups and their impact upon public opinion and government.	Aspects of this course include the role of interest groups in environmental policy.
Politics of the Environment	Political Science	175	Environmental Studies 178	Hodges, Heather	Focused	Env, Soc	Undergraduate	Analysis of environmental policy issues and their treatment in the political process. Discussion of the interplay of substantive issues, ideology, institutions, and private groups in the development, management, protection, and preservation of natural resources and the natural environment.	Class focuses include the problems of climate change and energy supply, the history of the environmental movement, and public opinion on environmental issues.
Positive Psychology	Psychological and Brain Sciences	158		Gable, Shelly	Related	Env	Undergraduate	Investigates empirical approaches to the psychology of a fulfilling and flourishing life. Topics include research on positive emotions, happiness, empathy, friendship, goal setting, love, achievement, morality, creativity, mindfulness, spirituality and humor.	This course examines environment and well-being research, as well as consumption and well-being research. Examining the environment and consumption and how they related to well-being ultimately has sustainable implications.
Religion, Food, and Culture of the Middle East	Religious Studies	185		Campo, Magda and Campo, Juan	Related	Env, Soc	Undergraduate	Explores the significance of foods in the religious and cultural life of Middle Eastern peoples. Focuses on Jewish, Christian, and Muslim feasting, fasting, and dietary rules. Includes culinary traditions of Arab, Persian, Turkish, and Israeli ethnic groups, and related topics.	This course examines alimentary diversity, sustainability, urbanization, globalization, and food security in the context of Middle Eastern history and culture.

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Introduction to Native American Religious Traditions and Philosophies	Religious Studies	14		Talamantez, Ines	Related	Env, Soc	Undergraduate	This course is designed as an introduction to the contribution that Native American religions make to the general study of religion. Metaphysical and philosophical aspects of North American native culture. Major concepts of belief systems, religion, and medicine. Theories of balance, harmony, knowledge, power, ritual, and ceremony.	This course contains a unit on religious/ spiritual connections that humans have with nature.
Green Movements and Green Parties	Sociology	134G		Clemencon, Raymond	Focused	Env, Soc	Undergraduate	Examines how environmental organizations and green political parties are shaping policy formulation on environmental issues in different developed and developing countries, with a focus on the US experience.	This course examines environmental organizations and green political parties and how they shape policy formation on environmental issues.
Earth in Crisis	Sociology	134EC		Foran, John	Focused	Env, Soc	Undergraduate	Explores the causes and consequences of climate change on a global scale, covering the state of the science in layman's terms, the current and future social impacts of climate change, the global negotiations process, and climate justice activism.	This course assesses the depth of the climate crisis, its impact on societies around the world, the state of the negotiations for a global climate treaty, and the rise of a global climate justice movement.
Global Justice Movements	Sociology	134GJ		Foran, John	Focused	Env, Soc	Undergraduate	Study of the origins, present situation, and future prospects on contemporary social movements for global justice, in the realms of climate change, militarization, local and national autonomy, human rights, and the many forms of global and local inequalities, amongst others.	This course investigates the origins, development, and future prospects of contemporary social movements for global justice and also examines climate change, alternative economies, and human rights.
Climate Justice	Sociology	134CJ		Foran, John	Focused	Env, Soc	Undergraduate	Overview of the climate change problem and exploration of the meanings of the term "climate justice" as used by scholars and social movement activists to imagine and create a sustainable, equitable, democratic world for future generations.	The class explores climate justice and ways to move the world towards the most progressive possible global climate treaty.
Development and Its Alternatives	Sociology	265I	Global Studies 292MD	Foran, John	Related	Soc	Graduate	Introduces students to the range of core issues and debates within the fields of global, international, and development sociology, from political economy to culture, gender to REN, social movements to micro-issues.	This course looks at global philanthropy as it has evolved to foster self-sustained development. It additionally brings in guest speakers who talk about sustainable business practices.
Environmental Sociology	Sociology	105E		Clemencon, Raymond	Related	Env, Soc	Undergraduate	Traces the history of environmentalism and applies social science theories, concepts, and methods to analyze critical contemporary environmental issues and societal responses to them.	This course traces the history of environmentalism and analyzes contemporary environmental issues and societal responses to them.
Global Conflict	Sociology	138G	Global Studies 124	Juergensmeyer, Mark	Related	Soc	Undergraduate	The focus of this course is on global conflict--how to analyze and understand it and how to resolve it. The current "war on terrorism" following the catastrophic terrorist attack on September 11 2001 and the subsequent US occupation of Afghanistan and Iraq are the most obvious of a series of cases that illustrate the new realities of global tension in the twenty-first century. The rise of new transnational economic powers, the emergence of religious nationalism and ethnic strife, and the rapid spread of new communications technologies around the world have also given birth to new kinds of conflicts and concerns.	This course considers economic crises in the US and the EU and the challenge of ethnic strife in Africa. It additionally looks at the looming threat of global warming and other environmental problems which have produced different kinds of conflicts and concerns.
Theories of Globalization and Development	Sociology	185DG		Nederveen, Pie	Related	Env, Soc, Econ	Undergraduate	Analyzes major trends in development and globalization thinking/policy. Discusses theories in political economy through modernization theory, dependency, alternative development, neoliberalism, human development and post- development. Addresses ongoing debates on globalization, and the rise of Asia and emerging societies.	Part of this course looks at sustainable development and the environment. It specifically focuses on how environmental concerns interact with development and inequality, as well as how emerging societies address sustainable development.

**UCSB STARS Course List
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Asia Business Opportunities	Technology Management Program	258	Engineering Sciences 258F	Bogart, Karen Smith	Focused	Env, Econ	Graduate	This course provides students with analytical frameworks for critically assessing the changing technology business environments in China. It establishes an understanding of China's development, current and emerging opportunities, needs and trade-offs. We will consider governmental structures, policy priorities, motivations, and influence in the nation's development as a world leader through science, technology, innovation, diverse commercialization capabilities, rapid domestic market growth, and global expansion interests. We will evaluate leading indicators of China's progress including reforms in Intellectual Property Rights, banking, capital markets, business licensing and formation, as well as entrepreneurial activity, and market development. We will look at how State Owned Enterprises, PRC private firms, and multinational firms are leveraging these opportunities. We will also assess China's critical challenges including the country's immense growth, social and economic differences, industrialization, urbanization, and economic-environmental tradeoffs. These human, social, and environmental sustainability challenges require creative strategic and operational thinking regarding new solutions including products and partnerships.	This course provides students with analytical frameworks for critically assessing the changing technological business environments in China and India. Topics addressed during the course include challenges associated with sustainability, renewable energy, biotechnology, and electric cars.
Writing about Sustainability	Writing	105C		Amy Propen	Focused	Env, Soc	Undergraduate	The focus of the course is writing about sustainability. We cover foundational ideas first, then students research various kinds of publication to examine how issues are being covered. We look at work being done locally and on campus. Finally students write to a specific audience to promote change using the methods for persuading audiences that we've covered throughout the quarter.	This course involves the analysis and practice of various forms of writing about sustainability, both academic and professional.
Writing About Sustainability	Writing	105S		Propen, Amy	Focused	Env, Soc	Undergraduate	Analysis and practice of various forms of writing that address sustainability in interdisciplinary contexts. Students will research, write, and reflect on concepts and practices of sustainability, examining the role of words and images in communicating sustainability ideas to diverse audiences.	This course involves the analysis and practice of various forms of writing about sustainability, both academic and professional.
Writing for Environmental Studies	Writing	109ES		Kryder, LeAnne	Related	Env, Soc	Undergraduate	Analysis and practice of various forms of writing for environmental studies, both academic and professional. Attention to research methods, design of papers, development of graphics, stylistic clarity, and editing strategies.	This course involves the analysis and practice of various forms of writing for environmental studies, both academic and professional.
Academic Writing with Link to ES 1	Writing	2LK		Kryder, LeAnne	Related	Env, Soc	Undergraduate	A writing course focusing on developing analytical skills, synthesizing multiple sources, sustaining coherent arguments, and revising for clarity of style. This course is taught in conjunction with a specified companion course in such areas as classics, music, psychology, sociology. Readings and assignments are related to the subject matter of the companion course.	This writing course, focused on environmental writing and linked to Environmental Studies 1, involves reading, composing, and improving essays focused on science, social science, and humanities.