

Department	Course #	Crosslistings	Course Title	Includes or Focused	Env, Soc, Econ Component	(Undergrad/Grad)	Official Course Description From Course Catalog	Justification
Electrical and Computer Engineering	142		Introduction to Power Electronics	Includes	Env	UG	An introduction to modern switched-mode power electronics and associated devices. Covers modern converter/inverter topologies for the control and conversion of electrical power with high efficiency with applications in power supplies, renewable energy systems, lighting, electric/hybrid vehicles, and motor drivers.	See course description.
Electrical and Computer Engineering	262		Physics of Solar Cells	Focused	Env	G	Covers the fundamentals of Solar Cells, building to an understanding of next-generation Solar Cell concepts. Focuses on reading and evaluating contemporary literature on Solar Cell research. Students work within 3-person groups to read and understand seminal papers in Solar Cell research. Once a week a group is chosen at random to lead an in-class discussion on the paper(s) assigned for that week. Example topics include: perovskite, quantum dot, hot electron, or intermediate band solar cells, multiple exciton generation, thermal photovoltaics, light trapping, efficiency limits, etc.	See course description.
Mechanical Engineering	125ES		Special Topics in ME: Energy Storage Technologies	Includes	Env	UG	Individual courses each concentrating on one area in the following subjects: applied mechanics, cad/cam, controls, design, environmental engineering, fluid mechanics, materials science, mechanics of solids and structures, ocean and coastal engineering, robotics, theoretical mechanics, thermal sciences, and recent developments in mechanical engineering.	Course catalog description is for the general special topics course series. This particular course addresses energy storage technologies.
Mechanical Engineering	125PL	225PL	Special Topics in ME: Wind and Tidal Extraction Over Large Scales	Focused	Env	UG	Individual courses each concentrating on one area in the following subjects: applied mechanics, cad/cam, controls, design, environmental engineering, fluid mechanics, materials science, mechanics of solids and structures, ocean and coastal engineering, robotics, theoretical mechanics, thermal sciences, and recent developments in mechanical engineering.	Covers the fluid mechanics of wind and tidal energy, with an emphasis on quantitatively estimating available resources and power extracted. Requires prior completion of ME152A/B or similar introductory fluid mechanics course.
Mechanical Engineering	225PL	125PL	Special Topics in ME: Wind and Tidal Extraction Over Large Scales	Focused	Env	G	Individual courses each concentrating on one area in the following subjects: applied mechanics, cad/cam, controls, design, environmental engineering, fluid mechanics, materials science, mechanics of solids and structures, ocean and coastal engineering, robotics, theoretical mechanics, thermal sciences, and recent developments in mechanical engineering.	Covers the fluid mechanics of wind and tidal energy, with an emphasis on quantitatively estimating available resources and power extracted. Requires prior completion of ME152A/B or similar introductory fluid mechanics course.
Latin American and Iberian Studies	101	SPAN 107	Interdisciplinary Approaches to the History and Societies of Latin America and Iberia	Includes	Env, Soc, Econ	UG	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, popular culture, race, gender, religion, migration, environment, imperialism, and colonialism.	See course description.
Spanish and Portuguese	107	LAIS 107	Interdisciplinary Approaches to the History and Societies of Latin America and Iberia	Includes	Env, Soc, Econ	UG	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, popular culture, race, gender, religion, migration, environment, imperialism, and colonialism.	See course description.
Latin American and Iberian Studies	165	SPAN 165	Andean Literature, Music, and Culture	Includes	Env, Soc	UG	This course focuses on literature, music and culture of certain ethnic groups inhabiting the Andean region of South America including, but not limited to, the Aymara and Quechua peoples, their cosmivision and their languages. Through literary texts belonging to different genres, and through films, special attention is placed on expressions of syncretism in seasonal festivals in which pre-Hispanic, European, and African music traditions and religions were shaped due to forced migration, wars and colonization. A strong emphasis on the ecological regions of the nations that share the Andean mountain range contextualizes current indigenous movements of resistance against the degradation of its environment and the impact on its culture.	See course description.
Spanish and Portuguese	165	LAIS 165	Andean Literature, Music, and Culture	Includes	Env, Soc	UG	This course focuses on literature, music and culture of certain ethnic groups inhabiting the Andean region of South America including, but not limited to, the Aymara and Quechua peoples, their cosmivision and their languages. Through literary texts belonging to different genres, and through films, special attention is placed on expressions of syncretism in seasonal festivals in which pre-Hispanic, European, and African music traditions and religions were shaped due to forced migration, wars and colonization. A strong emphasis on the ecological regions of the nations that share the Andean mountain range contextualizes current indigenous movements of resistance against the degradation of its environment and the impact on its culture.	See course description.
Latin American and Iberian Studies	201		Interdisciplinary Approaches to the History and Societies of Latin America and Iberia	Includes	Env, Soc, Econ	G	Issues central to the study of Latin America and Iberia across the social sciences and history. Topics may include nationalism, revolution, politics and the state, economic development and international relations, labor, popular culture, race, gender, religion, migration, environment, imperialism, colonialism.	See course description.
Communication	160EC		Ecocultural Communication	Focused	Env, Soc	UG	Investigation of current theory and research in a selected area of communication. Variable topics in media, interpersonal or organizational communication, depending on the instructor.	Course catalog description is for the general special topics course series, this description is specific to 160EC: Explores how communication constructs and shapes human relationships with the environment. Drawing from environmental and critical cultural communication scholarship, we will examine international, regional, and local eco-discourses in order to better understand ways that human-nature relations are both culturally-constructed and materially experienced. Ultimately, our collaborative explorations will help us better understand how: A) cultural and communication processes inform, construct, and produce human perceptions of and actions toward/within nature; and B) ecocultural communication research can be used to deconstruct and transform dominant Western human perceptions of and behaviors toward nature.
Communication	108		Corporate Social Responsibility	Includes	Env, Soc, Econ	UG	Examines 1) the ways in which global expectations regarding organizational behavior toward employees, communities, and the environment are changing and 2) the communicative challenges and opportunities businesses and diverse stakeholder groups face as they strive to make contemporary organizations socially responsible.	See course description.

Asian American Studies	171		Special Topics in Asian American Studies - Social Science and History	Includes	Env, Soc	UG	Focuses on various social science and history topics not offered in other Asian American studies courses.	Course catalog description is a general description for this series of courses, this particular course partnered with the UCSB Sustainability Department to perform qualitative research on sustainable food systems issues facing the Asian American, Native Hawaiian, Pacific Islander Community.
Comparative Literature	186FL		Vegetarianism: Food, Literature, Philosophy	Focused	Env, Soc	UG	Interdisciplinary examination of selected topics, theories, disciplinary issues, and/or methodological questions in the combined study of literature, and other areas of the humanities and humanistic sciences. Course focus will be determined by the instructor(s).	Course catalog description is for the general special topics course series, this description is specific to 186FL: The philosophical, religious and literary history of vegetarianism and animal ethics from the Antiquity to the present. Topics include the debate on animal consumption in the Buddhist canon and recent representations of vegetarianism in western literature.
Comparative Literature	28		Storytelling and the Anthropocene	Focused	Env, Soc	UG	This course takes an interdisciplinary approach to concepts of nature, the environment, and the human. Foregrounding scientific and literary imaginaries of environmental change, we trace the intersections between scientific, cultural, and imaginative discourses of phenomena such as climate change, sea-level rise, toxicity, and human-animal relations in the Anthropocene. Questions include: How do the stories that both science and literature tell shape the way we understand the environment? How do scientists and humanists represent and respond to the environmental crisis? How do they reflect shifting notions of humanity and environmental justice?	See Course Description.
Comparative Literature	186NW	RGST 190NW	Writing Nature from the Sublime to the Anthropocene	Focused	Env, Soc	UG	Interdisciplinary examination of selected topics, theories, disciplinary issues, and/or methodological questions in the combined study of literature, and other areas of the humanities and humanistic sciences. Course focus will be determined by the instructor(s)	Course catalog description is for the general special topics course series, this description is specific to 186NW: Explores different ways that nature-writing has been conceptualized and practiced (whether in essayistic, poetic, or philosophical modes). Beginning with the 18th-century concept of the Sublime and ending with the Anthropocene (the age we are thought to be living in now), our discussions move through several key epochs in order to consider how the cultural imagination has shaped and has been shaped by shifting understandings of the relationship between humans and nature. Ultimately, we invite all of these texts to address themselves to us in our own ecologically fraught moment, asking: what does it mean to engage in nature-writing when facing a natural world whose fate often seems to have already been written?
Religious Studies	190NW	C LIT 186NW	Writing Nature from the Sublime to the Anthropocene	Focused	Env, Soc	UG	Interdisciplinary examination of selected topics, theories, disciplinary issues, and/or methodological questions in the combined study of literature, and other areas of the humanities and humanistic sciences. Course focus will be determined by the instructor(s)	Course catalog description is for the general special topics course series, this description is specific to 186NW: Explores different ways that nature-writing has been conceptualized and practiced (whether in essayistic, poetic, or philosophical modes). Beginning with the 18th-century concept of the Sublime and ending with the Anthropocene (the age we are thought to be living in now), our discussions move through several key epochs in order to consider how the cultural imagination has shaped and has been shaped by shifting understandings of the relationship between humans and nature. Ultimately, we invite all of these texts to address themselves to us in our own ecologically fraught moment, asking: what does it mean to engage in nature-writing when facing a natural world whose fate often seems to have already been written?
Art	185BD		Special Topics: Black Focus Environmental Design Justice: Relocalizing Leimert Park	Focused	Env, Soc, Econ	UG	This course dives into the wide range of professionalism for artists within and adjacent to the art world. Provides students the necessary skills to advance their work as emerging artists, addressing portfolio preparation and artist opportunities like graduate education, exhibitions, residencies, and grants. Also introduces students to the wide variety of careers available to artists and provide them with building blocks to move forward within these careers. Guest speakers will illuminate opportunities in several fields including curatorial practice, design, marketing, art business, education, and non-profit work.	Course Catalog description is general for special topics courses, but this is the specific description for 185BD specifically: "This Black Design focus course introduces new approaches and practice-based design strategies to studio-driven student research to address the pressing issues surrounding social justice and environmental sustainability. Students from both Art and Black Studies engage in the expanded role of art/artists in exploring place, identity, belonging and locality to draw from and activate the rich underrepresented histories and culture through design research and new technologies to reimagine public spaces, and to creatively address issues of racial trauma, gun violence, gentrification and police/community relations within an environmental justice frame."
Anthropology	111		The Anthropology of Food	Focused	Env, Soc, Econ	UG	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 interaction between human biology, local environment, existing culture, global economy, and politics in the context of food choices. The course discusses food as a resource and analyzes the implications of the world's food production and scarcity. The course also explores the vulnerability of major food producing systems and what can be done to make them more sustainable.
Anthropology	129MG		Behavioral Ecology of Hunter Gatherers	Includes	Env, Soc, Econ	UG	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 discusses behavioral ecology as an approach to understand the lifestyle and decisions of hunters and gatherers in various regions across the world. Topics include diet and subsistence, mobility and settlement patterns, division of labor, microeconomics, and conservation.
Anthropology	152	ENV S 151	Environmental Anthropology	Includes	Env, Soc, Econ	UG	Examines the ways that humans interact with, use, and perceive the environment and nature, with a focus on the cultural, political, and economic features of human environment relationships across time and in different parts of the world. Through readings, in-class activities and discussions, field trips, and research projects, students will gain a better understanding of how anthropological theory, research, and applications can be used to address contemporary environment topics and problems.	This course examines how humans understand and interact with the environment. The class discusses the social, historical, and economic themes of human-environment relationships in various geographical regions.
Anthropology	197JH		Gauchos, Cowboys & Indians	Includes	Env, Soc	UG	Intensive studies or projects focused on special problems related to Anthropology which are not covered by other courses.	This course analyzes how the environment has been represented in Indigenous and Western cultures throughout history. Environmental sustainability and the dichotomy between nature and culture are discussed.
Anthropology	148		Ecological Anthropology	Includes	Env, Soc	UG	Focuses on the complex and dynamic interactions between human beings and their physical environment. Examines ecological thinking in anthropology and the various theoretical approaches within the discipline that have developed from the coalescence of natural and social sciences.	See course description.
Anthropology	130		Intro Development Population Health	Focused	Env, Econ	UG	Considers the distribution and determinants of well being in human populations, with an emphasis on low-income nations and the actions of the international development sector. Focus is placed on cultural/social determinants of health, including issues of gender equality. Takes a critical perspective on the tools used to measure population health and the design and evaluation of development policy and interventions.	See course description.

Black Studies	154		Environmental Racism and Justice	Focused	Env, Soc	UG	This course investigates environmental injustice—that some people, especially poorer people, bear a disproportionate burden of living in communities with environmental hazards—and environmental racism—that a high coincidence exists between the location of toxic waste sites and Black and Brown communities, even when they are predominantly middle class.	This course investigates environmental injustice—that some people, especially poorer people, bear a disproportionate burden of living with environmental and climate hazards—and environmental racism—that a high coincidence exists, for example, between the location of toxic waste sites and Black and Brown communities, even when they are predominantly middle class. The burden of the multiplying environmental and climate crises often exacerbates dramatically the inequalities faced by people of color, women, and impoverished individuals, communities, and regions. These constituencies are the same ones most in need of innovative solutions. The course will involve study of the social, economic, political, and environmental forces that produce environmental injustice and racism, research into ongoing efforts to ameliorate environmental injustice, especially in California, and theorizing of possible long term solutions.
Chemistry	123		Fundamentals of Environmental Chemistry	Focused	Env, Soc	UG	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.	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.
Earth Science	130		Global Warming – Science and Society	Focused	Env, Soc, Econ	UG	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 first discusses the physical science basis for understanding climate change and the greenhouse effect. It assesses the connection between humans, energy, emissions, and global warming. Policy responses and the implications of global warming are also examined.
Earth Science	173	Geography 116	Groundwater Hydrology	Includes	Env, Soc	UG	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 aims to prepare students in analyzing groundwater flow properties, taking into account aquifer properties, basic hydraulic factors, geologic controls, and their temporal and spatial interactions. In mastering this knowledge, students will be able to better assess water cycles with their interactions to the urban environment.
Earth Science	106	Concurrentl y offered with EARTH 206	Introduction to Climate Modeling	Includes	Env	UG	An introduction to climate models and their application to studies of past, modern, and future climate. Students will learn fundamental modeling concepts, gain experience running several kinds of models, and read/evaluate recent modeling papers. A variety of models will be introduced, with emphasis on atmosphere-ocean General Circulation Models (GCMs) and "simple" (zero-dimensional) models. No previous modeling or programming experience is required.	This class presents an introduction to climate modeling with an emphasis on past climate reconstruction and future climate projections. Energy balance models, glacial cycles, general circulation models, and ocean biogeochemistry are discussed.
Earth Science	206	Concurrentl y offered with EARTH 106	Introduction to Climate Modeling	Includes	Env	UG	An introduction to climate models and their application to studies of past, modern, and future climate. Students will learn fundamental modeling concepts, gain experience running several kinds of models, and read/evaluate recent modeling papers. A variety of models will be introduced, with emphasis on atmosphere-ocean General Circulation Models (GCMs) and "simple" (zero-dimensional) models. No previous modeling or programming experience is required.	This class presents an introduction to climate modeling with an emphasis on past climate reconstruction and future climate projections. Energy balance models, glacial cycles, general circulation models, and ocean biogeochemistry are discussed.
Ecology, Evolution, and Marine Biology	128	ENV S 128	Foundations of Ecosystem Restoration	Focused	Env	UG	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.
Ecology, Evolution, and Marine Biology	153		Ecology of Lakes and Wetlands	Focused	Env	UG	An examination of ecological aspects of lakes, wetlands, and their catchments integrating biogeochemical processes, biological-physical coupling, and population and community ecology. Applications of remote sensing and ecological models; human-caused impacts and their management.	See course description.
Ecology, Evolution, and Marine Biology	133	ENV S 133	Biodiversity and Conservation	Focused	Env	UG	An integration of concepts central to effectively describing biodiversity patterns on our planet and better understanding the dynamics by which wildlife and ecosystems are altered by people. Includes exposure to topics such as extinction dynamics, climate change, and the human dimensions of biodiversity change. Course reviews classical and next-generation tools for conserving nature.	See course description.
Ecology, Evolution, and Marine Biology	127		Plant Biodiversity	Focused	Env	UG	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, Evolution, and Marine Biology	152	ENV S 152	Applied Marine Ecology	Focused	Env, Soc	UG	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.	See course description.
Ecology, Evolution, and Marine Biology	147		Coral Reef Biology and Ecology	Focused	Env	UG	Coral reefs are highly diverse ecosystems that provide important ecosystem services across many areas of the tropics. Introduction to the taxonomy, biology, and ecology of the main groups of coral reef inhabitants. Analysis and discussion of the biology and ecological relationships of reef algae, plants and animals as well as contemporary challenges to the health and resilience of reefs, and potential conservation strategies to mitigate stressors on reefs.	This course looks at climate change and coral reefs, coral reef fisheries, and anthropogenic stressors to reefs.
Ecology, Evolution, and Marine Biology	120		Introduction to Ecology	Focused	Env, Soc, Econ	UG	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.
Ecology, Evolution, and Marine Biology	148		Ecology of Running Waters	Includes	Env	UG	Review of literature on the physics, chemistry, and biology of running water ecosystems.	The discussion section focus on the bioassessment of river systems in regard to environmental damage, assessment, management, and restoration. There is no component of the course dedicated directly to sustainability.
Ecology, Evolution, and Marine Biology	40		The Ecology of Infectious Disease	Includes	Soc	UG	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.	The focus of this course is to study changes in the distribution and abundance of disease to assess how such changes have influenced human history. Ten main infectious diseases and their disease-causing agents are discussed.
Ecology, Evolution, and Marine Biology	142B		Ocean Processes	Includes	Env	UG	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.	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.

Ecology, Evolution, and Marine Biology	179	EEMB 279	Ecological Modeling	Includes	Env, Soc, Econ	UG	An introduction to mathematical and computer models in studies of the natural environment with emphasis on population dynamics. Case studies of interacting physical, chemical, and biological phenomena.	This course discusses fisheries bioeconomics (with an especial focus on how models can be used to determine maximum sustainable yield). Course content also includes case studies on population viability analysis (e.g., how we know whether an endangered species is likely to go extinct, and in what time frame), ecosystem recovery following halting harvest/hunting, and climate feedback loops due to wetland drying and release of CO ₂ .
Ecology, Evolution, and Marine Biology	279	EEMB 179 0100	Ecological Modeling	Includes	Env, Soc, Econ	G	An introduction to mathematic and computer models in studies of the natural environment with emphasis on population dynamics. Case studies of interacting physical, chemical and biological phenomena.	See course description.
Ecology, Evolution, and Marine Biology	179H		Ecological Modeling - Honors	Includes	Env, Soc, Econ	UG	Honors component of EEMB 179 designed to permit an in-depth study involving formulation, analysis and interpretation of an ecological model. A written report on the work is required.	See course description.
Economics	260A		Natural Resources	Focused	Env, Econ	G	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.
Economics	115	Environmental Studies 175	Intermediate Environmental Economics	Focused	Env, Soc	UG	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.
Economics	260B		Environmental Economics	Focused	Env, Soc, Econ	G	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.
Education	136	Environmental Studies 136	Green Works- Exploring Technology and the Search for Sustainability	Focused	Env, Soc	UG	A multi-disciplinary class examining the interplay of technology, society, science, and history. It	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.
Education	131		CalTeach, Secondary Science Education	Includes	Env	UG	Introduction to learning and teaching science in grade 7-12. The course requires attending a weekly on-campus seminar and participating in 15 hours of field placement in a local school.	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.
English	22		Introduction to Literature and the Environment, Part I: The Western Tradition	Focused	Env, Soc	UG	Beginning with "The Epic of Gilgamesh", one of the West's earliest texts, this course surveys nearly 5000 years of literature in order to explore the literary history of the relationship we have with our planet, as well as to better understand our current environmental beliefs.	See course description.
English	23		The Climate Crisis	Focused	Env, Soc	UG	Employing a cultural approach, this course explores why our climate is changing and what each of us can do about it. Considers issues such as housing, transportation, diet, consumer products, as well as different forms of climate activism.	See course description.
English	23S		The Climate Crisis Seminar	Focused	Env, Soc	UG	Seminar course for a select number of students enrolled in English 23 designed to enrich the large lecture experience for the motivated student. Course includes either supplementary reading or more intensive study of the English 23 reading list, as well as supplemental writing.	Employing a cultural approach, this course explores why our climate is changing and what each of us can do about it. Considers issues such as housing, transportation, diet, consumer products, as well as different forms of climate activism.
English	122NE	ENVS 122NE	Cultural Representations: Nature and the Environment	Includes	Env, Soc	UG	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.	The purpose of this course is to begin asking questions about what nature is and how our understanding of it facilitates its exploitation and about how we relate to other animals and why. These questions provide an opportunity for us to rethink some basic assumptions we tacitly hold that have led us to our contemporary apocalyptic moment. (Straight from syllabus)
English	147OM		Ocean Media	Includes	Env, Soc	UG	Studies in historical and contemporary media systems including orality, writing, print electronic media (telegraph, phone, radio, film, TV video, satellite communications), digital media (the Internet, word- processing) in their relation to literary or cultural expression. Topics include Enlightenment media, modern literature, graphic design, film and literature, twentieth century media theory.	This course discusses sustainability in the context of overfishing, pollution, environmentalist video games like Beyond Blue that depict deep sea trash and the conservation of whale populations, as well as ocean artworks that upcycle plastics.
English	22 S		Seminar on Literature and the Environment	Focused	Env, Soc	UG	Seminar course for a select number of students enrolled in English 22 designed to enrich the large lecture experience for the motivated student. Course includes either supplementary reading or more intensive study of the English 22 reading list, as well as supplemental writing.	See course description.
Environmental Data Science	214		Analytical Workflows and Scientific Reproducibility	Focused	Env, Soc	G	The generation and analysis of environmental data is often a complex, multi-step process that may involve the collaboration of many people. Increasingly tools that document and help to organize workflows are being used to ensure reproducibility, shareability, and transparency of the results. This course will introduce students to the conceptual organization of analytical workflows (including code, documents, and data) as a way to conduct reproducible analyses. These concepts will be combined with the practice of various tools and collaborative coding techniques to develop and manage multi-step analytical workflows as a team through students' first group projects. Students will also be introduced to the use of a remote server to conduct data-intensive analyses.	This course exposes students to workflows needed to conduct analysis of environmental data. There are a wide variety of workflows that will be covered through the course. At the end of the course, students will be able to apply their knowledge to solve issues that occur within the environment.
Environmental Data Science	222		Statistics for Environmental Data Science	Focused	Env, Soc	G	Teaches a variety of statistical techniques commonly used to analyze environmental data sets and quantitatively address environmental questions with empirical data. Covers fundamental statistical concepts and tools, including sampling and study design, linear regression, inference, and time series analysis, as well as foundational concepts of spatial and space-time dependency and associated impacts on inference.	The goal of this course is to enable MEDS students to confidently and competently apply statistical tools to environmental and socio-environmental datasets. Also, students will learn about and address common spatial and temporal dependency issues that arise in environmental datasets. (from syllabus)

Environmental Data Science	241		Environmental Policy Evaluation	Focused	Env, Soc	G	This course presents state of the art program evaluation techniques necessary to evaluate the impact of environmental policies. The program evaluation methods presented aim at identifying and measuring the causal effect of policies, regulations, and interventions on environmental outcomes of interest. Students learn the research designs and methods for estimating causal effects with experimental and non-experimental data. This will prepare students for interpreting and conducting high-quality empirical research, with applications in cross-sectional data and panel data settings.	See course description.
Environmental Data Science	223	ESM 267	Geospatial Analysis and Remote Sensing	Focused	Env, Soc	G	Introduces the spatial modeling and analytic techniques of geographic information science to data science students. The emphasis is on deep understanding of spatial data models and the analytic operations they enable. Recognizing remotely sensed data as a key data type within environmental data science, this course also introduces fundamental concepts and applications of remote sensing. In addition to this theoretical background, students become familiar with libraries, packages, and APIs that support spatial analysis in R.	This course uses real world data sets highlighting environmental issues.
Environmental Data Science	242		Ethics & Bias in Environmental Data Science	Focused	Env, Soc	G	This course will focus on ethical considerations in collecting, using, and reporting environmental data, and how to recognize and account for biases in algorithms, training data, and methodologies. Students will also examine the human and societal implications of these issues within environmental data science.	See course description.
Environmental Data Science	211		Team Science, Collaborative Analysis and Project Management	Focused	Env, Soc	G	Science in general, and data science in particular, are more and more requiring team science approaches to addressing the most pressing questions. Managing team science projects is therefore becoming an increasingly important skill for any scientist. This course explores the principles and practical tools available for effective and efficient project management.	This course is designed to support EDS students as they begin their Capstone Project. Topics include identifying team roles, developing a team code of conduct, and exploring concepts and software options for effective team-based project management. (from syllabus)
Environmental Data Science	223		Geospatial Analysis and Remote Sensing	Focused	Env, Soc	G	Introduces the spatial modeling and analytic techniques of geographic information science to data science students. The emphasis is on deep understanding of spatial data models and the analytic operations they enable. Recognizing remotely sensed data as a key data type within environmental data science, this course also introduces fundamental concepts and applications of remote sensing. In addition to this theoretical background, students become familiar with libraries, packages, and APIs that support spatial analysis in R.	The goal of this course is to prepare students to solve environmental problems using spatial approaches and remote sensing data. (from syllabus)
Environmental Data Science	411B		Capstone Project	Focused	Env, Soc	G	Second quarter of a two-quarter group study/analysis of how to apply data science and tools to an environmental problem. In this quarter students are expected to complete all project plans and deliverables, write and submit a project report, give an oral defense of the project, present the research to a general audience, and produce a policy brief of the main results.	The goal of EDS 411B is to facilitate student learning, work and progress on their MEDS Capstone project through lessons, activities, supervised and unsupervised project work, and peer review and feedback. (from syllabus)
Environmental Data Science	240		Data Visualization and Communication	Focused	Env, Soc	G	Effective display and analysis of scientific information is a critical skill. This course includes a discussion of the theory of good visual design and interactive analysis and also presents software tools and techniques supporting visual analysis. Students learn how to ask an interesting data question through MySQL, learn processing software to visualize it in 2D, do a 3D interactive visualization, then follow with a project of a data of their choice. Additional topics include dynamic and interactive visualization and web-based visualization frameworks.	This course will deepen students understanding of how people perceive and interpret graphical representations, and will learn about information visualization frameworks they can apply to design intuitive and impactful data visualizations. (from syllabus)
Environmental Data Science	231		Text And Sentiment Analysis For Environmental Problems	Focused	Env, Soc	G	Covers foundations and applications of natural language processing. Problem sets and class projects leverage common and emerging text-based data sources relevant to environmental problems, including but not limited to social media feeds (e.g., twitter) and text documents (e.g., agency reports), and builds capacity and experience in common tools, including text processing and classification, semantics, and natural language parsing.	The goal of this course is to expose students to a range of text analysis and natural language processing data sources, techniques and tools that can be applied to environmental problems, and for them to develop an understanding of how to apply these tools. (from syllabus)
Environmental Data Science	232		Machine Learning in Environmental Science	Focused	Env, Soc	G	Machine learning can help process big/complex data and extract knowledge. It forms one of the foundations in data science. This course provides a broad introduction to machine learning and statistical pattern recognition. Topics include supervised learning (decision tree, random forest, support vector machines, neural networks) and unsupervised learning (clustering, dimensionality reduction, deep learning). Problems and exercises are framed within environmental science applications. The course uses programming languages like R and Python to support learning how to do advanced scientific programming to solve real environmental problems.	This course will present machine learning concepts that can be used to analyze environmental data. Students should be able to build machine learning models and apply best practices for machine learning development so that the models generalize to data and tasks in the real world. (from syllabus)
Environmental Data Science	411A		Capstone Project	Focused	Env, Soc	G	First quarter of a two-quarter group study/analysis of how to apply data science and tools to an environmental problem. In this quarter students are expected to work with their project client to finalize project plans, assign individual roles and responsibilities, develop a project plan and deliverables, and make significant headway on implementing those plans.	This group project looks at implementing data science methods and principles to tackle environmental issues. Students will use software programs to complete the tasks required.
Environmental Data Science	230	ESM 232	Modeling Environmental Systems	Focused	Env, Soc	G	Introduction to the development, evaluation, interpretation, and presentation of models as applied to environmental problems. Course will consist of theory and many practical examples building and interpreting models using computers.	The course will cover designing a new model and evaluating existing models. Best practices will be emphasized, such as sensitivity and uncertainty analysis, that help to design and use models to reliably support environmental problem solving. (from syllabus)
Environmental Data Science	212		Essential Math for Environmental Data Science	Focused	Env, Soc	G	Review of quantitative methods that are commonly used in environmental science. The course covers single and multi-variable functions and graphing, basic linear algebra, complex numbers, integral calculus and simple differential equations.	This course prepares incoming MEDS students with quantitative methods, skills, notation and language commonly used in environmental data science and required for their data science courses and projects in the program. (from syllabus)
Environmental Data Science	221		Scientific Programming Essentials	Focused	Env, Soc	G	This course teaches key scientific programming skills and demonstrates the application of these techniques to environmental data analysis and problem solving. Topics include structured programming and algorithm development, flow control, simple and advanced data input-output and representation, functions and objects, documentation, testing and debugging. The course is taught using a combination of the R and Python programming languages.	This course teaches key scientific programming skills and demonstrates the application of these techniques to environmental data analysis and problem solving. Topics include structured programming and algorithm development, flow control, simple and advanced data input-output and representation, functions and objects, documentation, testing and debugging. The course is taught using a combination of the R and Python programming languages. (from syllabus)
Environmental Data Science	212	EDS 214/ EDS 215/ EDS 216/ EDS 221	Essential Math for Environmental Data Science	Focused	Env, Soc	G	Review of quantitative methods that are commonly used in environmental science. The course covers single and multi-variable functions and graphing, basic linear algebra, complex numbers, integral calculus and simple differential equations.	The goal of Essential Math in Environmental Data Science is to prepare incoming MEDS students with quantitative methods, skills, notation and language commonly used in environmental data science and required for their data science courses and projects in the program
Environmental Data Science	214	EDS 212/ EDS 215/ EDS 216/ EDS 221	Essential Math for Environmental Data Science	Focused	Env, Soc	G	Review of quantitative methods that are commonly used in environmental science. The course covers single and multi-variable functions and graphing, basic linear algebra, complex numbers, integral calculus and simple differential equations.	The goal of Essential Math in Environmental Data Science is to prepare incoming MEDS students with quantitative methods, skills, notation and language commonly used in environmental data science and required for their data science courses and projects in the program

Environmental Data Science	215	EDS 212/ EDS 214/ EDS 216/ EDS 221	Essential Math for Environmental Data Science	Focused	Env, Soc	G	Review of quantitative methods that are commonly used in environmental science. The course covers single and multi-variable functions and graphing, basic linear algebra, complex numbers, integral calculus and simple differential equations.	The goal of Essential Math in Environmental Data Science is to prepare incoming MEDS students with quantitative methods, skills, notation and language commonly used in environmental data science and required for their data science courses and projects in the program
Environmental Data Science	216	EDS 212/ EDS 214/ EDS 215/ EDS 221	Essential Math for Environmental Data Science	Focused	Env, Soc	G	Review of quantitative methods that are commonly used in environmental science. The course covers single and multi-variable functions and graphing, basic linear algebra, complex numbers, integral calculus and simple differential equations.	The goal of Essential Math in Environmental Data Science is to prepare incoming MEDS students with quantitative methods, skills, notation and language commonly used in environmental data science and required for their data science courses and projects in the program
Environmental Data Science	221	EDS 212/ EDS 214/ EDS 215/ EDS 216	Essential Math for Environmental Data Science	Focused	Env, Soc	G	Review of quantitative methods that are commonly used in environmental science. The course covers single and multi-variable functions and graphing, basic linear algebra, complex numbers, integral calculus and simple differential equations.	The goal of Essential Math in Environmental Data Science is to prepare incoming MEDS students with quantitative methods, skills, notation and language commonly used in environmental data science and required for their data science courses and projects in the program
Environmental Science and Management	441		Introduction to Environmental Media Production	Includes	Env	G	Hands-on course designed to give students the core skills needed to conceptualize, capture, edit, and deliver short-form environmental documentaries. The basic tools of film-making -- cinematography, lighting, sound, and editing -- are covered.	This course provides students with the tools and skills needed to craft, edit, and deliver documentaries with an environmental theme. Students will develop an introductory understanding of video production.
Environmental Science and Management	243		Environmental Policy Analysis	Focused	Env, Soc, Econ	G	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.	Students gain a perspective on both how and why a given environmental policy is or is not put into place. Specifically students look at how different interests compete within institutions and how that results in a certain policy.
Environmental Science and Management	241		Environmental Politics and Policy	Focused	Env, Econ	G	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, enactment, and reforms. It takes into consideration the interactions across levels of social organization and socio-political systems.
Environmental Science and Management	231		Creating Value through Environmental Solutions	Focused	Env, Soc	G	In this practicum, students explore environmental challenges faced by a specific corporation and identify opportunities to improve environmental impact through business model innovation. Working on a team with an industry mentor, students evaluate the financial potential, expected social/environmental impact and innovation risks of their ideas. Practical application of theory and tools from ESM 281.	See course description.
Environmental Science and Management	267		Advanced GIS: Tools and Techniques	Focused	Env, Soc	G	Intensive lab sessions focused on advanced GIS tools and techniques. Emphasis on using open-source tools and scripting languages to ingest and manage real-world data, orchestrate complex analyses, and communicate spatial information.	This course uses real world data sets highlighting environmental issues.
Environmental Science and Management	410		Internship Practicum	Focused	Env	G	Students complete a summer internship, prepare a short paper, and present internship experiences to the Bren School community through an informal presentation.	Summer internship in the field of environmental studies
Environmental Science and Management	293		Advanced Special Topics in Climate and Energy	Focused	Env, Soc	G	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?
Environmental Science and Management	202		Environmental Biogeochemistry	Focused	Env	G	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.
Environmental Science and Management	222		Fate and Transport of Pollutants in the Environment	Focused	Env	G	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 class looks at how a chemical will behave in the environment (where it goes, how long does it last, will it be at toxic concentrations), and serves to design more sustainable chemical management plans.
Environmental Science and Management	224		Sustainable Watershed Quality Management	Focused	Env	G	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.
Environmental Science and Management	242		Natural Resource Economics and Policy	Focused	Env, Econ	G	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.
Environmental Science and Management	245		Cost-Benefit Analysis And Non-Market Valuation	Focused	Env, Econ	G	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 Science and Management	207		Environmental Law and Policy	Focused	Env, Soc, Econ	G	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.
Environmental Science and Management	277		International Environmental Law	Focused	Env, Soc, Econ	G	This short course provides a general introduction to international environmental law and policy. After reviewing the rise of the international environment agenda, the course concentrates on how societies have responded to global-scale environmental challenges, including biodiversity loss, climate change, ozone depletion, and the loss of living marine resources. The principal response to date has been in the area of international environmental law and policy, where a major new field of law and diplomacy has developed and new multilateral institutions created.	See course description.
Environmental Science and Management	271		Carbon footprints and Carbon Accounting	Focused	Env, Econ	G	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.	See course description.
Environmental Science and Management	232	EDS 230	Modeling Environmental Systems	Focused	Env, Soc	G	Introduction to the development, evaluation, interpretation, and presentation of models as applied to environmental problems. Course will consist of theory and many practical examples building and interpreting models using computers.	The course will cover designing a new model and evaluating existing models. Best practices will be emphasized, such as sensitivity and uncertainty analysis, that help to design and use models to reliably support environmental problem solving. (from syllabus)

Environmental Science and Management	201		Ecology of Managed Ecosystems	Focused	Env	G	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.
Environmental Science and Management	273		Life Cycle Assessment	Focused	Env	G	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.
Environmental Science and Management	225		Water Policy	Focused	Env, Soc, Econ	G	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.
Environmental Science and Management	257		Coastal Marine Policy & Management	Focused	Env, Econ	G	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, federal, and California coastal and marine policy programs and management. Students learn how to draft a policy brief and decision-making memo, as well as participate in real-world policy making forums and meetings.
Environmental Science and Management	204		Economics of Environmental Management	Focused	Env, Econ	G	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.
Environmental Science and Management	240		Climate Change Biology	Focused	Env, Soc	G	Biological changes in response to climate, their causes, emerging conservation responses and policy implications.	This course focuses on the impact of climate change from a biological perspective. Students also learn about the causes behind these changes, as well as conservation methods involving public policy.
Environmental Science and Management	226		Groundwater Management	Focused	Env	G	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 focuses on the principles and tools needed for groundwater management and stewardship of groundwater resources; examples are drawn from challenges faced in global groundwater management.
Environmental Science and Management	235		Watershed Analysis	Focused	Env	G	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.
Environmental Science and Management	229		Science, Economics and Policy of Climate Change	Focused	Env, Soc, Econ	G	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.
Environmental Science and Management	281		Corporate Environmental Management	Focused	Env, Soc, Econ	G	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 provides students with an overview of Corporate Social Responsibility (CSR) work in a corporate setting. Discussion topics include social, environmental, and community issues faced by a corporation and the ways in which such companies weigh priorities and invest resources.
Environmental Science and Management	203		Earth System Science	Focused	Env	G	Energy and mass transport as applied to the atmosphere, oceans, and land models of the earth's climate and hydrology.	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.
Environmental Science and Management	401A		Group Project in Environmental Science and Management	Focused	Env, Soc	G	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.	See course description.
Environmental Science and Management	237		Climate Change Impacts and Adaptation	Focused	Env, Soc	G	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 will present the techniques used to apply science based information to support climate change assessment and adaptation. A key focus will be becoming familiar with techniques that scientists use to quantify these impacts and to disentangle the multiple causes of variability in observations. We will consider how vulnerability changes across scale and in different locations around the globe and address some of the key issues in making predictions and ultimately planning for continuing climate change.
Environmental Science and Management	239		Advanced Climate Science for Policy Makers	Focused	Env	G	Examines the science of climate change with a focus on those issues most relevant to policy makers. 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 examines the science behind climate change as it relates to policymaking. Some topics include climate forcing agents, greenhouse gases, climate sensitivity, ocean acidification, and climate mitigation scenarios.
Environmental Science and Management	230		Strategic Planning for Non-Profit Ventures	Includes	Soc, Econ	G	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.
Environmental Science and Management	256A		Introduction to Entrepreneurship and New Venture Creation	Includes	Soc, Econ	G	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.	See course description.
Environmental Science and Management	256B		New Venture Opportunity Analysis	Includes	Env, Soc, Econ	G	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.
Environmental Science and Management	402A		New Venture Formation	Includes	Env, Soc, Econ	G	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.

Environmental Science and Management	215		Landscape Ecology	Includes	Env	G	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.	Students in this course look at topics such as the effects of roads on animal abundance, land use, climate change, and many more topics related to how humans affect the environment. The course is primarily focused on understanding spatial patterns in landscape structure and ecological processes but incorporates principles of sustainability throughout.
Environmental Science and Management	282		Pollution Prevention	Includes	Env	G	An alternative to pollution control or remediation is to prevent it in the first place. This can be achieved through increased efficiency, material and technology substitution, and reuse and recycling. This course introduces pollution prevention through theory building and case studies. It also teaches and applies pertinent concepts and tools from industrial ecology.	See course description.
Environmental Science and Management	248		Environmental Institutions: Rights, Rules, and Decision-making Systems	Includes	Env, Soc	G	Comparative study of management systems or regimes addressing natural resource and environmental concerns and operating at scales ranging from local to global. Topics include characterization of individual regimes and factors affecting the formation, evolution, and effectiveness of these institutional arrangements.	See course description.
Environmental Science and Management	269		Survey Design and Environmental Public Opinion	Includes	Env, Econ	G	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.	Course focuses on survey design from an environmental perspective. Students learn practical skills on how to collect data on the environment.
Environmental Science and Management	219		Microbial Processes in the Environment	Includes	Env, Soc	G	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 course focuses on the role of microbes in the environment. It emphasizes the importance of microbes in terms of management of the environment and natural resources.
Environmental Science and Management	206		Data Analysis for Environmental Science and Management	Includes	Env	G	Develop skills and conceptual framework to effectively use data to solve practical problems. Topics include descriptive statistics, hypothesis testing, experimental design, exploratory data analysis, probability and uncertainty, time series analysis, and spatial stats. Emphasis on case studies from environmental problems.	This course provides students with the tools and skills to answer environmental questions using both qualitative and quantitative datasets. Students use R and RStudio software to analyze data.
Environmental Science and Management	211		Applied Population Ecology	Includes	Env	G	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.	This course explores the variation in both abundance and density between species. Population ecology topics such as population trends, the causes of such trends, and conservation objectives are discussed. Students learn how to perform quantitative risk assessment for endangered species and identify potentially efficacious management actions.
Environmental Science and Management	270		Conservation Planning and Priority Setting	Includes	Env, Soc, Econ	G	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 examines how the concepts and principles of conservation planning can be applied to real world settings. Lecture and lab topics include species-level conservation targets, conservation networks, RStudio, Marxan, restoration, and ecosystem services.
Environmental Science and Management	270P		Conservation Planning Practicum	Includes	Env	G	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 use analytical approaches and tools to develop a conservation plan.
Environmental Science and Management	254		Coastal Marine Ecosystems Processes	Includes	Env, Soc	G	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 covers the basics and important details of processes in marine coastal ecosystems. Emphasis is placed on the approaches and tools associated with marine coastal management, restoration, and conservation. Human-resource interactions are also discussed.
Environmental Science and Management	437		Writing Skills for Environmental Professionals	Includes	Env	G	Provides the skills to write effectively across academic and applied genres in the environmental sciences. A focus on understanding audience, good writing mechanics, and the principles of good scientific and analytical writing will help students "translate science" effectively. Topics include thesis, audience, tone, organization, structure, and citations. Also covers writing styles and formats likely encountered in an environmental career, such as proposals, evaluations, writing for the public, and professional correspondence.	This course highlights the writing mechanics and the principles of good scientific and analytical writing needed in environmental professions. The course covers various writing formats such as research and project proposals, evaluations and data summaries, policy analyses.
Environmental Science and Management	440		Strategic Environmental Communication	Includes	Env, Soc	G	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.	This course explores the science and art of environmental communication, including communication theory, understanding audiences, and developing strategy. Students practice messaging for a diversity of audiences and also learn how to tell compelling stories by exploring conflict, drama, and character.
Environmental Science Management	294		Adv. Topics Env Law	Focused	Env, Soc	G	Advanced, special topics in environmental law. May be repeated for credit with changes in content.	See course description.
Environmental Science Management	210		Business and Environment	Focused	Env, Econ	G	Introduces students to business objectives and structure and discusses new business models and tools that incorporate principles of environmental management and corporate performance. It highlights corporate strategies that deliver value to shareholders while responding to environmental concerns.	This course explores the relationship between corporate strategies and business models with environmental concerns and management.
Environmental Studies	200		Core Seminar in Environment and Society	Focused	Env, Soc	G	Seminar provides students with a broad introduction to key environmental theories, concepts, problems, and methods from the humanities, social sciences, and natural sciences. Students learn to appreciate the diversity of approaches to understanding current environmental issues, and develop a basic vocabulary to discuss these issues with colleagues from other disciplines. Course is required for students pursuing the Interdepartmental PhD Emphasis in Environment and Society and is open to others with the permission of the instructor.	Focus on interdisciplinary environmental research.
Environmental Studies	108W		Wildlife in America	Focused	Env	UG	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.	Focuses on marine environmental history
Environmental Studies	1H		Introduction to Environmental Studies - Honors	Focused	Env, Soc	UG	"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.	See course description.
Environmental Studies	1		Introduction to Environmental Studies	Focused	Env, Soc	UG	"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 Studies	193WL	C LIT 186WL0100	Wild Literature in the Urban Landscape	Focused	Env	UG	One-time course taught by lecturers or guest professors on a special area of interest in environmental studies. Specific course titles and topics to be announced by the Environmental Studies program each quarter.	Combines study of ecological writing with service to schools and community centers in Santa Barbara. Through exploration of both local and global ecological challenges, students will conduct weekly workshops combining literature and ecology in order to better understand local issues like drought, erosion and land-use, with an emphasis on eco-industrial histories. The curriculum will serve as an existing approach to environmental education through the lens of literary arts, providing an initial foundation for lesson development elsewhere.
Environmental Studies	118		Industrial Ecology: Designing for the Environment	Focused	Env, Econ, Soc	UG	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.
Environmental Studies	193CE		Environmental and Social Perspectives on the Circular Economy	Focused	Env, Econ, Soc	UG	One-time course taught by lecturers or guest professors on a special area of interest in environmental studies. Specific course titles and topics to be announced by the Environmental Studies program each quarter.	"Circular Economy" is a combined seminar/lecture that is an introduction to the concept of circular economy and the practical application of sustainability principles to organizations, communities and consumers. The course explores theories of sustainability, resource and material flows, examples of existing circular economies in society, current developments in the field, factors that limit the development of circular systems and the relationship between industrialecology, business, policy and innovation.
Environmental Studies	136	Education 136	Green Works- Exploring Technology and the Search for Sustainability	Focused	Env, Soc	UG	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.
Environmental Studies	128	EEMB 128	Foundations of Ecosystem Restoration	Focused	Env	UG	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 focuses on the science behind ecosystem restoration. Students discuss the management steps that can be taken to improve ecosystem functions like water retention and productivity and preserve biodiversity with the goal of understanding how and why these mechanisms work and when they don't. In addition, while not the focus of the class, students also discuss some of the complexities, both practical and economic, that come with trying to scale restoration projects up. The class also touches on the importance of involving the local community and any relevant stakeholders for restoration success.
Environmental Studies	130EV	Soc 130EV	Eco Vista: Creating Systemic Alternatives	Focused	Env	UG	"Eco Vista" names the project of turning Isla Vista into something like an eco-village by 2030. This course is grounded in existing models and visions of "Systemic Alternatives" - systems change designed to confront the climate crisis. It offers analysis of the historical background and contemporary situation of Isla Vista. We then assess the state of the existing Eco Vista Project: www.ecovistacommunity.com , alongside in-depth study of both the theories and case studies relevant to achieving deep social transformation today and in the near future. Students collaborate in hands-on research, design, and direct participation on an existing project, or form one of their own.	See course description.
Environmental Studies	122NE	ENGL 122NE	Cultural Representations: Nature and the Environment	Focused	Env, Soc	UG	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.	The purpose of this course is to begin asking questions about what nature is and how our understanding of it facilitates its exploitation and about how we relate to other animals and why. These questions provide an opportunity for us to rethink some basic assumptions we tacitly hold that have led us to our contemporary apocalyptic moment. (Straight from syllabus)
Environmental Studies	155		Built World and Environment	Focused	Env, Soc	UG	Introduces students to the built environment from a global perspective and explores the ways in which infrastructural arrangements are shaped by politics, technologies, ecologies, and ideas. Case studies include hydroelectric dams, nuclear power plants, pipelines, electrical grids, undersea cables, roads, bridges, canals, seawalls, and more. Students build on course concepts to research possibilities for ecologically adaptive and resilient cities in the age of climate change.	See course description.
Environmental Studies	135A		Principles of Environmental Planning	Focused	Env, Soc, Econ	UG	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. This course offers students the ability to apply their course concepts to field studies with the opportunity to go on field trips. Students also have the opportunity with a guest lecturer from the UCSB Sustainability Department to discuss local initiatives to create a more sustainable city.
Environmental Studies	132		Human Behavior and Global Environment	Focused	Env, Soc, Econ	UG	Study of global environmental impacts of major human technological innovations, including the use of fire, development of agriculture, and the process of industrialization. How did Western and non-Western societies view and treat nature? Evaluation of prospects for altering human behavior to encourage sustainable development is included	This course focuses on humanity's relation, attitude, and behavior to the environment and its related crises. Topics include development of agriculture, industrialization, globalization, and consumerism. The course evaluates changing human behavior to promote sustainable development.
Environmental Studies	127B		Advanced Environmental Education	Focused	Env, Soc	UG	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 Studies	174		Environmental Policy And Economics	Focused	Env, Econ	UG	Introductory course on economic analysis of environmental policy. Topics include market failure, the evaluation of environmental policy, energy sources, population growth, sustainable development, the optimal levels of biodiversity and pollution, and dispute resolution.	This course examines how our market-based system has played a role in environmental degradation. Economic analysis tools are discussed in regard to designing incentives to merge the goals of economic growth and environmental health. Emphasis is placed on topics such as environmental quality, market failure, role of the government, evaluation of environmental policy, and sustainable development.
Environmental Studies	186		Development, Displacement, and Environmental Justice	Focused	Env, Soc, Econ	UG	A look at policies and actions by international development agencies and governments, reviewing critiques of their systemic weaknesses, failures, and impacts on local communities and environments. Focuses on case studies of forced displacement, as well as examples from around the world where communities, activists, citizens, and scholars are advocating for alternative policies and actions to promote human rights and social and environmental justice.	See course description.

Environmental Studies	108O		History of the Oceans	Focused	Env, Soc	UG	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 focuses on human's relation with the ocean and examines the attempts human's have gone through toward conserving the world's oceans. Ultimately, this promotes conservation and sustainable practices.
Environmental Studies	175	ECON 115	Environmental Economics	Focused	Env, Econ	UG	Provides a rigorous treatment of environmental 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.	See course description.
Environmental Studies	133	EEMB 133	Biodiversity and Conservation	Focused	Env	UG	An integration of concepts central to effectively describing biodiversity patterns on our planet and better understanding the dynamics by which wildlife and ecosystems are altered by people. Includes exposure to topics such as extinction dynamics, climate change, and the human dimensions of biodiversity change. Course reviews classical and next-generation tools for conserving nature.	See course description.
Environmental Studies	2		Introduction to Environmental Science	Focused	Env, Soc	UG	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.
Environmental Studies	137		Conservation Planning	Focused	Env, Soc	UG	Conservation planning practitioners have knowledge and skill sets that focus on protecting and maintaining biodiversity in the face of global changes to land, water, and climate. This course addresses the basic principles of ecosystem and landscape ecology, conservation theory, monitoring and adaptive management, interdisciplinary engagement, and problem solving. In teams, students will utilize the international 'Conservation Standards' strategy to present a conservation plan for a species or ecosystem of concern.	See course description
Environmental Studies	144	GEOG 144	Form, Process And Human Use Of Rivers	Focused	Env, Soc	UG	Basic understanding of fluvial (river) hydrology. In-depth evaluation of channel form and fluvial processes and impact of human use of rivers.	This course involves human use of rivers and includes discussion of river restoration and river sustainability.
Environmental Studies	116		Sustainable Communities	Focused	Env, Soc	UG	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.	See Official Course Description
Environmental Studies	117		Science and Policy Dimensions of Climate Change	Focused	Env, Soc, Econ	UG	Transitioning to a low carbon society presents both a significant opportunity and an enormous challenge. This course aims to address the complexity of the low carbon transition, integrating knowledge about climate change science, responses to climate impacts, and the technological, behavioral and policy solutions needed for local and global transitions away from fossil fuels.	This course examines climate change and variability due to global warming as a critical environmental, social, and economic issue.
Environmental Studies	139		Business and Environment	Focused	Env, Soc, Econ	UG	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. Students will understand how corporations change their operations, the types of products they make, their communication strategies about products and brands and their governance structures in an effort to "go green." Students conclude the course by investigating industry and economy-wide patterns in greening and considering three theories regarding the role of business in a transition to a sustainability society.
Environmental Studies	129		EcoPsychology	Focused	Env, Soc	UG	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.	Ecopsychology 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.
Environmental Studies	149	GEOG 161	Food, Agriculture, and the Environment	Focused	Env, Soc, Econ	UG	Evolution, current status, and alternative futures of agriculture, food and population worldwide. Achieving environmentally, socially, and economically sustainable food systems; soil, water, crops, energy and labor; diversity, stability and ecosystems management; farmer and scientist knowledge and collaboration; common property management.	See course description.
Environmental Studies	152	EEMB 152	Applied Marine Ecology	Focused	Env, Soc	UG	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.	See course description.
Environmental Studies	176	PS 176	Energy Politics	Focused	Env, Soc	UG	Introduces students to the politics and policy of the contemporary global energy system. Covers major public policies and politics related to both the electricity and transportation systems. Students learn energy technologies? characteristics and understand contemporary political debates over the energy system.	See course description.
Environmental Studies	3		Introduction to the Social and Cultural Environment	Focused	Env, Econ, Soc	UG	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 chronologically assesses the relationship of human societies and cultures with the environment. Particular emphasis is placed on contrasting various cultures with regard to their practices of environmental manipulation.
Environmental Studies	136O	ARTHI 136O	Green Architecture	Focused	Env, Soc	UG	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 approximately 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 'green' architectural aesthetic.
Environmental Studies	120A		Introduction to Environmental Toxicology	Focused	Env	UG	Uses case studies, such as the poisoning at Minamata, Japan, to introduce the various fields of toxicology (eco-, environmental, biomedical, and epidemiology) and basic toxicological principles as metal and radiation toxicities, transformations, cycling, and transport of metals and radioisotopes in the environment, toxins vs toxicants, routes of exposure, absorption, distribution, target organs, dose, metabolism, sequestration, and excretion, as well as destruction due to atomic bomb blast (Hiroshima) vs. fission reactor explosion (Chernobyl and Fukushima), mutagenicity, and carcinogenicity.	See course description.

Environmental Studies	120B		Advanced Environmental Toxicology	Focused	Env	UG	A continuation of Introduction to Environmental Toxicology (ENV S 120A). Using additional case studies such as the decline of Baltic seals, the birth defects caused by thalidomide, and the cancers caused by DES, course explores reproductive and developmental toxicology, teratogenicity, epigenetic effects, carcinogenicity (again), and estrogen effects while examining organic chemistry, chlorinated hydrocarbons, pesticides, solvents, and structure activity relationships.	See course description.
Environmental Studies	50		Climate Change Solutions	Focused	Env, Soc	UG	A unique solutions-oriented introduction to the crisis of climate change, building on the Carbon Neutrality Initiative of the UC system. Topics cover technical, scientific, and social aspects of climate change with the goal of empowering students with the capacities and knowledge to engage with possible solutions for stabilizing the climate. Offered as a hybrid course in which interactive video lectures taught by faculty from across the UC campuses are accompanied by in class discussion and collaborative group projects.	See course description.
Environmental Studies	165A		Environmental Impact Analysis	Focused	Env, Soc, Econ	UG	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.
Environmental Studies	165B		Environmental Impact Analysis	Focused	Env, Soc, Econ	UG	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).
Environmental Studies	141		Chemistry of Global Change	Focused	env	UG	Examines the fate of fossil fuel carbon dioxide within the context of the global carbon cycle. It will address questions such as: Which reservoirs have absorbed the emitted fossil fuel carbon dioxide? Why has so little of the emitted carbon dioxide entered the ocean? Why and how will the ocean chemistry change? What are the expected effects of the marine ecosystem? Includes a term paper, problem sets, and in-class exams.	This course examines the chemistry and oceanography of the carbon cycle, how this gas contributes to global warming, and some consequences of warming to the environment.
Environmental Studies	147		Air Quality and the Environment	Focused	Env	UG	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 environmental problems (See course description).
Environmental Studies	135B		Advanced Environmental Planning	Focused	Env, Soc	UG	Advanced seminar analyzing current issues affecting the natural and built environment, the practice of regional and local government planning, and the ability of local government to address future environmental challenges.	See course description.
Environmental Studies	143		Endangered Species Management	Focused	Env, Soc	UG	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 Studies	172		Waste Management: Product Stewardship, Recycling and Renewable Energy	Focused	Env, Econ	UG	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.
Environmental Studies	130B		Global Tourism and Environmental Justice	Focused	Env, Soc, Econ	UG	Focus on the contradictions between international tourism as an economic development strategy and environmental conservation efforts, especially in an era of climate change. One major objective is to help students make more informed decisions about their own tourist experiences.	This course focuses on assessing the sustainability of global tourism, environmental justice, and environmental conservation from an interdisciplinary perspective. Tourism was once viewed as an answer to improved living conditions for local residents and economic development for developing countries. However, scholarly, scientific, and policy evaluations have demonstrated the diverse and varied positive and negative consequences of tourism. This course reviews this evidence and explores the emergence of alternative tourism approaches that aim to create both a more sustainable, just, and equitable tourism industry, as well as effect social change.
Environmental Studies	106		Critical Thinking and Evidence-based Reasoning in Enviro Studies	Focused	Env, Soc	UG	An in-depth examination of critical thinking in environmental contexts. Identification of deceptive methods of environmental critique and debate in policy and public matters. Comprehension of approaches to environmental solutions as well as common thinking traps in developing such solutions. Emphasis on reasoning patterns and leverage points of environmental arguments, systems thinking about environmental problems and solutions, exploration of common errors in scientific reasoning, and framing scientific and environmental issues for clarity and effective communication.	See course description.
Environmental Studies	163B		Water Management Resources	Focused	Env, Soc	UG	Water underpins all aspects of development. In 163A we learned how to evaluate water resource supply and demand. To manage water resources effectively, we also need to understand anthropogenic drivers of change and water policy. This class builds on topics covered in 163A and is a project-based course (independent AND group) that focuses on water tradeoffs and opportunities for management. The class prioritizes science communication skills.	See course description.
Environmental Studies	121		Cont Emerging Concern	Focused	Env, Soc	UG	There has been an increase in both the number of substances to which consumers are exposed and the awareness of the potential ill effects of these substances. Personal care products, medications, and food additives are coming under increasing scrutiny, and we are aware that they are having unintended effects, but their presence in the environment is largely unregulated. This course takes students through the classes of contaminants of emerging concern (CECs), discussing previously-assigned papers and researching a CEC of their choice from cradle-to-grave.	This covers how the lack of regulation of contaminants of emerging concern are affecting the environment through contamination.

Environmental Studies	122CC	ENGL 122CC	Rhetoric of Climate Change	Focused	Env, Soc, Econ	UG	Course examines the debate around climate change and climate science. We will examine rhetorics and utilize literary methodologies to investigate their imagined futures. We will read texts that urge us to take climate change seriously as well as analyze some of the tropes most frequently used in denial literature. The goal is not only to understand the implicit narrativization of climate change, but to assess how humanistic methodologies can contribute to these debates and contribute to imagining different futures.	See course description.
Environmental Studies	501		Teaching Assistant Practicum	Includes	Env	G	Students gain practical experience in teaching while coordinating one or more discussion/lab sections. Responsibilities include analyses of course texts/materials, discussion/lab sections, and formulation of topics/ questions for papers and examinations. Evaluations are completed by members of the class sections.	See course description
Environmental Studies	185		Human Environmental Rights	Includes	Env, Soc	UG	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.	This course provides an overview of the equity and justice dimensions of climate change from the perspectives of environmental justice and human environmental rights. Although many aspects of climate change have attracted considerable scholarly, policy, and public attention, climate justice and equity have received far less consideration. The course includes an introduction to environmental justice, human rights and the environment, and vulnerability and adaptation to climate change
Environmental Studies	173		American Environmental History	Includes	Env, Soc	UG	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.
Environmental Studies	182		Seminar in Community and Personal Resilience	Includes	Env, Soc	UG	A meaningful introduction to community and personal resilience through collective problem-solving and transformative action. Topics include ecological crisis, social equity, intersectionality, and regenerative economy, bringing new perspectives, struggles, and voices into dialogue with environmental problems and visions for the future. Particular attention is paid to the inherent knowledge, wisdom, and experience of each student participant, with the goal of deepening personal resilience, environmental action, and community engagement.	Addresses Goal 4 and Outcome 4: Demonstrates the interconnectedness of environmental, economic, and social systems. Students develop and use an ethical perspective in which they view themselves as embedded in the fabric of an interconnected world
Environmental Studies	183		Film and Environment	Includes	Env, Soc	UG	Introduces students to a series of films representing a range of environmental issues, ideas, and interventions. Topics include energy, water, agriculture, biodiversity, and climate change as well as the ecological impacts of media production and consumption. Special attention is paid to the ways in which film and media affect our imaginations of the world around us and impact our thoughts and actions toward human and non-human environments. Students work collaboratively on creative film projects.	See course description.
Environmental Studies	30		Introduction to Environmental Economics	Includes	Env, Econ	UG	Economic processes underlie many of the environmental problems facing humanity, but can also play an important role in solving those challenges. This course introduces key theories from micro- and macroeconomics, and applies them to a variety of environmental problems. Topics covered include individual preferences, efficiency, valuation, market failures and policy analysis.	This course presents both macroeconomic and microeconomic theories, and their use in identifying environmental issues. Students will learn to apply economic theory to address and solve environmental problems.
Environmental Studies	151	ANTH 152	Environmental Anthropology	Includes	Env, Soc, Econ	UG	Examines the ways that humans interact with, use, and perceive the environment and nature, with a focus on the cultural, political, and economic features of human environment relationships across time and in different parts of the world. Through readings, in-class activities and discussions, field trips, and research projects, students will gain a better understanding of how anthropological theory, research, and applications can be used to address contemporary environment topics and problems.	This course examines how humans understand and interact with the environment. The class discusses the social, historical, and economic themes of human-environment relationships in various geographical regions.
Environmental Studies	161		Environmental Communications: Contemporary Strategies and Tactics	Includes	Env, Soc	UG	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.
Environmental Studies	125A		Principles of Environmental Law	Includes	Env, Soc	UG	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 on federal environmental laws and constitutional principles as it relates to human use of the environment. The ethical, cultural and legal principles that provide the foundation for our current legal system are discussed.
Environmental Studies	112		World Population, Policies, and the Environment	Includes	Env, Soc, Econ	UG	Examines the history of global human population growth, with a specific emphasis on demographic dynamics within developing nations (or the Global South). Will consider the social, economic, and environmental consequences of and the relationships between population trends and human migration. Will analyze governmental policies and how they influence population growth and their myriad and often unintended consequences. Students will be expected to demonstrate familiarity with key theories and methods by scholars like Thomas Malthus, Karl Marx, and Ester Bose	This course examines the history of global population growth and its effects on environments and economies around the world. It discusses governmental policies, education, and female employment as means of population control.
Environmental Studies	127A		Foundations of Environmental Education	Includes	Env, Soc	UG	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.
Environmental Studies	148		Transforming Food Systems	Includes	Env, Soc	UG	In this intensive field seminar, we learn directly from the people and organizations on the frontlines of cultivating more just and sustainable food systems in California and the United States. Designed for students exploring a career or significant civic engagement in the food system, and introduces students to the diverse sectors and approaches in this dynamic field.	See course description
Environmental Studies	162	GEOG 162	Water Quality	Includes	Env	UG	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 involves a comprehensive review of the physical, chemical, and biological characteristics of surface water and groundwaters. The treatment and management of chemically and biologically polluted waters is discussed.
Environmental Studies	130A		Un-naturalizing Disasters: Risk, Vulnerability, and Resilience	Includes	Env, Soc, Econ	UG	Course provides an understanding of different approaches to and meanings of disasters, and how people have faced disaster-related challenges in practical ways in a range of social, cultural, and environmental contexts. The course is designed to develop both critical analytical skills and hands-on problem solving skills	This course aims to enable students to develop an understanding of the relationship between people and the environment over time, including the social construction of disasters; different ways of knowing, understanding, and responding to disasters; and the significance of this relationship in the context of a changing climate; recognize the complexity of disasters, risk, vulnerability, and resilience; and assess strategies and actions to manage and recover from disasters and reduce disaster risks.

Environmental Studies	177	POLS 177	Comparative Environmental Politics	Includes	Env, Soc	UG	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 explores the political dimension of environmental policy action and inaction by documenting differences between countries in their domestic politics of the environment. It explores how ideas, interests, and institutions shape national environmental politics relating to such issues as climate change, long-range air pollution, biodiversity loss, ocean acidification, water shortages, ozone layer depletion, overfishing and deforestation. The course is divided into two parts. The first section will introduce students to the diverse theoretical perspectives used by political scientists to understand the politics of the environment. The second section will explore what comparative politics specifically can teach us about cross-national differences in environmental politics
Environmental Studies	176A		Water Policy in the West: Linking Science with Environmental and Economic Values	Focused	Env, Soc, Econ	UG	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.
Environmental Studies	150		Healing Grounds: Regenerative Agriculture and Social Justice	Focused	Env, Soc	UG	Course explore the connections among climate change, agriculture, and social justice. We ask the question, how might farmers simultaneously restore the carbon cycle while repairing the harms of colonization? We will learn from specific examples of frontline scientists, farmers, and activists who are using regenerative agriculture as a means of healing the full suite of relationships that constitute their communities, from soil microbes to plants to people.	See course description
Environmental Studies	105		Renewable Energy Systems	Focused	Env, Soc,	UG	Introduction to renewable energy generation and energy storage technologies, their economics, their associated environmental and social issues, and policies and regulations important to the adoption and use of renewable energy systems. Course includes field trips and guest lecturers.	See course description.
Environmental Studies	190		Colloquium On Current Topics In Environmental Studies	Includes	Env	UG	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.
Feminist Studies	30		Women, Development, and Globalization	Includes	Econ, Soc	UG	Examines the impact of development policy and globalization on women's lives. Emphasis is placed on women's activism and feminist critiques of neo-liberal measures intended to rid the third world of poverty.	See course description
Film and Media Studies	183		Film and Media of the Natural and Human Environment	Focused	Env, Soc	UG	Presents popular films, professional documentaries representing trends, images, and issues associated with natural and human environments. Visual images and critical thinking skills are combined to enhance understanding of media presentation of environmental issues. May be linked to short creative projects.	The course is dedicated to the study of the fictional and nonfictional films through which people represent and comprehend the environment, and to ecological criticism as an equally creative and expansive endeavor. In addition to studying films, we will also examine other ways that media and environment shape, influence, and inhabit one another. With a focus on media in the environment (ewaste, cellular towers, hydrophones) and media infrastructures, students will probe the sustainability of the media people build, exchange, and live, and chart emerging alternatives for the future.
Film and Media Studies	252CJ		Media and Environment: Climate Justice	Focused	Env, Econ	G	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.
Film and Media Studies	118GS		Sponsored Campus Production (GreenScreen)	Includes	Env, Soc	UG	A hands-on, project-based environmental media production course. Students work in teams to leverage their collective production skills and environmental knowledge to create short films, which premiere in the Pollock Theater at the end of the quarter.	This course is a hands-on, project-based environmental media production program where students work in teams to leverage their collective production skills and environmental knowledge to create a short film. The course seeks to increase student awareness about the environment, as well as expand the way that such issues are communicated. Many of the films created in this class have been selected by the Santa Barbara International Film Festival, among others.
Geography	108		Urban Geography	Focused	Env, Soc	UG	Introduction to the study of the economic geography of cities and regions and its relation to planning: urbanization, internal structure of cities, settlement systems, regional growth and development, migration, transportation, housing.	See course description.
Geography	161	ENV S 149	Food, Agriculture, and the Environment	Focused	Env, Soc	UG	Our global food system is in crisis. Responsible for approximately a third of global greenhouse gas emissions, it leaves over a quarter of the world's people suffering from moderate or severe food insecurity. Yet the food system also holds some of the most promising opportunities for just transition to a more sustainable and equitable society. This survey course introduces the history and structure of the global food system, pressing current challenges, and exciting potential solutions.	See course description.
Geography	152		Health Geography	Focused	Env, Soc	UG	Geographic approaches to health, disease, and well-being, with an emphasis on health disparities and inequalities. Topics include social determinants of health, migration, the natural and built environment, vaccines, development, and globalization and health.	Case studies are used to understand how people interact with each other and their environment, and how these interactions lead to differential exposures and thus differences in health incomes. Students will learn which populations or individuals get what diseases, where, when, and why by understanding social and environmental factors.
Geography	141A		Population Geography	Focused	Env, Econ	UG	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.
Geography	111c		Smart Green Cities	Focused	Env, Soc, Econ	UG	Smart Cities promote social and human capital, support a more competitive economy, expand participation in government, increase access to opportunities, and protect natural resources. Smart technology, including self-driving cars, can help us save lives, decrease pollutant emissions, and use resources in a sustainable way. Which technologies are smart and can they achieve sustainable pathways? Which cities have done this and how? Are Smart Cities sustainable and resilient? This course will answer these questions by examining real-life experiments, review current technologies, and explore future developments using scientific papers, popular press, and online media.	See course description.

Geography	8		Living with Global Warming	Focused	Env	UG	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.
Geography	144	ENV S 144	Form, Process And Human Use Of Rivers	Focused	Env, Soc	UG	Basic understanding of fluvial (river) hydrology. In-depth evaluation of channel form and fluvial processes and impact of human use of rivers.	This course involves human use of rivers and includes discussion of river restoration and river sustainability.
Geography	132		Coastal Pollution	Focused	Env	UG	A survey of the source and fate of pollutants in the coastal ocean, focusing specifically on the physical processes that govern the transport of nutrients, sediment, hydrocarbons, and human pathogens in coastal ecosystems. Material includes readings from scientific papers, grey literature, and news media in order to develop intuition for how transport phenomena frame both pollution issues and solutions.	See course description.
Geography	149	ENV S 149	World Agriculture, Food, and Population	Focused	Env, Soc, Econ	UG	Evolution, current status, and alternative futures of agriculture, food and population worldwide. Achieving environmentally, socially, and economically sustainable food systems; soil, water, crops, energy and labor; diversity, stability and ecosystems management; farmer and scientist knowledge and collaboration; common property management.	See course description.
Geography	119		Climatic Change and Its Consequences	Focused	Env	UG	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.
Geography	145		Society and Hazards	Focused	Env	UG	Presents geographic approaches to the study of environmental hazards, exploring the evolution of theory and key concepts, causal processes, trends and patterns in the spatial distribution of vulnerability and hazard impacts, and the challenge of management and adaptation.	This course introduces students to different approaches to the study of environmental hazards and will apply some of the approaches they learned to disasters that have happened or are in the making. Students learn how disasters are the product of multiple and interacting forces; biophysical processes are only part of the equation. Exploration of how livelihoods, places and institutions come together to create hazardous situations and disastrous outcomes. Trends in hazards and losses will be looked upon, and the distribution of vulnerability and hazard impacts within and across populations and places. Problems and opportunities will be addressed for reducing vulnerability through advance planning, hazard prediction, technological adjustments, economic development, and understanding human cognition and behavioral patterns.
Geography	148		California	Focused	Env, Econ, Soc	UG	The unique landscapes of California and the physical, cultural, and biotic processes which have produced them.	This course examines the forces that shape California's landscape and how humans interact with the environment. It discusses the changing climate and its impact on human livelihood, the economy, and California's natural resources.
Geography	166		Ocean Carbon	Focused	Env, Soc	UG	Examination of the ocean carbon cycle and its influence on Earth's climate and climate change. Topics include carbonate system chemistry, photosynthesis and respiration, anthropogenic carbon, and climate change. Current research in carbon cycle and climate is also discussed.	See course description.
Geography	113		The Alaskan and Arctic Environments Under Siege	Focused	Env, Soc	UG	The purpose of this class is to learn about the geography of Alaska and the Arctic, including its history, climatology, oceanography, ecology, economics, and cultures. A variety of Alaskan and Arctic issues will be addressed, including indigenous people, climate change effects, natural resources, pollution, and political and military significance.	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.
Geography	3		Oceans and Atmosphere	Focused	Env	UG	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.
Geography	109		Economic Geography	Includes	Env, Econ	UG	Introduction to the study of spatial economic theories with applications at the urban, regional, and global scales. Topics include settlement system dynamics and regional development, land economics and land use policies, and regional inequality and poverty.	See course description.
Geography	131		Mountain Weather	Includes	Env, Soc	UG	Overview of orographic weather patterns with focus on orographic precipitation and circulation, mountain waves, cloudiness, snowfall and avalanches, fire weather, air pollution and dispersion. Human impacts on mountain environments and climate change in mountain areas are introduced.	See course description.
Geography	111a	GEOG 211A	Transportation Planning and Modeling	Includes	Env, Soc	UG	Issues, problems, technologies, policies, plans, programs, and the transportation-environment relationship. Transportation systems simulation, trip-based and activity data collection and modeling. Applications in planning, design and operations. Lab: Critically examine transportation plans and programs; explore and analyze travel surveys.	This course focuses on the relationship between transportation and the environment. Students must examine transportation plans and programs from an environmental perspective.
Geography	211A	GEOG 111A	Transportation Planning & Modeling	Includes	Env, soc	G	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.	The course teaches on the history and recent developments in transportation planning problems and quantitative methods. Topics include travel, energy, and emissions.
Geography	110		Meteorology	Includes	Env	UG	An introduction to the dynamics of the earth's atmosphere. Topics include: energy exchange mechanisms, energy balance, condensation and precipitation processes, the dynamics of pressure and wind systems, and the distributions of weather disturbances.	Refer to course description
Geography	134		Earth System Science	Includes	Env, Soc	UG	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.	This course examines the major components of the Earth system and their interactions and investigates the ways in which the Earth system is changing in response to human activities. Radiation balance, atmosphere, hydrosphere, ecosystem dynamics, soils, and biogeochemical cycles are discussed.
Geography	142		Global Biogeochemical Cycles	Includes	Env, Soc	UG	Examines processes driving element and energy cycling through the Earth system. Aim is to understand global patterns of element fluxes, dynamic nature of element/energy cycles, and prediction of biogeochemical cycling with changes in climate and human impacts	This course discusses the science and potential applications of biogeochemistry. It also analyzes how humans have impacted biogeochemical cycles.
Geography	116	Earth Science 173	Groundwater Hydrology	Includes	Env, Soc	UG	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 aims to prepare students in analyzing groundwater flow properties, taking into account aquifer properties, basic hydraulic factors, geologic controls, and their temporal and spatial interactions. In mastering this knowledge, students will be able to better assess water cycles with their interactions to the urban environment.

Geography	112		Environmental Hydrology	Includes	Env	UG	Analysis of the water cycle with emphasis on land-atmosphere interactions, precipitation-runoff, flood, snow melt, and infiltration processes.	This course is an introduction to the principles of hydrologic science that are essential to for water resources management in the urban, environmental, and agricultural domains
Geography	208		Water Resource Systems Analysis	Includes	Env, Econ, Soc	G	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 examines the interactions between hydrologic systems, humans, and the environment. Students learn to analyze water resource processes to conceptualize and derive management strategies. Topics include climate change and the economics of water resources management.
Geography	130		The Urban Environment	Includes	Env	UG	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.
Geography	162	ENV S 162	Water Quality	Includes	Env	UG	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 involves a comprehensive review of the physical, chemical, and biological characteristics of surface water and groundwaters. The treatment and management of chemically and biologically polluted waters is discussed.
Global Studies	130		Global Economy and Development	Focused	Env, Soc, Econ	UG	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 and the adaptation of businesses and societies when faced with these issues. Developing and studying economic theories to tackle environmental challenges is also a part of the course's effort to debate and challenge conversations around environmental protection, economic growth, and a multitude of other environmentally socio-economic issues.
Global Studies	221		Global Political Economic Development Environment	Focused	Env, Soc, Econ	G	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.	See course description.
Global Studies	161		Global Environmental Policy and Politics	Focused	Env, Soc	UG	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 Studies	180A		Introduction to Women, Culture, and Development	Includes	Soc	UG	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.
History	173T		American Environmental History	Includes	Env, Soc	UG	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.
History of Art and Architecture	136O	ENV S 136O	Green Architecture	Focused	Env, Soc	UG	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 approximately 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 'green' architectural aesthetic.
History of Art and Architecture	136I		The City in History	Includes	Env, Soc	UG	An historical introduction to the ideas and forms of cities with emphasis on modern urbanism. Examination of social theory to understand the role of industrial capitalism and colonialism in shaping the culture of modern cities, the relationship between the city and the country, the phenomena of class, race and ethnic separation.	The objective of this course is to understand urban processes involving people, commerce, laws and institutions, aesthetic preferences, political and economic motives that have shaped the social life and form of cities, including their location and boundaries, street and neighborhood patterns, infrastructure and public space. This course includes lectures on industrial cities, modern planning, suburbia, and the relation between city and country under capitalism and contemporary globalization.
Interdisciplinary Studies	136FC		If Not Now, When? Facing Climate Change through Learning and Advocacy	Focused	Env	UG	Courses focused on innovative topics, ways of thinking, and career applications of humanities disciplines. Students engage in extensive reading, writing, and collaborative activity to explore ideas and develop their own thinking.	This special topics covers current issues coming with facing climate change. Through writing practice and specific research projects, and with the power of our imagination, students will develop skills that will prepare them for conversations and advocacy regarding climate change in their communities.
Interdisciplinary Studies	133B		What's Wrong with the World?	Focused	Env, Soc	UG	An interdisciplinary, team-taught course exploring the scientific, social, literary, and artistic dimensions of given topics (e.g., memory, gender, food). It offers a closely mentored, active learning experience centering on independent projects informed by interdisciplinary methods, theories and materials.	This course looks closely at the rhetoric used when discussing anthropogenic climate change. Specifically at climate change solutions which will not be just technological, but will also need to involve profound changes to human beliefs, practices, and styles of life. This course will carefully look at the rhetoric of the debates surrounding climate change and how it has become a politicized topic.
Interdisciplinary Studies CCS	130DI		Deserts, Islands, and Other Energy Infrastructures	Focused	Env, Soc	UG	This interdisciplinary course introduces students to global problems of environmental justice from the point of view of energy infrastructures. The course relies on theories, artworks, and case studies. In discussions, lectures, and screenings, students learn theories, critical methods, and techniques to investigate and study how energy infrastructures interact with ecological systems.	See Course Description.
Interdisciplinary Studies CCS	130WM		Alternative Foods, Alternative Economies: Creative Collaborations to Reimagine the Food System	Focused	Env, Soc	UG	Critical engagement with food system reform is essential as the environment becomes more precarious and the harmful social impacts of an unsustainable and unjust food system more widespread. In this course, students learn to contextualize the global food system, engage critically with interconnected social and environmental food systems issues, and explore social enterprise case studies.	See Course Description.
Linguistics	12		University Writing for Multilingual Students	Focused	Env	UG	Students analyze academic discourse, develop rhetorical strategies for exposition and argument, practice examination writing, and write and revise papers.	Selected readings provided by the instructor are read by the students, where students are expected to think critically, and analyze papers. Selected readings have a general theme regarding climate change, climate change mitigation, and sociological issues affecting climate change.

Mechanical Engineering	112		Energy Conversion	Focused	Env, Soc	UG	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.
Molecular, Cellular and Developmental Biology	26		Contemporary Nutrition	Includes	Env, Soc	UG	Presents the scientific basis for human nutrition including dietary nutrients and requirements, energy balance in health and disease, and needs of various life stages. Food safety, preservation, and undernutrition throughout the world is discussed.	This course offers students the ability to understand food safety and preservation and how it affects people around the world. Furthermore, it delves into social wellbeing and environmental health as a means of sustaining a nutritious diet.
Political Science	176	ENV S 176	Energy Politics	Focused	Env, Soc	UG	Introduces students to the politics and policy of the contemporary global energy system. Covers major public policies and politics related to both the electricity and transportation systems. Students learn energy technologies? characteristics and understand contemporary political debates over the energy system.	See course description.
Political Science	177	ENV S 177	Comparative Environmental Politics	Includes	Env, Soc	UG	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 explores the political dimension of environmental policy action and inaction by documenting differences between countries in their domestic politics of the environment. It explores how ideas, interests, and institutions shape national environmental politics relating to such issues as climate change, long-range air pollution, biodiversity loss, ocean acidification, water shortages, ozone layer depletion, overfishing and deforestation. The course is divided into two parts. The first section will introduce students to the diverse theoretical perspectives used by political scientists to understand the politics of the environment. The second section will explore what comparative politics specifically can teach us about cross-national differences in environmental politics
Religious Studies	185		Religion, Food, and Culture of the Middle East	Includes	Env, Soc	UG	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 explores the culinary cultures of the Middle East and Mediterranean region by examining religion, society, and the environment in these areas. The topics of alimentary diversity, sustainability, urbanization, globalization, and food security are discussed as they relate to "foodscapes." Case studies in Gaza and Iraq are focused on because of the major issues affecting the countries' food security and sustainability.
Sociology	130EV	Env S 130EV	Eco Vista: Creating Systemic Alternatives	Focused	Env	UG	"Eco Vista" names the project of turning Isla Vista into something like an eco-village by 2030. This course is grounded in existing models and visions of "Systemic Alternatives" - systems change designed to confront the climate crisis. It offers analysis of the historical background and contemporary situation of Isla Vista. We then assess the state of the existing Eco Vista Project: www.ecovistacomunity.com , alongside in-depth study of both the theories and case studies relevant to achieving deep social transformation today and in the near future. Students collaborate in hands-on research, design, and direct participation on an existing project, or form one of their own.	See course description.
Sociology	130SD	Env S 130SD	The World in 2050: Sustainable Development and Its Alternatives	Focused	Env, Soc, Econ	UG	Starting with the current political, economic, cultural, and climate crises of Earth and humanity, we consider alternatives to the present system - sustainable development, regrowth, transition towns, resilience - and our roles in building a far better world by 2050.	See course description..
Sociology	118CW		Consumption, Waste, and the Environment	Focused	Env, Soc, Econ	UG	Examines the link between consumption, waste, and the environment. Integrates environmental concerns with larger cultural questions about the role that consumption, as a way of life, has come to occupy in our contemporary societies.	This course focuses on waste as a consequence of market-driven economic development. It particularly discusses the direct relationship of waste to consumption patterns and life choices.
Sociology	134G		Green Movements and Green Parties	Focused	Env, Soc	UG	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.	The course considers the evolution and influence of the environmental movement in a comparative context. How have environmental organizations and green parties influenced societal response and policy formulation on energy, climate change, nature conservation, nuclear power, GMOs, and sustainable development in general in different developed and developing countries, with a focus on the U.S. and Europe? What lessons can be learned from past social movement activism for solving today's critical environmental problems.
Sociology	105E		Environmental Sociology	Focused	Env, Soc	UG	Traces the history of environmentalism and applies social science theories, concepts, and methods to analyze critical contemporary environmental issues and societal responses to them.	The course traces the history of environmentalism and society-environment relationship before the background of a rapidly changing natural world and now manifest climate change. Key social science concepts, theories and analytical methods will be applied to the understanding of critical contemporary environmental issues and responses to them with an emphasis on learning how institutions and social and political processes determine policy outcomes and long-term trajectories.
Writing	105S		Writing About Sustainability	Focused	Env, Soc	UG	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 is an upper-division writing course that focuses on the analysis and practice of writing and communication about sustainability in diverse interdisciplinary contexts. Students will consider how ideas about sustainability shape and are shaped by various societal forces, and how issues of sustainability are reflected through practices of writing and communication across audiences and cultures. Students will work both individually and in small groups to research, discuss, and write about concepts related to sustainability, with a focus on how writing and communication help to shape and perpetuate ideas about sustainability.
Writing	(formerly WRIT 109ES)		Writing for Environmental Professions	Includes	Env, Soc	UG	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 prepares students for a career within the environmental field through the development of professional and team skills. Students write a resume, give oral presentations, and research/write a project proposal on an environmental issue. Students research sustainability and apply its theories to practical situations.
Writing	2LK		Academic Writing with Link to ES 1	Includes	Env, Soc	UG	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 course strengthens students' reading, critical thinking, and writing skills and is linked with the course Environmental Studies 1. Discussion topics include climate change and sustainability. Students keep a nature journal throughout the course and share their connection to place in final presentations.
Geography	5		People, Place and Environment	Includes	Env, Soc, Econ	UG	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.

Geography	229	GEOG 153C	Environmental Perception and Cognition	Includes	Env	G	Theories and methods related to acquiring, representing, and analyzing knowledge of complex large-scale environments.	See course description
Geography	153C	GEOG 229 0100	Environmental Perception and Cognition	Includes	Env, Soc	UG	Research and theory on human perception and cognition of environments. Topics include spatial perception, spatial learning, knowledge structures, navigation and wayfinding, language and spatial cognition, map use, the spatial skills of special populations, and other issues.	This course deals with understanding out cognitive perception of the environment and how students understand hazardous properties of the environment. It also teaches students how architecture, planning, linguistics, and anthropology have intersectionality used an environmental perspective to successful progress with any development of study or industry.
Environmental Studies	2H		Introduction to Environmental Science - Honors	Includes	Env, Soc	UG	"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.	See Env S 2
Environmental Science and Management	260		Applied Marine Ecology	Includes	Env	G	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 course focuses on the application of ecological principles to environmental problems in marine ecosystems. Topics include ecological dynamics, aquaculture, marine pollution, and climate change.
Environmental Studies	160		American Environmental Literature	Includes	Env, Soc	UG	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.	This course involves the analysis of classic texts from American environmental literature authors such as Henry David Thoreau, Aldo Leopold, Rachel Carson, and Edward Abbey. Students explore human-environmental connections and discuss the environmental perceptions and attitudes in American cultural history.
History	178B		American Urban History	Includes	Env, Soc, Econ	UG	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. In the expansion of American urbanization, environmental issues arose and are adeptly covered through the lessons of this course. This course concentrates (but is not excluded by) the history of Los Angeles and how natural ecology is a powerful reminder of how efforts to re-shape—or ignore—the demands of the physical environment can have long-lasting and unpredictable consequences.
History	74		Poverty, Inequality and Social Justice in Historical and Global Context	Includes	Env, Soc, Econ	UG	Historical and interdisciplinary perspectives on poverty and inequality globally and in the U. S., tracing structural transformations, shifting modes of thought, policy, and action, dynamics of class, racial, gender, ethnic and geographic stratification, and major theoretical debates from antiquity through the present. Course features guest lectures to introduce students to varied conceptual and methodological approaches to studying poverty and inequality, and draws on readings, discussion, writing, and related assignments to explore issues within a social justice framework.	See course description. This course also includes a unit on climate justice and indigenous communities.
Environmental Science and Management	244		Advanced Data Analysis for Environmental Science and Management	Includes	Env	G	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 course teaches students to use specialized data analysis with regards to environmental management.
Environmental Studies	181		Power, Justice, and the Environment	Includes	Env, Soc	UG	Introduces students to the theoretical and historical foundations of research on environmental racism and environmental inequality. Examines social scientific evidence concerning these phenomena and the efforts by community residents, activists, workers, and governments to combat it. Considers the social forces that create environmental inequalities so that we may understand their causes, consequences, and the possibilities for achieving environmental justice. Students will master social scientific theories and concepts related to the subject matter.	This course introduces students to the theoretical and historical foundations of environmental racism, environmental inequality, and environmental justice. Students will examine and interrogate both the scholarly evidence concerning these phenomena and the efforts by community residents, activists, workers, and governments to combat it. Students will also consider the social forces that create environmental inequalities so that students may understand their causes, consequences, and the possibilities for achieving environmental justice. Students will be expected to master theories and concepts related to the subject matter from the fields of environmental studies, environmental social sciences, and the environmental humanities.
Environmental Studies	163A		Water Supply and Demand	Includes	Env, Soc	UG	Water underpins all aspects of development. To evaluate water resources quantitatively, it is critical to understand water availability and water demand. How much water is there, and how is it distributed in space and time? How much water do humans and the environment need? And, how do these components translate into water scarcity? This course addresses these topics, providing a strong foundation in water resources.	See course description.
Environmental Science and Management	438		Presentation Skills for Environmental Professionals	Includes	Env	G	Students will learn to clearly and effectively present quantitative and qualitative scientific information, focusing on oral presentations and posters at professional conferences, project defenses, and job interviews. Lectures, activities and assignments will emphasize strong verbal communication and visual presentation.	This course teaches presentation skills specifically for environmental professions
Environmental Science and Management	449		Environmental Communication Practicum	Includes	Env	G	This capstone course provides students the opportunity to apply their knowledge and communication skills in a practical setting. Working in teams, students will develop and implement an information campaign in association with an environmental firm, organization, governmental or other institution.	This course allows students to develop an outreach strategy, engage in audience research, develop creative content, and evaluate messages and tactics for a project related to environmental communication. These projects can raise awareness, promote engagement, and/or inspire environmental stewardship.
Environmental Studies	184		Gender and the Environment	Includes	Env, Soc	UG	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 ways men and women may relate differently to their environment. Specific issues include the nature/culture/female/male debate in anthropology, environmental activism in both the developed and the developing world, ecofeminism, ways in which development projects can take gender-specific relationships with the environment into account, and notions of masculinity and femininity as they relate to nature and the environment.
Geography	140		Environmental Impacts in Human History	Includes	Env, Soc	UG	Interactions between human history and the environment are explored. Example topics include early Earth history, long term climate change, the origin of agriculture, short term climate change, the origin of importance of disease and invasive species.	This course examines the interactions between society and the environment throughout history.
Geography	202A	Geography 102	Environmental Optics	Includes	Env, Soc	G	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	102	Geography 202A	Environmental Optics	Includes	Env, Soc	G	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.

Environmental Science and Management	278		Natural Resources Law and Policy	Includes	Env, Soc, Econ	G	Examines the law and policy of how nature's resources are used-- from forests and fisheries to biodiversity and parks. Special attention is paid to the historical and political origins of humanity's competing ideas of why nature matters and what should be done with it, from economically productive use and outdoor recreation to preserving the natural world for its own sake. The complicated interplay of science and law is also examined.	See course description
History	193F		Food in World History	Includes	Env, Soc, Econ	UG	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.
Environmental Studies	191		Nature and Science Education Practicum	Includes	Env, Soc	UG	Offered in conjunction with CCBER's Kids in Nature environmental education program, students gain hands-on experience teaching ecology and environmental science while receiving instruction from professionals on topics ranging from science education, teaching strategies, lesson plan development, and public speaking.	See course description.
Environmental Studies	70		Introduction to Environmental Ethics	Includes	Env, Soc	UG	Introductory survey of issues and methods in environmental ethics. Topics include anthropocentrism and ecocentrism; individualistic vs. holistic approaches; animal rights and liberation; ecofeminism; perspectives from ecological and evolutionary science; environmental justice and obligations to future generations; climate change and geoengineering; ecological theology and nature religion	See course description.
Environmental Studies	188		Ethnics in the Anthropocene	Includes	Env, Soc	UG	Survey of emerging global environmental-ethical issues in the Anthropocene and technological responses to them. Major topics include: climate change and geoengineering, extinction and de-extinction, assisted evolution, biopolitics, wilderness preservation, and social and environmental justice.	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.
Political Science	106PW		Water Politics	Includes	Env, Soc	UG	Lectures in special areas of interest in political science. Specific course titles to be announced by the department each quarter offered.	Rapidly depleting water resource is one of the biggest challenges facing humanity in the 21st century. Increasing water scarcity has a direct bearing on access the poor have to this resource in an unequal and fragmented society. The control of water led to the establishment of agrarian civilization and the control over water to an unequal world. Contest over water across regions and boundaries continue as it is a critical resource for production and the manner in which access to it can change people's lives. Water does not only affect the economy and politics of states but also social and cultural issues of society. There are enormous discriminations of gender, caste and access of land that are related to water. Removal of poverty is critically linked to fair distribution of water as well as access to safe and clean drinking water. As recently reported, as many as 2000 children die every day due to lack of access to safe water, and many women spend a large time of daylight fetching water for their families (UNICEF 2013). Hence conservation of water is directly related to protecting civilization as we know it. This course will deal with the pressing challenges related to water and will give the students a better understanding in negotiating politics related to water.
Environmental Studies	178	POL SCI 175	Politics of the Environment	Includes	Env, Soc	UG	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.	In this course, students will examine U.S. environmental politics and policy. Students will pay attention to public opinion and the political forces that influence environmental policy. Then, students discuss how politicians respond to those forces, and some of the public policy approaches that have been developed to address environmental problems.
Environmental Science and Management	526	POL S 295	Environmental Politics Workshop	Includes	Env, Soc	G	An interdisciplinary seminar focusing on research at the intersection of political science and public policy as it pertains to environmental issues. The expectation is that students specializing in environmental politics will enroll continuously, with differentiated assignments appropriate to stage in the program. Students will present their own work, comment on the work of others, and engage in professional development activities.	See course description
Political Science	295	ESM 526	Environmental Politics Workshop	Includes	Env, Soc	G	An interdisciplinary seminar focusing on research at the intersection of political science and public policy as it pertains to environmental issues. The expectation is that students specializing in environmental politics will enroll continuously, with differentiated assignments appropriate to stage in the program. Students will present their own work, comment on the work of others, and engage in professional development activities.	See course description
Ecology, Evolution, and Marine Biology	188 RE	EEMB 288RE	Conservation and Restoration Seminar	Includes	Env	UG	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, and other sustainability related organizations. This course also focuses on issues of conservation and sustainability in light of impacts humans are having on the landscape. These impacts include direct impacts as well as indirect impacts such as those associated with climate change and run-off/pollution.
Ecology, Evolution, and Marine Biology	288RE	EEMB 188RE	Restoration Ecology Seminar	Includes	Env	G	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, and other sustainability related organizations. This course also focuses on issues of conservation and sustainability in light of impacts humans are having on the landscape. These impacts include direct impacts as well as indirect impacts such as those associated with climate change and run-off/pollution.
Environmental Studies	95		Restoration Skills	Includes	Env, Soc	UG	Visit local natural areas to gain hands-on experience in facets of ecological restoration including project planning, site assessment, invasive species management, plant identification and propagation, vegetation and water quality monitoring, and wildlife observation. Internships available at conclusion of course.	See course description.
Environmental Science and Management	232		Environmental Modeling	Includes	Env	G	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.	This course has students use computational and statistical methods in order to solve a variety of environmental problems. The areas students work in includes but is not limited to: invasive species in Santa Barbara Harbor, climate, population models, the effects of temperature change on agricultural products, and precipitation models.

Environmental Science and Management	262		Computing for Environmental Science and Management	Includes	Env, Econ	G	Introduction to computing for data management, analysis and modelling for environmental applications. The course provides MESM students with the basic computing and programming skills used in data science. Topics include: the basic computing environment (hardware and operating systems); programming language concepts; program design; data management, data structures and implementation; software tools; workflows, version control, and reproducibility; generic analytical techniques (relational algebra, graphical analysis, visualization, etc.); and specific characteristics of environmental information.	This course focuses on data management skills for modeling specifically environmental information. Students learn how to model and analyze for environmental applications which are vital tools for environmental based careers.
Global Studies	2		Global Socioeconomic and Political Processes	Includes	Env, Soc, Econ	UG	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, workers' rights in the global economy, as well as alternative forms of sustainable development."
Environmental Science and Management	214		Bioremediation	Includes	Env	G	Concepts and approaches to correct and alleviate the effects of environmental pollution using biological processes. Biochemical, ecological, and physiochemical aspects of remediation and mitigation. Assessing and monitoring applicability/efficacy of biological treatment. Natural and engineered methods for adversely affected biological resources.	This course examines the concepts and methods to alleviate the effects of environmental pollution through the use of biological treatment processes. It discusses feasibility assessments of such treatments, as well as mitigation and remediation efforts.
Ecology, Evolution, and Marine Biology	168		Conservation Ecology	Includes	Env, Soc, Econ	UG	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.	This course is an introduction to the practical application of biological principles for biodiversity conservation. Units may include emphasis on social and economic constraints to biodiversity conservation.
Environmental Studies	100		Environmental Ecology	Includes	Env, Soc	UG	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. Students will study the principles of ecology and their implications for analyzing environmental problems. The focus of this course is on understanding the processes controlling the dynamics of populations, communities and ecosystems.
History of Art and Architecture	5a		Architecture in Environment	Includes	Env, Soc	UG	Architecture is an act of place-making with which man has intertwined ever closer his world with the natural one. Introduces basic design strategies, interpretative concepts, and discipline-specific terminology in order to develop a critical understanding of the relationship between architecture and nature.	This course covers humans relationship with nature through architecture and building. The course focuses on understanding this human-nature relationship and how architecture can be used to intertwine the two closer together.
Geography	4		Land, Water and Life	Includes	Env	UG	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.
Geography	150		Geography of the United States	Includes	Env	UG	Intensive study of the physical and cultural processes that have shaped and are shaping the landscapes of the United States.	See course description.
Film and Media Studies	182		Introduction to Environmental Media	Includes	Env, Soc	UG	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 discusses the context surrounding environmental media, including societal, political, and cultural topics that can influence a documentary. Students collaborate to write and produce an environmental documentary on a topic of their choosing.
Environmental Science and Management	288		Energy, Technology and the Environment	Includes	Env	G	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.	See course description.
Environmental Studies	25		Quantitative Thinking in Environmental Studies	Includes	Env	UG	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.	See course description.
Environmental Studies	145		Climate Change Mitigation Strategies	Includes	Env	UG	An introduction to cross-sector strategies that reduce GHG emissions and sequester carbon by comparing their climate change mitigation potential, challenges in implementation, costs, and co-benefits. Provides the analytical tools and frameworks for estimating costs and socio-environmental tradeoffs that can be used to design or evaluate portfolios of climate change mitigation strategies.	See course description
Environmental Studies	(formerly ENV S 193GI)		Geographic Information Systems (GIS) for Environmental Applications	Includes	Env, Soc, Econ	UG	Explores how Geographic Information Systems (GIS) can help environmental researchers and professionals analyze and communicate the spatial patterns underpinning a wide variety of environmental concerns. Introduces students to the basic theory and application of GIS through hands-on application of the technology to environmental questions.	This course provides an introduction to the theory and application of Geographic Information Systems (GIS) as a tool for addressing environmental questions. Emphasis is on the generation of spatial questions and the skills to answer such questions. Students apply GIS techniques in weekly labs and a quarter-long group project to answer an environmental question of their choosing.
Anthropology	115		Language, Culture and Place	Includes	Env, Soc	UG	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 the way in which the environment shapes language and culture. It also assesses how humans use language to attribute meaning to the natural environment and landscapes.
Anthropology	103		Human-Wildlife Interactions	Includes	Env, Society	UG	Survey of human-wildlife interactions (e.g., bushmeat, pet trade, crop-raiding). Students examine cascading effects on wildlife, landscapes, and human populations, as well as mitigating approaches relating to our changing perceptions of wildlife and nature.	This course is designed to explore the causes, patterning, and consequences of the many types of human-wildlife interactions. Case studies are examined from around the world to illustrate specific concepts. For each topic, common themes are addressed; e.g., disease; the behavioral ecology and demography of wildlife; and the cultural practices, history, and demography of humans. Topics of the course include political conflict, landscape engineering, ecotourism, and conservation.
Environmental Studies	15A		Environmental Chemistry 1	Includes	Env,	UG	Introduces basic chemistry as relevant to environmental studies including the periodic chart, the origin of the elements, nuclear phenomena, molecules vs ionic solids, the composition of the earth from core to crust, the interface of the lithosphere with water and air, weathering, chemical reactions, stoichiometry, solutions and pH, the hydrosphere and water cycle, issues of water quality, solid waste management, and irrigation. Discussion section allows for review, questions on problem sets, and weekly quizzes.	This course relates chemistry to some of the largest environmental disasters in history. Chemistry is used to explain how to prevent occurrences such as nuclear spills or water contamination. (See course description.)
Environmental Studies	15B		Environmental Chemistry 2	Includes	Env	UG	Course continues with marine water chemistry, fossil fuels and their combustion, an introduction to organic chemistry, the carbon cycle, the formation and chemical reactions of the atmosphere, ozone and its degradation, the nitrogen cycle, common air pollutants, and issues of climate change chemistry. Laboratory exercises including exploration of nuclear phenomena, recycling aluminum, spectrophotometric analysis, titration, analysis of soil and water, chromatography, and air quality monitoring and will provide students valuable laboratory and field skills used by environmental professionals.	Advanced course continuing 15B. Applies chemistry to understand current problems in regard to climate change. Teaches students the chemical background to understand the predictions of climate change and how human decisions can effect these predictions.

Environmental Science and Management	263		Geographic Information Systems	Includes	Env	G	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.	See course description.
Environmental Science and Management	442		Grassroots Organizing, Outreach & Campaigning	Includes	Env, Soc	G	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.
Environmental Studies	130C		Aquatic Food and Resource Management	Includes	Env, Soc, Econ	UG	Examines history of global food system and its impacts on ecosystems, ecologies, and human nutrition and food security. How agricultural, capture fisheries, and aquacultural industries were integrated into the global foodsystem. Provides information to make more informed decisions about consuming these products.	This course begins with understanding food security and environmental justice in the food industry. It then evolves into studying different means of agriculture including aquaculture and its benefits. This course concludes with understanding the social impacts of mass food production, focusing on situations such as the slave trade in Southeast Asia over shrimp production and how this contributes to habitat destruction and social injustices.
Black Studies	129		Black Cities: Spatial Politics of Violence, Power, and Resistance	Includes	Env, Soc	UG	Examines spatial dynamics of anti-Blackness and spatial politics of resistance in relational and comparative geographical perspectives. Study of colonial histories of spatial violence and current patterns of residential segregation, homelessness, and police brutality, as well as the struggle for urban citizenship in societies of the African Diaspora. The goal of the course is threefold: a) it analyzes institutional policies and mundane practices that produce cityscapes as anti-Black; b) it interrogates the Marxist-oriented framework on "the right to the city;" and c) it gives visibility to Black gendered spatial praxes that challenge exclusionary city politics and their attending geographies of anti-Blackness.	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.
Education	191W		Health and Well-Being	Includes	Env, Soc	UG	Explores how personal, family, school, community and environmental factors are related to academic, physical, emotional and social well-being. Topics include physiological and sociological effects of mental health, nutrition;sexual health; relationships; alcohol, tobacco, drug abuse. Covers childrenthrough emerging adults.	See course description.
Anthropology	117		Borders and Borderlands	Includes	Env, Soc	UG	The theoretical concepts of "borderlands" examined through a discussion of the societies, economics, and cultures that form on geopolitical courses. The Mexico-U.S. border will be discussed in detail.	With most focus towards the Mexico-U.S border, students will pay attention to how these groups interact with each other through time and space by focusing on things that cross, and often contradict geographical and political borders, such as commodities, the migrations of people, environments, and aspects of global media and popular culture.
Ecology, Evolution, and Marine Biology	106		Biology of Fishes	Includes	Env	UG	The evolution, systematics, biogeography, and ecology of fishes.	The evolution, systematics, biogeography, and ecology of fishes.
Geography	20		Geography of Surfing	Includes	Env, Soc	UG	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. The goal of the course is to introduce students to geographic approaches to understanding human cultural patterns, physical processes, and their dynamic interactions.
Sociology	130SG		Sociology of Globalization	Includes	env, soc	UG	Introduction to the sociological study of globalization. Survey of principal theories and debates in globalization studies with a focus on economic, political, and cultural transnational processes, gender/race/class and globalization, transnational social movements, and local-global linkages.	Students critically analyze what globalization means today and the ways that this phenomenon is shaping our world. Topics include, but are not limited to, inequalities, global poverty, and climate change.
Linguistics	3B		Academic English	Includes	Env, Soc	UG	Second level in a three-course series intended to develop proficiency in university-level reading and writing. Emphasizes applying critical approaches to reading, practicing writing in a variety of academic styles, and developing grammatical and lexical resources appropriate to a university setting.	Selected readings provided by the instructor are read by students, where students are expected to think critically, and synthesize source information into common themes in a problem-solution paper. Selected readings explain problems caused by the fast fashion industry in terms of environmental and human rights issues as well as potential solutions for consumers, companies and governments. Later, students use the same readings, in addition to new selections, to conduct a short survey and write an IMRaD report to identify UCSB international students' perceptions of fast fashion and alternative sustainable practices.
Marine Science	595		Seminar in Marine Science	Includes	Env	G	A series of lectures and seminars on diverse research topics in marine science.	This course examines a variety of research topics in marine science to develop students understanding of important concepts that are within the field of marine science.
Environmental Studies	111	GEO 149	Channel Islands	Includes	Env, Soc	UG	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.	This courses discusses the ecological setting of the channel islands and the relationship of human uses and management.
Geography	149	ENV S 111	The California Channel Islands	Includes	Env, Soc	UG	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.	This course examines connections between the climate, geology, plants, animals, and humans. It discusses how humans have threatened ecosystems of the Channel Islands, as well as how we are working to restore and manage them.
Earth Science	105	Concurrentl y offered with EARTH 205	Earth's Climate: Past and Present	Includes	Env, Soc	UG	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 the processes and mechanisms that have shaped Earth's climate throughout history. Greenhouse gases, human-environment interactions, plate tectonics, and the Ice Ages are covered.
Earth Science	205	Concurrentl y offered with EARTH 105	Earth's Climate: Past and Present	Includes	Env, Soc	UG	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 the processes and mechanisms that have shaped Earth's climate throughout history. Greenhouse gases, human-environment interactions, plate tectonics, and the Ice Ages are covered.
Linguistics	3C		Academic English	Includes	Env, Soc	UG	Third level in a three-course series intended to develop proficiency in university-level reading and writing. Emphasizes applying critical approaches to reading, practicing writing in a variety of academic styles, and developing grammatical and lexical resources appropriate to a university setting.	Students read and discuss a series of professionally published essays that look at various environmental issues of concern - especially climate change - then write a major paper focusing on one aspect of humans' need to care for the environment.

History of Art and Architecture	6J		Survey Contemporary Architecture	Includes	Env	UG	Global survey of architectural production in the twenty-first century. Emphasis on form and technology, as well as economic, sociopolitical context. Explores built form at a variety of scales (buildings, cities, virtual spaces), as well as the concept of a "contemporary."	See course description
Religious Studies	14		Introduction to Native American Religious Traditions and Philosophies	Includes	Env, Soc	UG	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.
Ecology, Evolution, and Marine Biology	3		Introductory Biology III	Focused	Env	UG	Introduction to the major groups of microbes, plants, and animals.	This course discusses how diversity of life on our planet helps to maintain the large scale biogeochemical cycles as well as ecosystem services. This course has a lecture on ocean acidification in relation to microbials as well as carbon fixation on the land and oceans.
Sociology	185DG		Theories of Globalization and Development	Includes	Env, Soc, Econ	UG	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.
Earth Science	4		Intro to Oceanography	Includes	Env, Soc, Econ	UG	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 presents an introduction to the major processes and features of the oceans. The course covers plate tectonics, waves, chemistry, ocean circulation, and environmental issues.
Earth Science	10		Antarctica	Includes	Env, Soc	UG	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.
Earth Science	194DE		Group Studies for Advanced Students	Includes	Soc	UG	Intensive research or study by a small group of advanced students who share an interest in a topic not included in the regular departmental curriculum.	Course catalog description is for the general special topics course series, this description is specific to 194DE: From the course syllabus: This ten week reading group will cover topics of diversity, equity, and inclusion (DEI) throughout geoscience higher education, defined loosely as between high school geoscience through postdoctoral research. Students will be able to identify diversity, equity, and inclusion issues across demographics (e.g., race, ethnicity, gender) within geoscience higher education practices.
Environmental Science and Management	296		Advanced Special Topics in Environmental Management	Includes	Env, Econ	G	Covers advanced special topics in environmental management.	This special topics class focuses on issues in environmental management. Topics vary from class to class but include sustainability related content. The following are examples of issues covered: Sustainable Water Markets, Advanced GIS, Equity and the managed environment, and Methods for social-ecological systems analysis: small-scale fisheries and climate change.
Environmental Science and Management	430		Introduction to the National Environmental Policy Act and the California Environmental Quality Act	Includes	Env, Soc	G	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.
Ecology, Evolution, and Marine Biology	111		Parasitology	Includes	Env, Soc, Econ	UG	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 uses an ecological approach to address the life cycle, pathology, transmission, and role of various parasites in ecosystems. Course discussion includes evolutionary, genetic, immunological, sociological, political, and economic aspects.
Earth Science	169	Earth Science 269	Tracer Hydrology	Includes	Env	UG	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.
Earth Science	269	Earth Science 169	Tracer Hydrology	Includes	Env	UG	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.
Geography	158		Introduction to Marine Resources	Includes	Env, Soc	UG	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.	See course description
Environmental Studies	125B		Climate Change Law and Policy	Includes	Env, Soc	UG	An examination of local, state, and federal laws regulating land use and development. Selected problems analyzed through case studies.	This course examines the role played by local and state agencies in California environmental law and regulation. The legislative processes concerning these laws and their impact on the public are also discussed. The course includes land use and planning principles, as well as the administrative and judicial and regulatory processes that apply to them.
Anthropology	194		Field Training Archaeology	Includes	Env, Soc, Econ	UG	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.
Sociology	172		Sociology of Crime and Delinquency	Includes	Env, Soc	UG	Analyzes the evolution of and role played by international, governmental, and non-governmental organizations in global governance, including the United Nations and its specialized agencies, World Bank, IMF, WTO, European Commission and global non-governmental organizations and transnational corporations.	The objective of the course is to convey both a theoretical but also practical real world understanding of the evolution of international organizations and of the functional and normative role they are playing in global governance. Topics include international environmental organizations such as the Green Climate Fund, as well as a look at Climate and Biodiversity Conventions
Environmental Studies	189	Religious Studies 193	Religion and Ecology in America	Includes	Env, Soc	UG	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.
Geography	185B		Environmental Issues and Location Decision Making	Includes	Env	UG	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.	See course description.
Environmental Studies	146		Animals in Human Society: Ethical Issues of Animal Use	Includes	Env, Soc	UG	An exploration of the ethical issues which arise when humans interact with other animals, and an examination of conflicting attitudes toward the value of animal life in such specific areas as food production, recreational activities, research and environmental protection.	See course description.

Environmental Studies	134		Coastal process and Management	Includes	Env	UG	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.	See course description.
Anthropology	147		Water and Society	Includes	Env,Soc	UG	The origins, development, and attainments of New World aboriginal cultures north of Mexico. Some emphasis is given to California groups such as the Chumash.	See course description.
Earth Science	20		Geological Catastrophes	Includes	Env, Soc	UG	Course deals with geologic catastrophes, e.g., earthquakes, volcanic eruptions, tsunamis, and landslides. Students will learn the basic physical causes of these naturally occurring events and discuss the consequences.	This course examines the geologic controls on natural or geologic hazards, which have the potential to become catastrophes for humans or other life forms. Students will discover why some geologic or geographic circumstances may develop into disasters while others do not. The course explores what and how we know about those hazards, and how we are trying to prevent, predict, and remedy catastrophes and the effects of climate change. It will also illustrate that vulnerability or resilience to geologic catastrophes is a question of social justice.
Anthropology	131		North American Indians	Includes	Env,Soc	UG	The origins, development, and attainments of New World aboriginal cultures north of Mexico. Some emphasis is given to California groups such as the Chumash.	This course considers how North American Indians have adapted to different environments and concludes by developing awareness of issues for contemporary North American Indians, such as federal recognition, repatriation, environmental and sacred sites protection, and health concerns.
Environmental Science and Management	279		Financial Management and Environmental Accounting	Includes	Env, Econ	G	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.
Sociology	118GK		Sociology of Garbage	Includes	Env, Soc	UG	Contemporary societies create huge mountains of trash. What does this garbage reveal about the societies we live in and how they change over time? What does it obscure? This course uses garbage multiple kinds of waste materials produced by humans as a lens for exploring issues of capitalism and industrialization, environmentalism, postcolonialism, and race/caste. Taking a global and historical approach, we will become familiar with theories that help us to understand these perspectives and consider case studies from around the world, with a particular focus on cities.	See course description.
Anthropology	162		Prehist Food Prod	Includes	Env, Soc, Econ	UG	A history of the process of plant and animal domestication in the Americas, the Near East, Asia, and Africa. Course focuses on the specific biological changes in the major domesticates as well as associated social changes in human life.	The sustainability is built into discussions of domestication, agriculture, and their long term consequences on the environment and social development.
Environmental Studies	115		Energy and the Environment	Focused	Env, Econ	UG	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.	See course description.
Political Science	177		Comparative Environmental Politics	Focused	Env, Soc, Econ	UG	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.	See course description
Global Studies	174		Global Perspectives on Environment and Society	Focused	Env, Soc, Econ	UG	Introduces interdisciplinary approaches to analyzing societal interactions with the environment, and highlights political, economic and cultural processes that shape (and are shaped by) the environment. Topical coverage includes conservation, food, energy, climate, pollution and global industrial production. The class assignments emphasize critical evaluation of specific social-environmental problems and the ideas, policies and practices that people engage in addressing them.	See course description
Religious Studies	156EE		Environmental Ethics	Focused	Env, Soc, Econ	UG	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.	See course description
Statistics and Applied Probability	174		Time Series	Includes	Env	UG	Stationary and non-stationary models, seasonal time series, ARMA models: calculation of ACF, PACF, mean and ACF estimation. Bartlett's formula, model estimation: Yule-Walker estimates, ML method, identification techniques, diagnostic checking forecasting, spectral analysis, the periodogram. Current software and applications.	This course heavily emphasizes data analysis on climate change and its impact on human health and biodiversity as one of its recurring themes.
Mechanical Engineering	225BL		Nanoscale Energy Transport and Conversion	Includes	Env	G	A self-contained, application-oriented course covering basic concepts in nanoscale transport and interaction of microscopic energy carriers, mainly electrons, phonons and photons, with an emphasis on new phenomena that emerge at small length and time scales and deviate from macroscopic laws. Topics include (may vary based on time frame): energy levels and statistics of energy carriers; kinetic theory and mean free path; energy transport by waves and the Landauer formalism; near-field radiation; energy transport by particles: Boltzmann transport equation and classical size effect; carrier scattering; energy dissipation. Recent research results and real-world applications are discussed wherever relevant.	See course description