

Course Number	Department	Course Title	Level	Sustainability Content	Catalog Description
AMS/HST 397	American Studies/History	American Environmental History	UNDERGRADUATE	FOCUSED	Introduction to human-natural environmental relationships in English North America and the United States, ca. 1600 to present. Chronological and regional approach with emphasis upon political economy and the American conservationist/environmentalist movement.
ARC 212	Architecture & Interior Design	Principles of Environmental Systems	UNDERGRADUATE	FOCUSED	Understanding of the basic principles that inform the design of environmental and structural systems and their integration into building design.
ARC 406B	Architecture & Interior Design	Energy & Sustainability	UNDERGRADUATE	FOCUSED	Courses in three of the primary curricular areas: communication process; history and theory; environmental systems/practice. Offerings vary. May include: housing, contemporary architecture theory and practice, vernacular architecture, urban studies, architectural theory, exploration of graphic media, advanced work in building systems, etc. Seminar descriptions available at departmental office during preregistration each semester. Nonmajors encouraged to seek course work in their area of interest.
ARC 406C	Architecture & Interior Design	Sustainable Design	UNDERGRADUATE	FOCUSED	Courses in three of the primary curricular areas: communication process; history and theory; environmental systems/practice. Offerings vary. May include: housing, contemporary architecture theory and practice, vernacular architecture, urban studies, architectural theory, exploration of graphic media, advanced work in building systems, etc. Seminar descriptions available at departmental office during preregistration each semester. Nonmajors encouraged to seek course work in their area of interest.
ARC 406D	Architecture & Interior Design	Passive and Low Energy Design	UNDERGRADUATE	FOCUSED	Courses in three of the primary curricular areas: communication process; history and theory; environmental systems/practice. Offerings vary. May include: housing, contemporary architecture theory and practice, vernacular architecture, urban studies, architectural theory, exploration of graphic media, advanced work in building systems, etc. Seminar descriptions available at departmental office during preregistration each semester. Nonmajors encouraged to seek course work in their area of interest.
ARC 413	Architecture & Interior Design	Environmental Control Systems I	UNDERGRADUATE	FOCUSED	Understanding of the basic principles that inform the design of environmental systems, with an emphasis on the building envelope and energy-efficient systems, heat gain and loss, alternative energy systems, the design and integration of climate control systems (heating, ventilating, air-conditioning), and plumbing and fire prevention systems.
ARC 414	Architecture & Interior Design	Environmental Control Systems II	UNDERGRADUATE	FOCUSED	Understanding of the basic principles that inform the design of environmental systems, with an emphasis on lighting and power/data systems. Course topics include acoustics, life-safety systems, and building service systems.
ATH 409L	Anthropology	Sustainability in Europe	UNDERGRADUATE	FOCUSED	Examines social and environmental dimensions of sustainability challenges, and explore strategies for sustainability in European lifestyles, infrastructure, transport, business and policy, with a comparative look at the U.S. Anthropological and geographic method and theory ground a holistic perspective on human-environment relations, which students apply in their exploration of relevant issues in architecture and planning, business, engineering, social work, and natural and social sciences. Special attention is given to competing visions and priorities about what should be sustained, and for whom, and to resulting tensions and conflicts.
ATH 471	Anthropology	Ecological Anthropology	UNDERGRADUATE	FOCUSED	Survey of ecological methods and models used by anthropologists in the analysis of cultural-environmental relations and in conservation planning.
BIO 121	Biology	Environmental Biology	UNDERGRADUATE	FOCUSED	Local, regional, and global environmental issues examined in the context of current ecological theory and principles of resource use and management.
BIO 131	Biology	Plants, Humanity & Environment	UNDERGRADUATE	FOCUSED	Introduction to fundamental concepts in plant biology, ecology, and scientific perspective as they relate to issues of social concern.
BIO 176	Biology	Ecology Of North America	UNDERGRADUATE	FOCUSED	Basic principles of ecology, major biomes of North America, and pertinent environmental issues. Biomes range from tundra to tropical rain forest. Environmental issues include biodiversity, deforestation, desertification, and other land management problems, each analyzed from a scientific perspective but involving social, economic, and humanistic factors as well.
BIO 209	Biology	Fundamentals of Ecology	UNDERGRADUATE	FOCUSED	Interrelationships between organisms and their environments.

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BIO 351	Biology	Environmental Education: Focus On Natural History	UNDERGRADUATE	FOCUSED	Introduction to the field of environmental education emphasizing the natural history and interpretation of natural habitats of southwestern Ohio.
BIO 438	Biology	Soil Ecology & Sustainable Use	UNDERGRADUATE	FOCUSED	Introduces processes of soil formation and consequent physical, chemical, and biological properties. Analyzes soil functions related to plant growth, agricultural productivity, water quality, and biodiversity, and evaluates sustainability of the soil resource in the context of environmental change and ecosystem management.
BIO 451	Biology	Conservation Education & Community Engagement	UNDERGRADUATE	FOCUSED	Theory and practice of participatory education, collaborative research, and conservation action for positive ecological, educational, and social change. Includes community engagement projects and case studies in diverse local and global contexts.
BIO 467	Biology	Conservation Biology	UNDERGRADUATE	FOCUSED	Principles of ecology and organismal biology applicable to conservation of uncommon plant and animal populations or ecosystems as related to anthropogenic influences and relevant legislation.
BIO/GEO 431	Biology / Geography	Global Plant Diversity	UNDERGRADUATE	FOCUSED	Research-focused seminar on floristic, ecological, and cultural influences on global patterns of plant diversity, especially in tropical regions. Comparative topics include the role of disturbances and global environmental change.
BIO/GEO 432	Biology / Geography	Ecoregions of North America	UNDERGRADUATE	FOCUSED	Ecological study of vegetation that applies an understanding of climate, soils, and physiography across the continent toward interpreting major vegetation types and local patterns of diversity. Discussions and field work focus on current research and conservation issues.
BIO/GEO 496	Biology / Geography	Biodiversity of Kenya	UNDERGRADUATE	FOCUSED	Intensive field-workshop on: 1) the ecology of tropical ecosystems in Kenya; 2) indigenous human relationships with Kenyan environments; and 3) conservation issues from interdisciplinary perspectives. Includes pre-trip seminars that introduce basic concepts in Kenya's ecology, a two-week intensive field experience in Kenya, and follow-up discussions and project presentations.
BIO/MBI 333	Biology / Microbiology	Field Ecology	UNDERGRADUATE	FOCUSED	Experience in collection, analysis, and interpretation of ecological data.
BUS/IES 494	Business Analysis / Institute for the Environment & Sustainability	Sustainability Perspectives in Resources & Business	UNDERGRADUATE	FOCUSED	Provides students with interdisciplinary perspectives of sustainability in business and resource management through consideration of the economic, social, and environmental value of organizations. The course covers principles, case studies, and best practices used by organizations in several areas of sustainability, such as energy efficiency and alternatives, waste management and recycling, ecosystem services, product redesign and life cycle management, resource management, and sustainability planning and reporting.
CHM 491	Chemistry	Chemistry In Societal Issues	UNDERGRADUATE	FOCUSED	Chemistry is involved in many of the societal issues facing this nation. In order to protect the environment, create new energy sources, improve health, and increase consumer product safety, understanding chemistry is critical to the problem-solving process. It is important for students in technical fields to understand the interface between the known chemistry and government regulations, public perception, and legal interpretations. Students critically evaluate and form positions on current issues of national interest.
CPB/IES 244	Chemical, Paper, & Biomedical Engineering	Environmental Engineering	UNDERGRADUATE	FOCUSED	Introductory design concepts for the control of water pollution, air pollution, and solid waste will be covered. Environmental legislation will be discussed. Solutions to environmental problems will be investigated, considering technical, economical and ethical aspects of engineering.
CPB 405	Chemical, Paper, & Biomedical Engineering	Industrial Environmental Control	UNDERGRADUATE	FOCUSED	Survey of environmental issues facing the industry and how the industry addresses these issues. In-plant pollution abatement alternatives discussed as well as external treatment. Computer-based modeling applications introduced and applied to problems. Design considerations involved in selecting among alternative pollution control strategies are presented and applied to examples.

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CPB 441	Chemical, Paper, & Biomedical Engineering	Pollution Prevention in Environmental Management	UNDERGRADUATE	FOCUSED	Provides understanding of how corporations respond to governmental regulation by setting up environmental management systems which employ the principles of pollution prevention. Engineering concepts such as material balances, energy balances, risk assessment, and life cycle assessment have impacted new process designs. In this course a basis for evolution and maturation of pollution prevention as a fundamental methodology to ensure compliance and economic sustainability of industrial processes will be provided. The understanding of the concepts of pollution will be demonstrated by participation in a class project sponsored by industry at one of their facilities.
CPB 442	Chemical, Paper, & Biomedical Engineering	Air Pollution Control	UNDERGRADUATE	FOCUSED	This course will introduce students to the formation and control of air pollutants, engineering theories and principles pertaining to the design of air pollution control operations, and environmental legislation. Solutions to environmental problems will be investigated, considering technical, economical and ethical aspects of engineering.
ECE 291	Electrical and Computer Engineering	Energy Systems Engineering	UNDERGRADUATE	FOCUSED	This course studies power producing systems using fossil and renewable energy sources. The components and operations of power producing systems such as hydro, thermal power plant, nuclear reactor, solar panel, wind turbine, and bioreactor are investigated. Economic decisions and societal and environmental consequences of using various energy sources are emphasized.
ECO 406	Economics	Environmental Economics	UNDERGRADUATE	FOCUSED	Economic analysis of environmental quality. Strategies for collective environmental action. Benefit-cost analysis. Economic growth and environmental quality.
EDL 216	Educational Leadership	Myaamia Ecology & History	UNDERGRADUATE	FOCUSED	In this course we will introduce, explore, and weave together various perspectives of Myaamia (Miami) ecology and history. The ecological observations of this first course will be heavily influenced by the seasonal transition from summer into winter that occurs during the fall semester. From these observations, the class will create a shared understanding of the web of relationships that links humans, animals, plants, landscapes, other-than-human beings, and the stories that one particular group of humans "the Myaamiaki" have told about these interactions over time. Through an exploration of some of the general aspects of Myaamia ecology and history, each individual participant of the class will begin develop their own personalized understanding of this complex web of relationships. Half of the class meetings will be dedicated to discussing historical topics, i.e. focused on the past, but one of our explicit goals is to discuss how historical understandings and ecological practices are a part of, or can be made a part of, our contemporary lives.
ENG/IES/JRN 429	English / Institute for the Environment & Sustainability / Journalism	Environmental Communication	UNDERGRADUATE	FOCUSED	Examines theories, principles, and methods for communicating environmental concepts and scientific information verbally, textually and visually to a range of audiences and stakeholders. Students will work with scientists, peer communities, clients, and focus groups to develop effective and appropriate environmental communications across mediums. Projects may include producing scientific posters, writing reviews of research projects on an environmental problem, preparing oral presentations, creating visual story of scientific work, interviewing scientists for a general news story, writing environmental proposals, and facilitating focus groups.
GEO 121	Geography	Earth's Physical Environments	UNDERGRADUATE	FOCUSED	Study of the earth's physical environment, using systems approach to understand energy and material cycles, global circulation, and temporal dynamics. Focus on influence of physical processes on spatial patterns and on interrelationships of the atmosphere, soils, vegetation, and landforms.
GEO 122	Geography	Geographic Environments	UNDERGRADUATE	FOCUSED	An introduction to physical geography that enables class participants to understand and interpret the environmental conditions of any geographic locality on earth. Special emphasis is placed on understanding relationships between geographic patterns and processes in the atmosphere (weather and climate), biosphere (vegetation and soils), and lithosphere (landforms).
GEO 211	Geography	Global Change	UNDERGRADUATE	FOCUSED	Application of physical and human geography concepts to understanding processes of change in the use and allocation of resources from combined environmental and social perspectives.

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GEO 426	Geography	Watershed Management	UNDERGRADUATE	FOCUSED	Impacts of urban and agricultural land use on water resources; common watershed-scale tools for water quality and quantity management.
GEO/GLG/IES 423	Geography / Geology & Environmental Earth Science / Institute for the Environment & Sustainability	Tropical Marine Ecology	UNDERGRADUATE	FOCUSED	Investigates aquatic systems (estuaries, mangroves, coral reefs, seagrass beds, lagoons, beaches, intertidal zones, taxonomy of vertebrates and invertebrates of coral reefs, lagoons and tidal flats) paleobiology and global climate change (paleo-reconstruction of past lagoon environments, fossil coral reefs, and land use). Student research questions concerning biological and physical analyses of a select marine habitat are required. The course is taught on-site in the Florida Keys and the Bahamas.
GEO/GLG/IES/LAS 412	Geography / Geology & Environmental Earth Science / Institute for the Environment & Sustainability / Latin American Studies	Tropical Ecosystems of Costa Rica	UNDERGRADUATE	FOCUSED	Introduces students to the structure and function of neotropical ecosystems, as well as to geological, biological, cultural, and economic forces affecting biodiversity in the tropics. This course is taught on-site in Costa Rica.
GEO/IES/LAS 416	Geography / Institute for the Environment & Sustainability / Latin American Studies	Tropical Ecology and Natural History of Belize, Central America	UNDERGRADUATE	FOCUSED	Intensive summer workshop exploring tropical ecology (terrestrial and marine) and human natural history in Belize, Central America. Emphasis is placed on habitat types and cultural use of different habitats. Environmental issues raised include the coexistence of human populations, agriculture, and natural habitats with normal diversity of native species.
GEO/WGS 436	Geography / Women, Gender & Sexuality Studies	Women, Gender & The Environment	UNDERGRADUATE	FOCUSED	Seminar discussing literature on the role of women in their relationships with natural resources as advocates, practitioners, and scholars. Ideas on ecofeminism will be introduced from more-developed "north" and developing "south" perspectives, and then directed toward the study of gender and development, and participatory tools in gender analysis.
GLG 121	Geology & Environmental Earth Science	Environmental Geology	UNDERGRADUATE	FOCUSED	A survey of introductory geology with a sub theme of human interaction with the geologic environment. Topics include flooding, earthquakes, volcanoes, water quality and availability, energy, use and abuse of natural resources and land-use planning.
GLG 307	Geology & Environmental Earth Science	Water and Society	UNDERGRADUATE	FOCUSED	Provides a basic scientific understanding of what water is, where it resides and how it moves throughout the entire hydrologic cycle both on a global and watershed scale. Topics emphasize the importance and fragility of water resources and the world-wide threats to those resources. Major issues examined include flooding, water scarcity, irrigation, settlement of arid land, international water conflict and contamination of drinking water supplies. Topics are examined not only through a natural science perspective, but also through perspectives of history, policy, law and societal attitudes.
GLG 408	Geology & Environmental Earth Science	Introduction To Hydrogeology	UNDERGRADUATE	FOCUSED	Introduction to the physical properties governing groundwater-flow in various geologic media and settings. Methods are explored for determining groundwater-flow directions and velocities and aquifer characteristics and potential. Introduction to groundwater-flow modeling and principles of mass transport and groundwater contamination.
GLG 428	Geology & Environmental Earth Science	Hydrogeological Modeling	UNDERGRADUATE	FOCUSED	Explores techniques used in constructing and solving mathematical models of groundwater flow and contaminant transport. It reviews and covers the basic theory associated with these processes including the physical processes that govern the flow of groundwater in various geologic media and settings and the chemical, biological and physical processes involved in contaminant transport and fate in groundwater systems. The course explores how to incorporate our understanding of these various processes into numerical models that help us explore and come to a better understanding of natural systems and make predictions. The course also develops familiarity some widely-used packaged models while learning about grid and boundary design, model parameter-value selection, calibration and exploration of uncertainty.
GLG/IES 415	Geology & Environmental Earth Science / Institute for the Environment & Sustainability	Coral Reef Ecology	UNDERGRADUATE	FOCUSED	Examines the coral reef environment including its biology, geologic setting, chemical and physical characteristics, and its relation to fossil coral reefs and global climate change. This course is taught on-site in the Bahamas.
IES 175	Institute for the Environment & Sustainability	Environmental Science Seminar	UNDERGRADUATE	FOCUSED	Introduces students to interdisciplinary approaches in environmental science and the sustainability of natural and human systems.

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IES 211	Institute for the Environment & Sustainability	Energy and Policy	UNDERGRADUATE	FOCUSED	Study of the relationships between energy technology and energy policy, with considerations of how policy and economic incentives influence the production and use of fossil fuels and renewable energy sources. Emphasis is on the regional and global impacts of different energy sources to natural resources and environmental quality.
IES 274	Institute for the Environment & Sustainability	Introduction to Environment and Sustainability	UNDERGRADUATE	FOCUSED	Introduction to environmental and sustainability principles from social science and natural science perspectives. Critical analysis of environment and sustainability-related problems and resolution strategies. Review of foundational concepts and case studies, which may include environmental history, biotic and natural resources, energy and climate, planning and design, organizational management and policy, and sustainable development.
IES 275	Institute for the Environment & Sustainability	Principles of Environmental Science	UNDERGRADUATE	FOCUSED	Topics include contamination of earth systems and pollution mitigation; use, abuse, and conservation of natural resources; land use, conservation and preservation, planning and management and the value of biodiversity and wilderness. Emphasis is on the multidisciplinary nature of environmental problems and their solutions.
IES 411	Institute for the Environment & Sustainability	Environmental Protocols	UNDERGRADUATE	FOCUSED	Lecture/field laboratory course will integrate the collection, analysis, management, evaluation and presentation of environmental measurements. One lab and two lectures per week. Appropriate for all environmental practitioners.
IES 431	Institute for the Environment & Sustainability	Principles & Applications of Environment Science	UNDERGRADUATE	FOCUSED	Analysis of the relationship of human beings to the environment, specifically assessment of their impact on the environment as a whole. Attempts to outline the evolution and present status of many environmental problems, presents possible solutions, and attempts to predict our future relationship with nature.
IES 440	Institute for the Environment & Sustainability	Contemporary Topics in Environmental Science	UNDERGRADUATE	FOCUSED	An examination of historical and current world environmental conditions.
IES 450	Institute for the Environment & Sustainability	Environmental Law	UNDERGRADUATE	FOCUSED	Introduction to the origins of environmental law; discussion of regulatory agencies; regulation of water pollution, hazardous substances, solid waste, land use, and air pollution.
IES 474	Institute for the Environment & Sustainability	Sustainability in Practice	UNDERGRADUATE	FOCUSED	Application of sustainability principles to social and environmental problem solving, in an inter-disciplinary and project-based setting. Collaborative design of innovative strategies for addressing and resolving environmental concerns. Reflection on practical challenges of implementing sustainability principles in practice.
ITS 402P	International Studies	Food, Energy & Sustainability	UNDERGRADUATE	FOCUSED	Examination of approaches and diverse human relationships that comprise the field of international studies, with participants writing a group-project policy report.
MBI 121	Microbiology	Microbial World	UNDERGRADUATE	FOCUSED	Introduces basic concepts in the study of microorganisms - bacteria, viruses, and fungi. Topics include microbial structure and function, metabolism, genetics and the immune system. Special emphasis is placed on the impact of microorganisms on medicine, agriculture, food production, biotechnology, and the environment.
MBI 131	Microbiology	Community Health Perspectives	UNDERGRADUATE	FOCUSED	Discussion of community health primarily from the perspective of leading causes of disease and death in the U.S. Exploration of the impact of environment, behavior, and disease, including prevention and treatment strategies, on human health, public resources, and quality of life for society.
MBI 475	Microbiology	Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology	UNDERGRADUATE	FOCUSED	Integrative examination of the evolution of life, distribution, and abundance of microorganisms, and biogeochemical cycles leading to the discovery of principles used for societal applications such as water quality management and bioremediation.

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MKT 412	Marketing	Sustainable Marketing Management	UNDERGRADUATE	FOCUSED	The goal of this course is to provide an overview of the role of sustainability in marketing strategy. We use the triple bottom line perspective to cast sustainability as the simultaneous pursuit of financial, social/relational, and environmental performance. The course provides an assessment of current efforts to pursue sustainability with a primary focus on the interaction of the marketing organization with the environment. In the process, we investigate the interaction between consumption and the physical environment. We examine specific marketing tactics employed by firms seeking to maximize triple bottom line performance. We subsequently address consumption processes in the household, industrial, services, and transportation sectors of the economy.
MME 451	Mechanical & Manufacturing Engineering	Sustainability Considerations in Design & Development	UNDERGRADUATE	FOCUSED	This course presents sustainability issues to be considered in the planning process and provides tools to evaluate these for a balanced design. Topics include analysis of interactions between the technical, economic, and societal and policy aspects of sustainability, balance of the technical evaluation (life cycle costs, etc.) against the product's impact on the environment and societal preferences, and applying decision analysis methods to evaluate these preferences and tradeoffs.
PHL 376	Philosophy	Environmental Philosophy	UNDERGRADUATE	FOCUSED	Critical study of metaphysical, epistemological, and moral problems associated with questions of ecology and humankind's relation to natural environment. Considers such issues as conceptions of nature, character and impact of various forms of technology, relations of environment and economics, environmentalism and justice, and environmental ethics.
PHY 121	Physics	Energy & Environment	UNDERGRADUATE	FOCUSED	Application of physics principles and models to societal uses of energy. Includes mechanics, electricity and magnetism, thermodynamics, and atomic and nuclear physics. Energy topics include resources, environmental problems, global atmospheric challenges, nuclear power, solar energy, alternative energy systems, and energy conservation.
ACC 333	Accountancy	Managerial Cost Accounting	UNDERGRADUATE	RELATED	Focuses on the roles firm strategy and management accounting information play in managing products, services, and customers. Emphasizes volume-based and activity-based cost calculations, customer profitability analysis, long-term pricing decisions, make/buy and mix decisions, target costing, short-term variable costing-based pricing decisions, and theory of constraint-based pricing and mix decisions.
ACC 453	Accountancy	Financial Statement Auditing	UNDERGRADUATE	RELATED	Introduction to financial statement audits conducted by independent public accountants. Emphasizes the technical knowledge and skills required by entry-level auditors to meet professional standards, plan and perform audits, and communicate results.
ARC 211	Architecture & Interior Design	Introduction to Landscape & Urban Design	UNDERGRADUATE	RELATED	Introduction to principles and elements of the larger environment: landscape and urban design.
ARC 435	Architecture & Interior Design	Theory & History of Landscape Architecture	UNDERGRADUATE	RELATED	Examination of the role of the landscape architect in the environmental design process through discussion of history, methodology, and practice of contemporary landscape design.
ATH 145	Anthropology	Lost Cities & Ancient Civilizations	UNDERGRADUATE	RELATED	Archaeological and anthropological approaches for understanding human cultural, social, and ecological adaptations in global prehistory. Examines similarities and differences among prehistoric peoples and civilizations and their global contexts and interconnectedness in terms of political economy and social organization; technologies, engineering, and environment; and religion and symbolic systems.
ATH 175	Anthropology	Peoples Of The World	UNDERGRADUATE	RELATED	Provides an appreciation of human cultural, social, and linguistic variation around the world and through time. Develops anthropological and ethnographic approaches to understanding cultural differences and similarities in political, social and economic organization; marriage and family patterns; environment and beliefs systems; and other aspects of globalized human cultural life.
ATH 185	Anthropology	Cultural Diversity in the US	UNDERGRADUATE	RELATED	Anthropological and ethnographic approaches to the study of cultural, social, and linguistic variation in the United States, its territories, and borderlands. As an introduction to cultural anthropology, the course provides a foundation for understanding historical and contemporary contexts related to globalization and diaspora; ethnic, racial, and class identities; political economy and environment; belief systems; and ethnographic methodology.

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ATH 348	Anthropology	Introduction to Medical Anthropology	UNDERGRADUATE	RELATED	Topics and theoretical approaches of medical anthropology. Explores why disease emerges within particular socio-cultural settings and how people in those settings understand and treat their ills. Topics include historical and current pandemics, culturally specific illnesses, local medical practices, and individuals' struggles with particular ills.
ATH 405	Anthropology	Food, Taste, and Desire	UNDERGRADUATE	RELATED	Explores food consumption as a meaningful practice embedded in local, national, and global relations and in social, economic, and political contexts. Topics include history of food consumption; food and power; nation, the state, and food; gender, sexuality and consumption; consumption, marketing, and subjectivity; globalization; hunger and memory; need, taste, and desire; and food aesthetics, moralities, and poetics.
BIO 155	Biology	Field Botany	UNDERGRADUATE	RELATED	Field/laboratory-oriented, interpretive introduction to botany in the regional out-of-doors. Emphasis given to identification, uses, habit, habitat and communities of plants, and fungi in the context of local terrestrial and aquatic environments.
BIO 400	Biology	Capstone Seminar: Contemporary Issues in Biology	UNDERGRADUATE	RELATED	Requires seniors to critically evaluate and form positions on current biological issues of national interest. Format, theme, and topics change from term to term. Examples of themes include the management and use of natural resources, preservation of biological diversity, nature of the medical profession, and issues raised by advances in biotechnology. Faculty as well as other recognized authorities participate.
BIO 425	Biology	Environmental Plant Physiology	UNDERGRADUATE	RELATED	Examines the structure and function of plants from the cellular to the whole plant level focusing on plant-environment interactions.
BIO 463	Biology	Limnology	UNDERGRADUATE	RELATED	Physical, chemical, and biological characteristics of freshwater ecosystems.
BIO/MBI 115	Biology / Microbiology	Biological Concepts: Ecology, Evolution, Genetics & Diversity	UNDERGRADUATE	RELATED	Integrated study of microbes, plants, and animals emphasizing biological diversity and interdependence of life and environment.
BIO/MBI 116	Biology / Microbiology	Biological Concepts: Structure, Function, Cellular & Molecular Biology	UNDERGRADUATE	RELATED	Biological principles common to microbes, plants, and animals, including interactions between organism and environment.
BWS 156	Black World Studies	Introduction to Africa	UNDERGRADUATE	RELATED	A survey of Africa's varied and complex history and culture. It focuses on African geography, environment, history, economics, politics, as well as its rich cultural heritage. It approaches the study of Africa from a comparative historical and interdisciplinary perspective as well as situates it within the context of global developments.
BWS 181	Black World Studies	Introduction to Civil Rights and Social Movements	UNDERGRADUATE	RELATED	This course provides an introduction to the theories, concepts, and realities of civil rights and social justice from the perspective of the African Diaspora. The course will allow students to interrogate various social movements that have occurred both within the United States and Africa. Several specific civil rights, colonial movements, and post colonial projects will be explored as they highlight the interplay between various groups, leaders styles, and methods of building movements
BWS/FSW/SOC 362	Black World Studies / Family Studies & Social Work / Sociology	Family Poverty	UNDERGRADUATE	RELATED	Examines definitions, theories, causes and consequences of family poverty in the U.S. Identifies the extent and degree of U.S. poverty and demographic characteristics of those who are poor or likely to become poor. Consideration given to programs that reduce poverty and/or its negative effects, including those practiced in the past, those now practiced, and those that offer promise for improving the economic and social status of those who are poor. Costs and benefits of welfare and welfare reform and strategies for preventing poverty among future generations also discussed and evaluated.
ECO 131	Economics	Economic Perspectives on Inequality in America	UNDERGRADUATE	RELATED	Introduction to economic perspectives on inequality in the United States, particularly the relationship between inequality and population diversity. The role of the market and of public policy in generating, transmitting, and ameliorating inequality. Dimensions of inequality include earning inequality, poverty, and unequal access to education and health care. Dimensions of diversity include race, ethnicity, gender, age, socioeconomic class, immigration status, and sexual orientation.

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ESP 464	Entrepreneurship	Social Entrepreneurship	UNDERGRADUATE	RELATED	This course introduces students to the opportunities and challenges associated with building and growing enterprises that are both self-sustaining and focused on a social mission. Students will engage in an experiential learning process with others to develop a better understanding of the domain of social entrepreneurship including the development, measurement and assessment of various social enterprises.
FSW 206	Family Studies & Social Work	Social Welfare: Impacts on Diverse Groups	UNDERGRADUATE	RELATED	Critical analysis of historical and current interactions of social welfare policies, programs, and services with diverse recipient populations. Attention given to contexts in which social welfare has been developed and provided.
FSW 309	Family Studies & Social Work	Social Welfare Policy	UNDERGRADUATE	RELATED	Promotes knowledge of the nature and impact of policy decisions on the social welfare of diverse groups. Special attention given to disenfranchised, oppressed, and impoverished groups. Students acquire beginning skills in policy practice and value-driven advocacy.
FSW/PSY/SJS/WGS 497	Family Studies & Social Work	Methods of Social Justice Inquiry	UNDERGRADUATE	RELATED	Historical and critical overview of methods of inquiry used by scholars and activists seeking social justice, with emphasis on Participatory Action Research, Narrative Analysis, Community Psychology, Institutional Ethnography, and Mixed-Methods designs. Examines methodologies of previous and current research as framed by social constructionist epistemology, interdisciplinary conceptual frameworks, cultural values, and politics of advocacy for equity and fairness. Provides mentoring in application of techniques.
GEO 101	Geography	Global Forces, Local Diversity	UNDERGRADUATE	RELATED	Application of human geography concepts to patterns and processes of economic, political, and cultural changes at global, regional and local scales.
GEO 111	Geography	World Regional Geography	UNDERGRADUATE	RELATED	Introduction to world geography emphasizing regional approach and comparisons; combines analysis and synthesis of characteristics distinctive to each principal culture realm; focuses upon selected topical issues involving ethnic, political, economic, social, and environmental aspects.
GEO 205	Geography	Population and Migration	UNDERGRADUATE	RELATED	Examines the spatial distribution and dynamics of human fertility, mortality, and migration, primarily in the contemporary period, as well as the interaction of these trends with environmental, economic, and political issues. Special attention is given to interpreting and evaluating quantitative measures of population geography.
GEO 425	Geography	Hydrogeography	UNDERGRADUATE	RELATED	Investigation of the hydrologic cycle focusing on the surficial component parts of precipitation, infiltration, soil moisture, evaporation, transpiration, and surface runoff, and variation of these from place to place over the earth's surface.
GEO 444	Geography	GIScience Techniques in Landscape Ecology	UNDERGRADUATE	RELATED	Using geographic tools such as geographic information systems (GIS), remote sensing, global positioning system (GPS) receivers, and computer-based analysis, students will study a range of current topics in landscape ecology.
GEO 451	Geography	Urban and Regional Planning	UNDERGRADUATE	RELATED	Introduction to the purposes and possibilities of urban and regional land use planning. Topics include historical development of planning, theoretical rationale for planning, and major analytical and legal tools and techniques available to planners at urban and regional levels.
GEO 454	Geography	Urban Geography	UNDERGRADUATE	RELATED	Geographic principles related to the distribution, function, structure, and regional settings of urban centers.
GEO/WGS 309	Geography / Women, Gender & Sexuality Studies	Native American Women	UNDERGRADUATE	RELATED	A survey of writings and film by and about Native American women. The objective of the course is to provide students with a broad overview of Native American perspectives on a variety of topics including indigenous viewpoints on research methods, environmental activism, politics and policy, and critical analysis.
GHS 101	Global Health Studies	Introduction to Global Health	UNDERGRADUATE	RELATED	Introduces students to the complexity and ethical dilemmas of global health as a practical field that seeks to work with organizations and local communities to solve health problems. Students will learn to assess knowledge from multiple disciplines to thoroughly describe global health problems.
GHS 201	Global Health Studies	Data & Decisions in Global Health	UNDERGRADUATE	RELATED	Develops understanding and skill interpreting different kinds of data (qualitative and quantitative) to understand, assess, and make ethical decisions regarding complex global health problems and the programs designed to address them.

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GLG 111	Geology & Environmental Earth Science	The Dynamic Earth	UNDERGRADUATE	RELATED	Earth as a geophysical-geochemical unit and its internal and external processes. Formation of minerals and their relationships in rocks. Earth stresses and rock deformation, mountain building, and earthquakes. Geomorphic (landscape) evolution by mass wasting and wave, stream, wind, ground water, glacial, and volcanic activity.
GLG 311	Geology & Environmental Earth Science	Geoenvironmental Field Methods	UNDERGRADUATE	RELATED	Develops environmental geoscience field skills useful for fundamental and applied investigations. Students learn to test field hypotheses and construct professional reports and will develop a portfolio of project work.
GLG 335	Geology & Environmental Earth Science	Ice Age Earth	UNDERGRADUATE	RELATED	Introduces the study of climate change as recorded in the geologic record. Discusses natural and anthropogenic causes for climate change.
GLG 402/MBI 402	Geology & Environmental Earth Science / Microbiology	Geomicrobiology	UNDERGRADUATE	RELATED	Focuses on mutual interactions between microbial and geological processes. Topics include: role of microorganisms on mineral weathering rates, microbial mediated ore deposit formation, microbe enhanced oil recovery, life in extreme environments, search for bio-signatures in geological records and meteorites and implications for life on Mars, microbial ecology in ocean floor hydrothermal vents.
GLG 417	Geology & Environmental Earth Science	Forensic Isotope Geochemistry	UNDERGRADUATE	RELATED	Application of stable and radiogenic isotope systems to contemporary forensic problems including environmental contamination, climate change and wildlife forensics, archaeological forensics, animal migration patterns, soil provenancing, human provenancing, food authenticity and traceability, and criminal investigations including drug use and trafficking, weapons tracing, and counterfeit detection. Analytical methods, data quality, and isotopic mapping and modeling will be discussed as a basis for quantitative and qualitative forensic diagnostics.
GLG 435	Geology & Environmental Earth Science	Soils and Paleosols	UNDERGRADUATE	RELATED	Introduces methods of soil morphology, taxonomy, and genesis of modern and fossil soils. Describes how to use fossil soils to infer past environmental conditions.
GLG 436	Geology & Environmental Earth Science	Paleoclimatology	UNDERGRADUATE	RELATED	Reviews stable isotopic techniques to reconstruct climate change over geologic time scales from various types of records, including ocean sediment cores, ice cores, lakes, soils, and speleothems.
KNH 150A	Kinesiology & Health	Beginning Canoeing	UNDERGRADUATE	RELATED	This beginning canoeing course will focus on the essential skills and information that students need to travel safely and comfortably on flat and moving water. The course will cover history, canoe anatomy, clothing and equipment, paddling strokes and techniques, river reading/hazard identification, navigation, and minimizing environmental impact for boaters.
KNH 150M	Kinesiology & Health	Mountain Biking	UNDERGRADUATE	RELATED	Students will learn about mountain biking: equipment, performance, safety, its role in health promotion, environmental issues, trail development and maintenance, and building community. Students will learn how to mountain bike safely and will have opportunities to bike on a variety of mountain bike trails of different difficulty levels. Students will also participate in mountain bike trail maintenance and sustainability.
KNH 214	Kinesiology & Health	Global Well-Being	UNDERGRADUATE	RELATED	As a result of the positive psychology movement that has gained momentum around the world, well-being is now known to be a significant factor influencing quality of life, health, and human performance. This course explores the essence of well-being and its relevance to everyday living. The course also broadens students' perspective by exploring well-being within cultural and global contexts. Students will be given multiple opportunities to examine institutional and cultural influences on individual and societal well-being as well as the global forces influencing the development and use of the human experience of well-being across the globe.
KNH 276	Kinesiology & Health	The Meaning of Leisure	UNDERGRADUATE	RELATED	This course engages students in a critical examination of leisure as negotiated practices and experiences. Issues of globalization, sustainability, social equality and social justice are explored and provide a context for students to reflect on their leisure and inform their future professional practice.
KNH 303	Kinesiology & Health	Food Systems Management	UNDERGRADUATE	RELATED	Organization and management of food systems: study of the functions of management including human and physical resources, food service design and layout, production and fiscal controls, computer usage and labor guidelines.

Course Number	Department	Course Title	Level	Sustainability Content	Catalog Description
LAS 208	Latin American Studies	Introduction to Latin America	UNDERGRADUATE	RELATED	An interdisciplinary introduction to contemporary Latin America and the Caribbean through anthropology, art, geography, environment, film, history, literature, music, politics, sports and others
MBI 111	Microbiology	Microorganisms and Human Disease	UNDERGRADUATE	RELATED	Discussion of microorganisms and human diseases they cause, with particular emphasis on the impact of these relationships on the development of human societies' past, present, and future.
MBI 361	Microbiology	Epidemiology	UNDERGRADUATE	RELATED	Consideration of the epidemic nature, etiology, and characteristics of infectious and organic diseases, and methods used to analyze their control within the framework of environmental and population variables.
MGT 111	Management	Introduction to Business	UNDERGRADUATE	RELATED	Study of relationships between business and its environment, social responsibilities of business, and business management.
MGT 291	Management	Introduction to Management	UNDERGRADUATE	RELATED	Introduction to the importance of investing in human capital. Students are introduced to the theories and practices of how to attract, develop, and retain a competitive workforce. The goal of this course is to help students better understand, predict, and manage themselves and their work relations with others and with organizations, and to understand how organizations utilize this knowledge to design competitive management practices.
MGT 303	Management	Human Resource Management	UNDERGRADUATE	RELATED	Introduction to concepts, issues, and practices of modern human resource management and their impact on organizational effectiveness. Students develop a critical appreciation of the role human resource management plays in the dynamic environment in which organizations operate. Topics covered include human resource planning, recruitment, selection, training and career development, performance appraisal, compensation and benefits, employee and labor relations, and employee rights.
MGT/MKT 431	Management / Marketing	Logistics Management	UNDERGRADUATE	RELATED	Develops a framework for understanding all the firm's movement-storage activities necessary to provide products to customers where and when they are desired. Transportation, warehousing, inventory, order-processing, and handling activities are investigated in terms of their impact on customer service and total distribution cost.
PHY 118	Physics	Introduction To Atmospheric Science	UNDERGRADUATE	RELATED	Introductory survey of a broad range of atmospheric phenomena with emphasis on how they can affect our lives and mankind's impact on a changing atmospheric environment. Quantitative, illustrative, and mostly non-mathematical approach to processes that pertain to such topics as composition of the atmosphere, global climate, large-scale weather systems, and the nature of violent storms. Develops skills in the areas of problem solving (using charts instead of equations) and elementary weather forecasting.
POL 345	Political Science	National Issues	UNDERGRADUATE	RELATED	Examination of major contemporary domestic national issues, especially pollution, health care, inflation and recession, crime, income distribution, poverty, federal budget.
POL 387	Political Science	International Security Issues	UNDERGRADUATE	RELATED	Comparative analysis of international security issues, with emphasis on military security concerns and international peacekeeping, and nontraditional security concerns such as human security, food security and resource security.
SJS/SOC 165	Social Justice Studies / Sociology	Introduction to Social Justice Studies	UNDERGRADUATE	RELATED	The Introduction to Social Justice provides a basis to understand, interpret, and solve social problems in fair, equitable, and just ways.
SJS/SOC 487	Social Justice Studies / Sociology	Globalization, Social Justice & Human Rights	UNDERGRADUATE	RELATED	This course explores the theories, issues, debates, and pedagogy associated with globalization, social justice, and human rights. The course provides students with a unique opportunity to explore these topics within the classroom and, via internet and other technologies, across classrooms located around the globe. The student, through collaborative projects with peers around the world, will reflect upon how globalization shapes and transforms local communities and national cultures.
SOC 201	Sociology	Social Problems	UNDERGRADUATE	RELATED	Introduction to causes, context, policy, and prevention of selected social problems with particular emphasis on problems of conflict and inequality and problems of human progress.

Course Number	Department	Course Title	Level	Sustainability Content	Catalog Description
ARC 506B	Architecture & Interior Design	Energy & Sustainability	GRADUATE	FOCUSED	Courses in three of the primary curricular areas: communication process; history and theory; environmental systems/practice. Offerings vary. May include: housing, contemporary architecture theory and practice, vernacular architecture, urban studies, architectural theory, exploration of graphic media, advanced work in building systems, etc. Seminar descriptions available at departmental office during preregistration each semester. Nonmajors encouraged to seek course work in their area of interest.
ARC 506C	Architecture & Interior Design	Sustainable Design	GRADUATE	FOCUSED	Courses in three of the primary curricular areas: communication process; history and theory; environmental systems/practice. Offerings vary. May include: housing, contemporary architecture theory and practice, vernacular architecture, urban studies, architectural theory, exploration of graphic media, advanced work in building systems, etc. Seminar descriptions available at departmental office during preregistration each semester. Nonmajors encouraged to seek course work in their area of interest.
ARC 506D	Architecture & Interior Design	Passive and Low Energy Design	GRADUATE	FOCUSED	Courses in three of the primary curricular areas: communication process; history and theory; environmental systems/practice. Offerings vary. May include: housing, contemporary architecture theory and practice, vernacular architecture, urban studies, architectural theory, exploration of graphic media, advanced work in building systems, etc. Seminar descriptions available at departmental office during preregistration each semester. Nonmajors encouraged to seek course work in their area of interest.
ARC 513	Architecture & Interior Design	Environmental Control Systems I	GRADUATE	FOCUSED	Understanding of the basic principles that inform the design of environmental systems, with an emphasis on the building envelope and energy-efficient systems, heat gain and loss, alternative energy systems, the design and integration of climate control systems (heating, ventilating, air-conditioning), and plumbing and fire prevention systems.
ARC 514	Architecture & Interior Design	Environmental Control Systems II	GRADUATE	FOCUSED	Understanding of the basic principles that inform the design of environmental systems, with an emphasis on lighting and power/data systems. Course topics include acoustics, life-safety systems, and building service systems.
ATH 571	Anthropology	Ecological Anthropology	GRADUATE	FOCUSED	Survey of ecological methods and models used by anthropologists in the analysis of cultural-environmental relations and in conservation planning.
BIO 538	Biology	Soil Ecology & Sustainable Use	GRADUATE	FOCUSED	Introduces processes of soil formation and consequent physical, chemical, and biological properties. Analyzes soil functions related to plant growth, agricultural productivity, water quality, and biodiversity, and evaluates sustainability of the soil resource in the context of environmental change and ecosystem management.
BIO 551	Biology	Conservation Education & Community Engagement	GRADUATE	FOCUSED	Theory and practice of participatory education, collaborative research, and conservation action for positive ecological, educational, and social change. Includes community engagement projects and case studies in diverse local and global contexts.
BIO 567	Biology	Conservation Biology	GRADUATE	FOCUSED	Principles of ecology and organismal biology applicable to conservation of uncommon plant and animal populations or ecosystems as related to anthropogenic influences and relevant legislation.
BIO 631	Biology	Conservation Science & Community	GRADUATE	FOCUSED	Conservation science is a field driven by concern over the impacts of humans on biological resources, species survival, and environmental health. Humans have a considerable capacity to alter environmental systems, harming ourselves and other species. And through it all we display a remarkable resistance to change our behavior to better sustain life, or even to fully grasp the consequences of our actions. Amidst these distressing facts, there are also signs of hope as more people become directly involved in environmental stewardship. Conservation scientists, educators, community leaders, youth, and others have been directly involved in efforts that have brought species back from the brink of extinction, restored ecosystems, and caused the creation of vast protected areas. This course explores the theory and practice of Conservation Science, which will require discussion of concepts central to the field, such as conservation genetics, population biology, and ecology, as well as ideas from other disciplines, since all problems become interdisciplinary when applied to the human condition.

Course Number	Department	Course Title	Level	Sustainability Content	Catalog Description
BIO 633	Biology	Issues in Biodiversity	GRADUATE	FOCUSED	Issues in Biodiversity is a graduate seminar covering current and foundational issues in biodiversity. The seminar will focus on the forces that create and sustain biodiversity, patterns of biodiversity over time and space, and human impacts on biodiversity, with specific topics suited to the current state of the field.
BIO 638	Biology	Climate Change	GRADUATE	FOCUSED	Global warming is irrevocably altering our polar ice caps, our oceans, our forests, and the world's plant and animal life. In this course, participants study the science of climate change, the diverse causes of climate change, and the impact of climate change at local, regional, and global scales. Topics include global warming's effect on weather and climate, ice caps, deforestation, and species conservation. Because the public plays a central role in how the world responds to climate change, students also investigate the factors that guide public perception, ranging from media to social interaction. Students explore the effect of climate change specific to the biology of their local region and consider what actions they and their communities can take locally. Through project assignments and research, at the end of this course participants not only have a solid understanding of current issues surrounding climate change but will also have considered and developed strategies for taking action.
BIO/GEO 531	Biology / Geography	Global Plant Diversity	GRADUATE	FOCUSED	Research-focused seminar on floristic, ecological, and cultural influences on global patterns of plant diversity, especially in tropical regions. Comparative topics include the role of disturbances and global environmental change.
BIO/GEO 532	Biology / Geography	Ecoregions of North America	GRADUATE	FOCUSED	Ecological study of vegetation that applies an understanding of climate, soils, and physiography across the continent toward interpreting major vegetation types and local patterns of diversity. Discussions and field work focus on current research and conservation issues.
BIO/GEO 596	Biology / Geography	Biodiversity of Kenya	GRADUATE	FOCUSED	Intensive field-workshop on: 1) the ecology of tropical ecosystems in Kenya; 2) indigenous human relationships with Kenyan environments; and 3) conservation issues from interdisciplinary perspectives. Includes pre-trip seminars that introduce basic concepts in Kenya's ecology, a two-week intensive field experience in Kenya, and follow-up discussions and project presentations.
BIO/MBI 671	Biology / Microbiology	Population & Community Ecology	GRADUATE	FOCUSED	Principles and applications of population and community ecology: population dynamics, direct and indirect species interactions, food webs, species diversity.
BIO/MBI 672	Biology / Microbiology	Ecosystem & Global Ecology	GRADUATE	FOCUSED	Structure, dynamics and management of ecosystems and the biosphere, including food web interactions, nutrient cycling, ecosystem functioning, and biogeochemical cycles at local, regional and global scales.
BUS/IES 594	Business Analysis / Institute for the Environment & Sustainability	Sustainability Perspectives in Resources & Business	GRADUATE	FOCUSED	Provides students with interdisciplinary perspectives of sustainability in business and resource management through consideration of the economic, social, and environmental value of organizations. The course covers principles, case studies, and best practices used by organizations in several areas of sustainability, such as energy efficiency and alternatives, waste management and recycling, ecosystem services, product redesign and life cycle management, resource management, and sustainability planning and reporting.
CPB 505	Chemical, Paper, & Biomedical Engineering	Industrial Environmental Control	GRADUATE	FOCUSED	Survey of environmental issues facing the industry and how the industry addresses these issues. In-plant pollution abatement alternatives discussed as well as external treatment. Computer-based modeling applications introduced and applied to problems. Design considerations involved in selecting among alternative pollution control strategies are presented and applied to examples.
CPB 541	Chemical, Paper, & Biomedical Engineering	Pollution Prevention in Environmental Management	GRADUATE	FOCUSED	Provides understanding of how corporations respond to governmental regulation by setting up environmental management systems which employ the principles of pollution prevention. Engineering concepts such as material balances, energy balances, risk assessment, and life cycle assessment have impacted new process designs. In this course a basis for evolution and maturation of pollution prevention as a fundamental methodology to ensure compliance and economic sustainability of industrial processes will be provided. The understanding of the concepts of pollution will be demonstrated by participation in a class project sponsored by industry at one of their facilities.

Course Number	Department	Course Title	Level	Sustainability Content	Catalog Description
CPB 542	Chemical, Paper, & Biomedical Engineering	Air Pollution Control	GRADUATE	FOCUSED	This course will introduce students to the formation and control of air pollutants, engineering theories and principles pertaining to the design of air pollution control operations, and environmental legislation. Solutions to environmental problems will be investigated, considering technical, economical and ethical aspects of engineering.
ECO 506	Economics	Environmental Economics	GRADUATE	FOCUSED	Economic analysis of environmental quality. Strategies for collective environmental action. Benefit-cost analysis. Economic growth and environmental quality.
ENG/IES/JRN 529	English / Institute for the Environment & Sustainability / Journalism	Environmental Communication	GRADUATE	FOCUSED	Examines theories, principles, and methods for communicating environmental concepts and scientific information verbally, textually and visually to a range of audiences and stakeholders. Students will work with scientists, peer communities, clients, and focus groups to develop effective and appropriate environmental communications across mediums. Projects may include producing scientific posters, writing reviews of research projects on an environmental problem, preparing oral presentations, creating visual story of scientific work, interviewing scientists for a general news story, writing environmental proposals, and facilitating focus groups.
GEO 526	Geography	Watershed Management	GRADUATE	FOCUSED	Impacts of urban and agricultural land use on water resources; common watershed-scale tools for water quality and quantity management.
GEO/GLG/IES 523	Geography / Geology & Environmental Earth Science / Institute for the Environment & Sustainability	Tropical Marine Ecology	GRADUATE	FOCUSED	Investigates aquatic systems (estuaries, mangroves, coral reefs, seagrass beds, lagoons, beaches, intertidal zones, taxonomy of vertebrates and invertebrates of coral reefs, lagoons and tidal flats) paleobiology and global climate change (paleo-reconstruction of past lagoon environments, fossil coral reefs, and land use). Student research questions concerning biological and physical analyses of a select marine habitat are required. The course is taught on-site in the Florida Keys and the Bahamas.
GEO/GLG/IES/LAS 512	Geography / Geology & Environmental Earth Science / Institute for the Environment & Sustainability / Latin American Studies	Tropical Ecosystems of Costa Rica	GRADUATE	FOCUSED	Introduces students to the structure and function of neotropical ecosystems, as well as to geological, biological, cultural, and economic forces affecting biodiversity in the tropics. This course is taught on-site in Costa Rica.
GEO/IES/LAS 516	Geography / Institute for the Environment & Sustainability / Latin American Studies	Tropical Ecology and Natural History of Belize, Central America	GRADUATE	FOCUSED	Intensive summer workshop exploring tropical ecology (terrestrial and marine) and human natural history in Belize, Central America. Emphasis is placed on habitat types and cultural use of different habitats. Environmental issues raised include the coexistence of human populations, agriculture, and natural habitats with normal diversity of native species.
GEO/WGS 536	Geography / Women, Gender & Sexuality Studies	Women, Gender & The Environment	GRADUATE	FOCUSED	Seminar discussing literature on the role of women in their relationships with natural resources as advocates, practitioners, and scholars. Ideas on ecofeminism will be introduced from more-developed "north" and developing "south" perspectives, and then directed toward the study of gender and development, and participatory tools in gender analysis.
GLG 508	Geology & Environmental Earth Science	Introduction To Hydrogeology	GRADUATE	FOCUSED	Introduction to the physical properties governing groundwater-flow in various geologic media and settings. Methods are explored for determining groundwater-flow directions and velocities and aquifer characteristics and potential. Introduction to groundwater-flow modeling and principles of mass transport and groundwater contamination.
GLG 528	Geology & Environmental Earth Science	Hydrogeological Modeling	GRADUATE	FOCUSED	Explores techniques used in constructing and solving mathematical models of groundwater flow and contaminant transport. It reviews and covers the basic theory associated with these processes including the physical processes that govern the flow of groundwater in various geologic media and settings and the chemical, biological and physical processes involved in contaminant transport and fate in groundwater systems. The course explores how to incorporate our understanding of these various processes into numerical models that help us explore and come to a better understanding of natural systems and make predictions. The course also develops familiarity some widely-used packaged models while learning about grid and boundary design, model parameter-value selection, calibration and exploration of uncertainty.
GLG/IES 515	Geology & Environmental Earth Science / Institute for the Environment & Sustainability	Coral Reef Ecology	GRADUATE	FOCUSED	Examines the coral reef environment including its biology, geologic setting, chemical and physical characteristics, and its relation to fossil coral reefs and global climate change. This course is taught on-site in the Bahamas.

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IES 511	Institute for the Environment & Sustainability	Environmental Protocols	GRADUATE	FOCUSED	Lecture/field laboratory course will integrate the collection, analysis, management, evaluation and presentation of environmental measurements. One lab and two lectures per week. Appropriate for all environmental practitioners.
IES 531	Institute for the Environment & Sustainability	Principles & Applications of Environment Science	GRADUATE	FOCUSED	Analysis of the relationship of human beings to the environment, specifically assessment of their impact on the environment as a whole. Attempts to outline the evolution and present status of many environmental problems, presents possible solutions, and attempts to predict our future relationship with nature.
IES 540	Institute for the Environment & Sustainability	Contemporary Topics in Environmental Science	GRADUATE	FOCUSED	An examination of historical and current world environmental conditions.
IES 550	Institute for the Environment & Sustainability	Environmental Law	GRADUATE	FOCUSED	Introduction to the origins of environmental law; discussion of regulatory agencies; regulation of water pollution, hazardous substances, solid waste, land use, and air pollution.
IES 610	Institute for the Environment & Sustainability	Professional Service Project	GRADUATE	FOCUSED	Major environmental project of concern to a local government or nonprofit organization in southwest Ohio is assigned to a group of students working as a team. The team is expected to develop solutions to the problem during two semesters.
IES 611	Institute for the Environment & Sustainability	Environmental Problem Solving	GRADUATE	FOCUSED	Interdisciplinary methodologies employed in solving environmental problems, with emphasis on problem definition and scoping, stakeholder involvement, developing and analyzing alternatives, and implementation of solutions.
IES 620	Institute for the Environment & Sustainability	Topic Seminar	GRADUATE	FOCUSED	Seminar on environmental topics of current importance such as environmental impact and risk assessment.
MBI 575	Microbiology	Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology	GRADUATE	FOCUSED	Integrative examination of the evolution of life, distribution, and abundance of microorganisms, and biogeochemical cycles leading to the discovery of principles used for societal applications such as water quality management and bioremediation.
MME 551	Mechanical & Manufacturing Engineering	Sustainability Considerations in Design & Development	GRADUATE	FOCUSED	This course presents sustainability issues to be considered in the planning process and provides tools to evaluate these for a balanced design. Topics include analysis of interactions between the technical, economic, and societal and policy aspects of sustainability, balance of the technical evaluation (life cycle costs, etc.) against the product's impact on the environment and societal preferences, and applying decision analysis methods to evaluate these preferences and tradeoffs.
ACC 553	Accountancy	Financial Statement Auditing	GRADUATE	RELATED	Introduction to financial statement audits conducted by independent public accountants. Emphasizes the technical knowledge and skills required by entry-level auditors to meet professional standards, plan and perform audits, and communicate results.
ACC 695	Accountancy	Integrative Accounting Capstone	GRADUATE	RELATED	Integration of auditing, accounting systems, financial accounting, managerial cost accounting, and income tax accounting.
ARC 535	Architecture & Interior Design	Theory & History of Landscape Architecture	GRADUATE	RELATED	Examination of the role of the landscape architect in the environmental design process through discussion of history, methodology, and practice of contemporary landscape design.
BIO 525	Biology	Environmental Plant Physiology	GRADUATE	RELATED	Examines the structure and function of plants from the cellular to the whole plant level focusing on plant-environment interactions.
BIO 563	Biology	Limnology	GRADUATE	RELATED	Physical, chemical, and biological characteristics of freshwater ecosystems.
FSW/PSY/SJS/WGS 597	Family Studies & Social Work	Methods of Social Justice Inquiry	GRADUATE	RELATED	Historical and critical overview of methods of inquiry used by scholars and activists seeking social justice, with emphasis on Participatory Action Research, Narrative Analysis, Community Psychology, Institutional Ethnography, and Mixed-Methods designs. Examines methodologies of previous and current research as framed by social constructionist epistemology, interdisciplinary conceptual frameworks, cultural values, and politics of advocacy for equity and fairness. Provides mentoring in application of techniques.
GEO 525	Geography	Hydrogeography	GRADUATE	RELATED	Investigation of the hydrologic cycle focusing on the surficial component parts of precipitation, infiltration, soil moisture, evaporation, transpiration, and surface runoff, and variation of these from place to place over the earth's surface.

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GEO 544	Geography	GIScience Techniques in Landscape Ecology	GRADUATE	RELATED	Using geographic tools such as geographic information systems (GIS), remote sensing, global positioning system (GPS) receivers, and computer-based analysis, students will study a range of current topics in landscape ecology.
GEO 551	Geography	Urban and Regional Planning	GRADUATE	RELATED	Introduction to the purposes and possibilities of urban and regional land use planning. Topics include historical development of planning, theoretical rationale for planning, and major analytical and legal tools and techniques available to planners at urban and regional levels.
GEO 554	Geography	Urban Geography	GRADUATE	RELATED	Geographic principles related to the distribution, function, structure, and regional settings of urban centers.
GLG 502/MBI 502	Geology & Environmental Earth Science / Microbiology	Geomicrobiology	GRADUATE	RELATED	Focuses on mutual interactions between microbial and geological processes. Topics include: role of microorganisms on mineral weathering rates, microbial mediated ore deposit formation, microbe enhanced oil recovery, life in extreme environments, search for bio-signatures in geological records and meteorites and implications for life on Mars, microbial ecology in ocean floor hydrothermal vents.
GLG 517	Geology & Environmental Earth Science	Forensic Isotope Geochemistry	GRADUATE	RELATED	Application of stable and radiogenic isotope systems to contemporary forensic problems including environmental contamination, climate change and wildlife forensics, archaeological forensics, animal migration patterns, soil provenancing, human provenancing, food authenticity and traceability, and criminal investigations including drug use and trafficking, weapons tracing, and counterfeit detection. Analytical methods, data quality, and isotopic mapping and modeling will be discussed as a basis for quantitative and qualitative forensic diagnostics.
GLG 535	Geology & Environmental Earth Science	Soils and Paleosols	GRADUATE	RELATED	Introduces methods of soil morphology, taxonomy, and genesis of modern and fossil soils. Describes how to use fossil soils to infer past environmental conditions.
GLG 536	Geology & Environmental Earth Science	Paleoclimatology	GRADUATE	RELATED	Reviews stable isotopic techniques to reconstruct climate change over geologic time scales from various types of records, including ocean sediment cores, ice cores, lakes, soils, and speleothems.
MGT/MKT 531	Management / Marketing	Logistics Management	GRADUATE	RELATED	Develops a framework for understanding all the firm's movement-storage activities necessary to provide products to customers where and when they are desired. Transportation, warehousing, inventory, order-processing, and handling activities are investigated in terms of their impact on customer service and total distribution cost.
STA 671	Statistics	Environmental Statistics	GRADUATE	RELATED	Service course. Descriptive statistics, probability models, sampling distributions, estimation, hypothesis testing, regression and correlation analysis, elements of experimental design, and analysis of variance.
STA 672	Statistics	Statistical Modeling and Study Design	GRADUATE	RELATED	Introduction for graduate students to various methods of data analysis, forecasting, and building and use of computer simulation and optimization models for analysis and solution of environmental problems.