

Course prefix	Course #	Title	Description	Designation (Based on STARS definitions)	Level
AEC	380	Water Resources: Global Issues in Ecology, Policy, Management, and Advocacy	This course will take a broad look at global issues associated with water resources, including the ways that people interact with water (how we use, degrade, conserve, and advocate for water and water rights). And how these interactions shape our lives. Woven throughout the course is the fact that science (ecology), policy (resource management), and cultural perspectives interact (sometimes in cooperation and sometimes in conflict) on many topics related to water. Students will explore water resource issues from the perspectives of ecology, natural resource management, and different cultures. The course is appropriate for students with interests in the life and social sciences.	Sustainability course	Undergraduate
AEE	505	Trends and Issues in Agricultural and Extension Education	Scientific, political, demographic, social, educational, technological, and environmental trends and issues that will contribute to the future structure and operation of agricultural and extension education in the United States.	Sustainability course	Graduate
AES	250	Survey of Agricultural and Environmental Issues	This course presents an overview of the history of technology in agriculture. Topics include how the adoption of agriculture affected society, how ancient Greek farmers gave the world the idea of the family farm, and how this notion saved the earliest attempts to colonize North America from disaster. Additionally, a broad overview of current agricultural and environmental problems and attempts to find solutions suitable not only to farmers and the agri-business community but to all urban and environmentally aware society will be covered.	Sustainability course	Undergraduate
ANT	431/531	Tourism, Culture and Anthropology	Anthropological approach to tourism studies with emphasis on cross-cultural aspects of international tourism. Attention to impact of mass tourism as compared to alternative tourism; environmental and economic impact of tourism; impact of international tourists and tourism on local communities. Principal theories of leisure in relation to tourism. Theories of culture change in relation to travel and tourism. Credit not given for both ANT 431 and ANT 531.	Sustainability course	Undergraduate
ANT	433/533	Anthropology of Ecotourism and Heritage Conservation	Introduction to how cultures and societies view, utilize, interpret, manage and conserve environmental and cultural heritage resources; includes examination of theory and concepts of place, identity, sacred heritage, ecotourism, wildlife management as well as the cultural politics and practices of environmentalist and heritage management. Some limited travel to NC heritage sites required at student expense.	Sustainability course	Undergraduate
ANT	450/550	Culture, Ecology, and Sustainable Living	Examines the myriad ways that culture serves to mediate the human-environmental equation. Focus is given to different belief systems, subsistence strategies, technological achievements, and policy formulations. Topics covered include cultural ecology, gender and the environment, land tenure, development, ethno-science and cognitive ecology, subsistence and social organization, historical and political ecology, environmentalism, and environmental policy issues.	Sustainability course	Undergraduate
ARC	201	Architectural Design: Environment	Investigation of the relationships between environment and built form. Solar orientation, topography, vegetation, and constructed context in relationship to user needs as parameters for justifying design proposals. Particular emphasis on architectural conventions of communication.	Sustainability course	Undergraduate
ARC	520	Sustainable Architecture	This survey course provides students with a solid knowledge base in the numerous aspects of sustainable design touching not only upon strategies, but also various philosophies behind sustainability and the green building movement. This course examines the impact of the built environment on natural systems and questions what it truly means to build responsibly. Lectures, discussions, guest speakers, and field trips create a critical foundation for green building considerations to be references in design at a variety of scales. Restricted to M. Arch, B. Arch, and BEDA seniors. Non-architecture majors by instructor's permission.	Sustainability course	Graduate
ARC	535	Experiments in Architecture Prototypes	Examination of significant architecture prototypes of the Modern Movement. Seminar will investigate the effectiveness of prototypes in proposing solutions to technological, social, and environmental issues such as housing, education, and sustainability. Students will explore the possibilities of prototype design and construction in contemporary practice. Field trips required.	Sustainability course	Graduate

ARC	542	Sacred Architecture	This course focuses on the meaning and cultural significance of sacred architecture, including its environmental and socio-political contexts, and doctrinal and liturgical influences. The course is structured according to the world's principal faiths and presented comparatively and holistically. There is a particular emphasis on the communicative roles of architecture and the symbolism and ritual use of sacred places. Contemporary theoretical methodologies are introduced and applied as means establish relevancy to contemporary issues and architectural design. Restricted to graduate students.	Sustainability course	Graduate
ARC	571	Urban House	This seminar is intended to investigate the interrelationships between the form of housing and the demands of a rapidly changing society. Reference is made to the physical, economic, social, cultural, and economic factors that influence housing design.	Sustainability course	Graduate
ARC	211	Natural Systems and Architecture	Restricted to students in BEDA Program. Relationship between natural and architectural systems. Exploration of the implications of natural forces - sun, wind and daylight- on architecture. Energy-conscious architectural design and site planning strategies to fulfill thermal comfort requirements of people in designed environments.	Sustainability course	Undergraduate
ARC	403	Architectural Design Fundamentals: Environment	An introductory architectural design studio for M. Arch, Track 3 students investigating the relationship between environment and built form. Solar orientation, climate, topography, vegetation, and constructed context in relationship to user needs as parameters for design proposals. Particular emphasis on design fundamentals and conventions of architectural communication.	Sustainability course	Undergraduate
ARC/L AR	577	Sustainable Communities	Historical precedents of sustainable communities. Examination of the Garden City, the New Towns Movement, and the New Urbanism. Comparison of sustainable communities to urban visions of Wright, Corbusier, Soleri and others. Virtual cities and digital communities.	Sustainability course	Graduate
ARE	309	Environmental Law & Economic Policy	Current federal and state environmental laws and regulations and their common law foundations. Relationship of the law and its regulatory mechanisms to economic policy issues: externalities, pollution taxes, incentives, permit trading, and cost-benefit analysis. Major environmental topics including water and wetlands, solid and hazardous wastes, pesticides, clean air, endangered species and nuisance actions.	Sustainability course	Undergraduate
ARE/E C	436	Environmental Economics	Usefulness of economics in understanding pollution, congestion, conservation and other environmental problems. Relevant economic tools such as pricing schemes, abatement cost curves, damage functions and benefit-cost analysis. Pollution taxes, regulations, marketable permits and subsidies considered in designing alterations, in the incentive system. Current public policy alternatives in the context of non-market decision-making.	Sustainability course	Undergraduate
BAE/PB	442	Systems Approach to Agricultural and Environmental Issues	Systems approach to complex agricultural and environmental issues and problematic situations including people's views. Multiple stages of soft systems approach: open inquiry into and description of issues, conceptual modeling, feasibility and implementation of changes. Individual project using systems approach to a complex issue in agriculture or the environment.	Sustainability course	Undergraduate
BIO	233	Human-Animal Interactions	This course is designed to explore the relationship humans share with other animals and nature. We will study the early history of animal domestication and the influence of animals on human culture and religion. We will also explore our relationships to animals as pets, food, research subjects, and wildlife. All subjects will be covered through interaction with quest speaker, assigned readings, case studies, and class discussion.	Sustainability course	Undergraduate
BIO	561	Conservation Biology	Conservation Biology applies principles from ecology, genetics, and other biological disciplines to the conservation of biological diversity. This course will train students in techniques in population ecology such as population viability analysis; community ecology and theories of biodiversity; and reserve selection algorithms. The class will examine threats to biodiversity such as habitat fragmentation and loss, climate change, and invasion by exotic species. These issues will be considered within the context of economic, social, and legal constraints. Graduate status or permission of instructor.	Sustainability course	Graduate

BIO/FW 353	Wildlife Management	Historical development of Wildlife Management from anecdotal, observational practices to modern, scientific approaches used around the world. Principles of population analysis, management, protection and conservation of animals, particularly those of conservation, aesthetic, sport or food values in urban, rural and wilderness areas. Ethics of hunting and trapping. Contradictory objectives challenging modern wildlife managers.	Sustainability course	Undergraduate
BIO/FW 430	Fisheries and Wildlife Administration	Describes and compares the administrative structures and programs of federal and state fish and wildlife agencies and develops an understanding of the basis on which these agencies function. Evaluates the interrelationships that fisheries-wildlife professionals, special interest groups, public agencies and legislative bodies play in resource management programs.	Sustainability course	Undergraduate
CBS 886	One Health: From Philosophy to Practice	Graduate/professional seminar (with team project) addressing intersections of veterinary medicine, human medicine, and environmental health. Co-listed at UNC CH Gillings School of Global Public Health and Duke University School of Medicine. Includes participants from these three institutions, plus related private-sector members, non-governmental organizations, and government professionals. Its purpose is to facilitate understanding of one health as a system of systems, and promote cross-campus and cross-discipline interactions. Weekly evening course held at NC Biotechnology Center, RTP. Requires graduate student standing at NCSU or professional student standing within the College of Veterinary Medicine. Limit: 15 students per university.	Sustainability course	Graduate
CE 373	Fundamentals of Environmental Engineering	Concepts of sustainability and green engineering; energy and climate; overview of contaminants in water, air and terrestrial environments; introduction to water and wastewater treatment, air pollution control, and solid waste management.	Sustainability course	Undergraduate
CE 478/578	Energy and Climate	Interdisciplinary analysis of energy technology, natural resources, and the impact on anthropogenic climate change. Topics include basic climate science, energetics of natural and human systems, energy in fossil-fueled civilization, the impact of greenhouse gas emissions on climate, and technology and public policy options for addressing the climate challenge. The course is quantitative with a strong emphasis on engineering and science.	Sustainability course	Undergraduate
CE/ME A 479/579	Air Quality	Introduction to: risk assessment, health effects, and regulation of air pollutants; air pollution statistics; estimation of emissions; air quality meteorology; dispersion modeling for non-reactive pollutants; chemistry and models for tropospheric ozone formation; aqueous-phase chemistry, including the "acid rain" problem; integrated assessment of air quality problems; and the fundamentals and practical aspects of commonly used air quality models.	Sustainability course	Undergraduate
CHE 475/575	Advances in Pollution Prevention: Environmental Management for the Future	Design of industrial processes which minimize or eliminate wastes. Regulations and the corporate organization of current pollution prevention efforts. Current pollution prevention research. Product life cycle analysis and the application to design of more efficient processes. Credit will not be given for CHE 475 and CHE 575.	Sustainability course	Undergraduate
COM 467	Advanced Topics in Gender and Communication	Advanced Topics seminar examining construction of gender identities through communication practices. History and analysis of gender representations. Theoretical and critical approaches to social, political, and economic impact of gender constructions.	Sustainability course	Undergraduate
COM 436/536	Environmental Communication	Critical analysis of environmental discourse in organizational, mass media, political, cultural, and international contexts. Investigates public participation in environmental advocacy and deliberation; environmental conflict management; rhetorical constructions of nature and human relationships with nature; environmental justice; environmental risk communication; and competing ecological paradigms. Must hold Junior/Senior standing.	Sustainability course	Undergraduate
CS 230	Introduction to Agroecology	This course will examine the biological and physical attributes of farming systems and their associated ecological and social impacts in temperate and tropical regions. It will address the ecological consequences of indigenous food and fiber production systems, conventional agricultural systems and "alternative" systems that incorporate biological pest control and natural nutrient inputs. Students will examine several case studies that integrate their understanding of concepts.	Sustainability course	Undergraduate

CS	411	Crop Ecology	Ecology and production of major agronomic crops of economic importance. Impact of key environmental stress factors on production processes and management strategies. Environmental issues pertaining to sustainable cropping systems. Manipulation of canopy climate and rooting environment for enhanced crop performance in the context of global climate change. Ecological analysis of abiotic - and biotic-derived crop disorders.	Sustainability course	Undergraduate
CS	415	Integrated Pest Management	History, principles, and application of techniques for managing plant pests. Theory and practice of integrating pest control tactics to manage pests within economic, environmental, and sociological constraints. Topics include pest monitoring methodology, economic aesthetic thresholds, biological control, efficient pesticide use, biotechnology, and global positioning systems.	Sustainability course	Undergraduate
CS	430	Advanced Agroecology	This course applies agroecological principles introduced in CS 230 and critical thinking to evaluate various agroecosystems. Students will examine food, fiber, and other commodity production systems for security, productivity, and sustainability and address the simultaneous need to protect natural environments and the biodiversity on which agroecosystems depend. Topics include discussion of national and international government policies, research programs, and education programs that influence the future application of agroecosystem principles.	Sustainability course	Undergraduate
EA	502	Environmental Risk Assessment	This course provides students with an appreciation and understanding of the principles of environmental risk assessment including: Hazard Identification, Toxicity Assessment, Exposure Assessment, and Risk Characterization. Emphasis is placed on contemporary problems in human health and the environment, and it will be based on the most current methodologies described in the "Risk Assessment Guidance for Superfund." Enrollment in the course requires graduate standing or consent of the instructor. Two semester sequence of college biology & college chemistry.	Sustainability course	Graduate
EA	503	Environmental Exposure Assessment	Provides students with an appreciation and understanding of the principles of environmental exposure assessment including the sources, transport and fate of chemicals in the environment. Emphasis is on contemporary problems in human health and the environment, covering topics such as: transformation and degradation processes, classes of contaminants as well as predicting environmental fate and exposure. Enrollment in the course requires graduate standing or consent of the instructor. Two semester sequence of college biology & college chemistry.	Sustainability course	Graduate
EC/AR E	336	Introduction to Resource and Environmental Economics	Application of basic economic tools to understand and evaluate environmental/resource policies. Concepts such as property rights, non-market goods, allocation over time, externalities, and public goods. Current policy issues such as global climate change, evaluating natural resource damages from oil spills, reducing the costs of regulations, protecting estuaries, and dealing with non-point source pollution.	Sustainability course	Undergraduate
ECE	452/552	Renewable Electric Energy Systems	Principles and characteristics of renewable energy based electric power generation technologies such as photovoltaic systems, wind turbines, and fuel cells. Main system design issues. Integration of these energy sources into the power grid. Economics of distributed generation. Credit is not allowed for both ECE 452 and ECE 552.	Sustainability course	Undergraduate
ECG	515	Environmental and Resource Policy	Application of price theory and benefit-cost analysis to public decisions related to resources and environment. Emphasis on evaluation of water supply and recreation investments, water quality management alternatives, public-sector pricing, common property resources and optimum management of forest and energy resources.	Sustainability course	Graduate
ECG	715	Environmental and Resource Economics	Theoretical tools and empirical techniques necessary for understanding of resource and environmental economics, developed in both static and dynamic framework. Discussions of causes of environmental problems, possible policies and approaches to nonmarket valuation. Analysis of resource use over time using control theory for both renewable and exhaustible resources.	Sustainability course	Graduate
ECI	507	Social Justice Education	Introduction to principles of social justice education and their centrality in progressive policies and pedagogies that lead to equity in all teaching contexts. Students will develop strategies for successfully incorporating a social justice education framework in scholarship and professional practice.	Sustainability course	Graduate

ELP	515	Education and Social Diversity	Overview of role of education within a culturally diverse society. Major attention to racial, socioeconomic and regional subpopulations. Issues discussed include subcultural influences on public school performances, equality of educational opportunity, social stratification and mobility, and the impact of schooling on intergroup relations.	Sustainability course	Graduate
ES	200	Climate Change and Sustainability	This course explores the relationships between humans and the environment with interdisciplinary content. Focus is on past impacts of climate change on human activities and future prospects. Course content is based on lectures with students also responsible for developing and presenting seminars.	Sustainability course	Undergraduate
ES	300	Energy and Environment	This course explores relationships between humans, energy, and the environment with interdisciplinary context. Themes include environmental impacts of energy production, distribution and use with discussion of new technologies. Half of the course content is from subject lectures and half from self-selected student projects. Student projects emphasize analytical approaches to solving environmental problems, and enhance skills in writing, seminars, and team work.	Sustainability course	Undergraduate
ES	100	Introduction to Environmental Sciences	Interrelationships between human populations and the natural environment. Human population trends, agriculture, air and water pollution, biological diversity, forest and land use, energy and mineral resources, and toxic substances. Consideration of related economic factors, laws, politics, political behavior, and ethical questions.	Sustainability course	Undergraduate
ET	203	Pollution Prevention	This course studies the prevention of the pollution of air, water, and terrestrial ecosystems. State of the art technological solutions are discussed. The social, economic, legal and ethical dimensions of pollution prevention are integrated into the scientific and technological challenges facing developed and developing economies.	Sustainability course	Undergraduate
ET	262	Renewable Energy Adoption: Barriers and Incentives	The understanding of the economic, social, and legal barriers and incentives to renewable energy adoption is an important facet to helping renewable energies reach their potential. This course explores mechanisms that can be used and that have been used successfully in the US and in other parts of the world to remove those barriers and to promote greater use of renewable resources, particularly in rural areas and on agricultural and forested lands.	Sustainability course	Undergraduate
ET	410	Toxic Substances and Society	Interdisciplinary evaluation of past, present and future effects of toxic substances in the environment. Addresses various dimensions of toxic substances; special emphasis on ways to minimize adverse effects in contemporary and future societies.	Sustainability course	Undergraduate
ET	105	Introduction to Environmental Regulations	ET 105 is a 1 hour lecture/discussion class, required of all environmental technology majors. The course reviews all the major federal and state regulations and laws addressing, water air and soil pollution; solid, toxic and hazardous waste, occupational safety/health and environmental management systems. For ET majors only.	Sustainability course	Undergraduate
ET/ME A	320	Fundamentals of Air Pollution	Air pollution sources, and the influence of natural and anthropogenic processes on the atmosphere. Roles of local, state and federal governments in air pollution control and importance of the Clean Air Act and its amendments.	Sustainability course	Undergraduate
ET/ME A	455	Adaptive Management and Governance	Some environmental and natural resource problems are more difficult to resolve than others. The purpose of this course is to understand the factors that condition intractable or "wicked" environmental and natural resources conflicts. These factors include narrow conceptions of science, rigid bureaucratic structures and narrow policy targets. We also explore some of the alternatives for addressing intractable environmental and natural resource problems-including adaptive management and governance.	Sustainability course	Undergraduate
FLG	440	Green Germany: Nature and Environment in German Speaking Cultures	Survey of the long "Green" tradition in German-speaking cultures as reflected in the arts, in literature, and in scientific discoveries that have made Germany, Austria, and Switzerland leaders in development of alternative environmental technologies. Discussion in German of issues such as Romantic nature poetry, industrialization, Nazi attitudes towards nature, deforestation, the Green Party, air and water pollution, waste management, energy production, climate change, transportation systems, green architecture, sustainability, and the latest environmental technologies. Practice and assessment through class debates, group work, writing tasks, student presentations, and a portfolio.	Sustainability course	Undergraduate

FOR	220	Urban and Community Forestry	Introduction to the interdisciplinary study of urban forestry and greenspaces. Study of urban forest history, distribution and ownership patterns, urban ecology and ecosystems, benefits and uses of urban forests, vegetation establishment and maintenance, urban planning and policy, community interactions, urban forestry implementation.	Sustainability course	Undergraduate
FOR	248	Forest History, Technology and Society	Examining forest resource use and issues throughout history. Tracing developments and concepts that created the context for today's issues concerning global forest resources. Examining how wood resource availability shaped civilization's development, and examining consequences on forest resources of civilization's scientific, social, and technological progress.	Sustainability course	Undergraduate
FOR	350	Professional Development III: Ethical Dilemmas in Natural Resource Management	Study of ethical issues confronting natural resource management professionals, including: biodiversity conservation, private property rights, traditional religion and ecological values, community rights, environmental racism, hunting and animal rights, business ethics, and the purpose and content of professional codes of ethics.	Sustainability course	Undergraduate
FOR	406	Forest Inventory, Analysis and Planning	Independent project in designing and implementing a multi-resource survey; analyze stand conditions; forecast growth, yield and revenue of timber and forest products; use linear programming to prepare a long-term management plan subject to economic, social, and ecological constraints; assess economic and environmental impacts of potential actions; and report results orally and in writing	Sustainability course	Undergraduate
FOR	414	World Forestry	Management of global forest resources; distribution and trends in forest cover; role of forests in economic development; international production and trade of forest products; current policy issues, including tropical deforestation, certification, and carbon sequestration; social forestry and non-timber forest products; international institutions and aid for conservation and development; identification and evaluation of sources of current information on global forestry issues.	Sustainability course	Undergraduate
FOR	680	Field Practicum in Tropical Forestry	Principles of tropical forest protection and management through case studies. Participants will travel to a tropical region outside the United States for two weeks of intensive field studies. Topics: balancing economic growth with environmental protection, industrial forestry, protection forestry, projects and organizations, policy issues.	Sustainability course	Graduate
FOR/F W	221	Conservation of Natural Resources	This course examines the importance of natural resources and their role in the progress of human civilization. Physical, biological and ecological principles are described that underlie sustainability of natural resources, particularly as these relate to the consequence of human impacts as resources are used to meet societal needs. The course emphasizes renewable natural resources, the importance of habitat, and a broadly-international context. The course has an optimistic perspective that life on Earth can and will be better in the future if we learn and practice good resource management today.	Sustainability course	Undergraduate
FW	333	Conservation Biology in Practice	An introductory course designed to focus on the scientific fundamentals of conservation biology, including population dynamics, extinction and its causes, metapopulations, modeling, population viability analysis, the design and management of protected areas, rare species management, and captive breeding and release programs. Students will participate in active learning exercises, projects, and debates. Projects will require students to make their own arrangements for transportation to field locations within Wake County.	Sustainability course	Undergraduate
FW	403	Urban Wildlife Management	Issues facing wildlife in urbanizing landscapes and the general courses of action to minimize the negative effects of urbanization on native wildlife. Large-scale planning and zoning for roads, developments and open space; meso-scale planning and landscaping of new neighborhoods and other developments; and small-scale landscaping for backyard habitats. Coexistence between wildlife and humans in urban environments and management of wildlife damage to human property.	Sustainability course	Undergraduate

FW	405	Tropical Wildlife Ecology in Nicaragua	This 9-week course provides an overview of tropical wildlife ecology and management, sustainable land use, and the Nicaraguan culture. The course addresses the challenges of natural resource conservation in a developing country and the sustainable approaches that may be used to conserve natural resources there. Various methods to sample wildlife will be employed in Nicaragua, but emphasis will be on the use of mist nets in long-term bird monitoring program in a shade-grown coffee plantation. Expenses associated with this course are the responsibility of the student. Requires instructor approval.	Sustainability course	Undergraduate
FW	730	Ethics in Fisheries and Wildlife Sciences	Students will explore historical and current thinking concerning the search for truth about natural systems, and the complex ethics scientists and practitioners who operate in the public sector must consider. Standards of professional and ethical behavior specific to Fisheries and Wildlife Sciences will be addressed. Faculty will introduce topics and guide discussions; students will give seminars and lead some discussions. For doctoral students in Fisheries and Wildlife Sciences.	Sustainability course	Graduate
FW	411/511	Human Dimensions of Wildlife and Fisheries	Study of human interactions with wildlife and fisheries, including principles important for understanding and addressing wildlife management and conservation challenges. Discussions of wildlife at the urban fringe, human attitudes towards hunting and fishing, and the public trust approach to wildlife management are included.	Sustainability course	Undergraduate
FYD	535	Family Health & Well-being	This course will examine health and well-being issues of special concern to families, especially healthy lifestyle choices. Areas of focus will include food safety and nutrition, physical activity and well-being and healthy environments. Woven throughout the course will be the family's role in creating supportive situations related to health and well-being as well as the impact of public and social policies. Students must have completed a Bachelor's of Science.	Sustainability course	Undergraduate
FYD	540	Environmental Influences on the Family	The course will include an examination of social, economic, and behavioral housing theory, historical and current housing policy and its relationship to the housing, neighborhoods and community development and an investigation of diverse populations and their housing/neighborhood concerns.	Sustainability course	Graduate
GPH	201	Fundamentals of Global Public Health	Introduction to Public Health, providing a population-based perspective on disease and injury causation and prevention. Environmental, social, behavioral, and biological determinants of health and disease. Access to health services from a global perspective. Selected tools of disease control and health promotion and problems related to health-care delivery to society as a whole and to vulnerable populations.	Sustainability course	Undergraduate
HI	381	NGO Nonprofits in a Global Context	Non-Governmental Organizations (NGOs) are a crucial component and a revealing characteristic of the strength and effectiveness of a country's civil society. Examining their histories outside of the U.S. gives us a window into global culture, values, and modes of everyday life, and into notions about "charity" and "public good" in a given society. We will use India as a case study to develop a set of questions about how NGOs function in different societies, examining how researchers and activists partner with NGOs in different parts of the world to address pressing environmental, economic, social, and cultural-production issues.	Sustainability course	Undergraduate
HI	412/512	The Sexes and Society in Early-Modern Europe	Examination of changes in gender relations; ideas about the sexes, femininity, and masculinity; the roles of women and men in political, religious, economic, scientific, and family life in Europe between the late Middle Ages and the French Revolution. Credit for HI 412 and HI 512 is not allowed.	Sustainability course	Undergraduate
HI	440/550	American Environmental History	Interactions between humans and their environments in America; environmental focus on themes in American history such as colonial settlement, industrialization, progressivism, the New Deal, the 1960s. Credit will not be given for both HI 440 and HI 540.	Sustainability course	Undergraduate
HI	481/581	History of the Life Sciences	Historical context of the individuals, ideas, scientific practices, and social goals that created the core concepts of the modern biological sciences, from Renaissance medicine to molecular biology, with a focus on interconnections of the scientific knowledge and perspective of the life sciences with other aspects of culture, including other sciences, views about nature and life, religious belief, medical practice, and agriculture. Topics include the development of biological experiments; theories of ecology and evolution; the chemical understanding of health, food, and drugs; and the modern molecular revolution. Credit will not be given for both HI 481 and HI 581.	Sustainability course	Undergraduate

HS	205	Home Food Production	Home food production will play an important role in increasing the sustainability of the world's food systems for the foreseeable future. The goal of this course is to familiarize students with the scientific knowledge and tried-and-true practices needed to successfully produce food at home, even in small-scale environments such as decks and patios. On-campus students will be required to participate in two Saturday field trips to visit local home gardens. Distance education students will be required to visit two home gardens in their area. Not for Horticultural Science Majors (SH, THG, THL).	Sustainability course	Undergraduate
HS	432/532	Permaculture: Sustainable Living	Permaculture means "permanent culture," and ... "is the conscious design and maintenance of cultivated ecosystems that have the diversity, stability, and resilience of a natural ecosystem." (Bill Mollison) This course will explore a design/thinking methodology that seeks to provide our essential physical needs in an environmentally friendly, sustainable manner. The field trips in the "live" courses are optional and will be held on Saturdays. This course is restricted to upper level undergraduate, graduate, or matriculated continuing education students. STUDENTS MAY NOT RECEIVE CREDIT FOR BOTH HS 432 AND HS 532	Sustainability course	Undergraduate
HS/SSC	428	Service-Learning in Urban Agriculture Systems	Course provides students a hands-on experience in urban agriculture with under-served youth in the Raleigh area. Students partner with a community gardening organization to provide knowledge and experience in soil science and agriculture to youth with the goals of increasing urban food security and developing student leadership skills. Particular emphasis is placed on reflecting on course activities and deepening of skills related to extension, outreach, and working with diverse populations. Course designed to be taken as a companion course to SSC 427, however can be taken as a stand-alone course.	Sustainability course	Undergraduate
IDS	310	Animals in the Global Community	A lecture/seminar exploring the interdisciplinary field of Human Animal Studies in a global context, examining cultural, economic, ethical, ecological, geographical, political, and psychological aspects of human/nonhuman interactions using readings, films, and guest lectures. E.g. what are global ecological/political ramifications of treating cattle as sacred versus breeding them for beef? Why are there more tigers in captivity than in the wild? What are our ethical obligations to the Great Apes? Concepts such as place and placelessness, boundaries, animals as refugees, and interspecies justice will be explored. Course includes team work, and a research project focusing on personal area of interest. Junior Standing or higher	Sustainability course	Undergraduate
IDS	201	Environmental Ethics	Interdisciplinary consideration of ways in which field of study coupled with personal/cultural values contribute towards either solving or compounding environmental problems; provides framework for process of making ethical decisions.	Sustainability course	Undergraduate
IDS/NR	303	Humans and the Environment	Interactions among human populations in the biophysical system and the environment. Emphasis on current issues, ecological principles and their relationships to basic biophysical processes; considers food, population dynamics, public land and common resources, renewable natural resources, pollution, water resources, energy and non-renewable resources.	Sustainability course	Undergraduate
IS	393	Intermediate Seminar in International Studies	This course offers an in-depth and interdisciplinary examination of various aspects of globalization including economics, human dimensions of environmental change, culture, ethics and power. The course aims to build student understanding of the relationship between theory and application in the field of international studies. This course is designed for international studies minors, as well as majors who are expected to bridge between introductory materials and capstone coursework. Restriction: Minimum of 45 credit hours complete; IS majors and minors only	Sustainability course	Undergraduate
LAR	221	Introduction to Environment and Behavior for Designers	Integration of behavioral and environmental systems related to design. Exploration of humane, ecologically sound design alternatives.	Sustainability course	Undergraduate
LAR/A RC	578	Ecological Design	An integrative approach to human and natural systems. Ecological scale, function, spatial structure, and human-ecosystem interaction will be examined through case studies at a variety of scales. Ecological concepts will be linked to design and planning principles.	Sustainability course	Graduate

MAE	406	Energy Conservation in Industry	Application of energy conservation principles to a broad range of industrial situations with emphasis on typical equipment encountered as well as the effect of recent environmental regulations. Topics covered include: steam generators, pollution control, work minimization, heat recovery, steam traps, industrial ventilation, electrical energy management, and economics. Field trip to conduct tests and evaluate operation at three NCSU steam plants.	Sustainability course	Undergraduate
MEA	100	Earth System Science: Exploring the Connections	An introduction to the processes of and linkages among major components of planet Earth. Geosphere, hydrosphere, atmosphere, biosphere as dynamic and interdependent systems. Influence of human activity on earth systems. Optional weekend field trip.	Sustainability course	Undergraduate
MEA	140	Natural Hazards and Global Change	The science of natural hazards and global change: the impact on human civilization of events in the lithosphere, atmosphere, biosphere, and hydrosphere (e.g., earthquakes, hurricanes, red tides, and floods), and the impact of humans on the global environment (e.g., global warming).	Sustainability course	Undergraduate
MEA	300	Environmental Geology	Geologic aspects of the environment. Effects of humans upon or interactions with geologic processes. Geologic considerations in land use planning, waste disposal, water resources, and natural resources. A field and lab oriented course with combined lecture/laboratory. Inquiry-based learning approach to study the basic processes of environmental geology and develop research skills. Required field trips.	Sustainability course	Undergraduate
MEA	469	Ecology of Coastal Resources	Anthropogenic impacts on estuarine and coastal marine ecosystems. Survey of basic biological, physical, chemical and geological mechanisms underlying habitat-specific functioning, followed by discussion, in-class presentation, and critique of real and hypothetical case studies involving anthropogenic impacts.	Sustainability course	Undergraduate
MEA	150	Environmental Issues in Water Resources	The science of current environmental concerns, particularly those related to water resources. Major topics include weather and climate, natural resource cycles, resource depletion and contamination, societal impacts. Scientific aspects of environmental issues. Required field trips.	Sustainability course	Undergraduate
MEA	579	Principles of Air Quality Engineering	Introduction to: risk assessment, health effects, and regulation of air pollutants; air pollution statistics; estimation of emissions; air quality meteorology; dispersion modeling for non-reactive pollutants; chemistry and models for tropospheric ozone formation; aqueous-phase chemistry, including the "acid rain" problem; integrated assessment of air quality problems; and the fundamentals and practical aspects of commonly used air quality models. Credit is allowed only for one of CE/MEA 479 or CE/MEA 579	Sustainability course	Graduate
MEA/Z O	449/549	Principles of Biological Oceanography	Environmental dependencies, biological productivity, and trophic relationships in plankton, nekton and benthos; Sampling methods and experimental design; Human impacts on marine systems. Credit is not allowed for both MEA 449 and MEA(ZO)549.	Sustainability course	Graduate
NR	100	Introduction to Natural Resources	Orientation to natural resources management. Case study of a current natural resource management issue including biophysical, economic, social and political dimensions. Field experience with local natural resources issues. Career orientation and counseling. Open only to first year Department of Forestry and Environmental Resources students or by permission of instructor.	Sustainability course	Undergraduate
NR	350	International Sustainable Resource Use	Study of sustainable use of natural resources in a global economy with consideration of consumption choices, sustainable production issues, conservation of various managed landscapes, and cross cultural perspectives. Specific topics vary somewhat by year and study location. Travel in North America in even years and to Sweden in odd years. Domestic or international travel overnight. Depending upon travel location, possible additional expense for passport, health certificate, insurance and domestic or international travel.	Sustainability course	Undergraduate
NR	548	Historical Environments	Course examines how we know and what we know about historical environments. Compares and contrasts contributions by various disciplines and interdisciplinary approaches to historical ecology and environmental history. Readings drawn from science, social science and humanities literature. Individual investigation projects required.	Sustainability course	Graduate
NR	571	Current Issues in Natural Resource Policy	Seminar providing an overview of current natural resource issues for the world and the U.S. Population, sustainable development, food and agriculture, forests, rangelands, biodiversity, energy resources, water resources, atmosphere and climate, international policies and instructions.	Sustainability course	Graduate

NR	460	Renewable Natural Resource Management and Policy	The interaction of legal principles and governmental institutions in the development and implementation of natural resource policy and management. Legal principles, constitutional provisions and the location and organization of governmental programs. Examples from both historic and current case studies.	Sustainability course	Undergraduate
PA	521	Government and Planning	The planning function at all levels of government in the U. S., with particular attention to problems posed for planning by rapid growth of metropolitan areas. Overview of community development, urban spatial structure, housing economics and land use planning.	Sustainability course	Graduate
PA	550	Environmental Policy	Focus on formation and impact of environmental policy in the U. S. Examination on decision-making processes at all levels of government. Comparisons between political, economic, social and technological policy alternatives. Emphasis upon application of policy analysis in environmental assessment and consideration on theoretical perspectives on nature of the environmental crisis.	Sustainability course	Graduate
PB	345	Economic Botany	This course covers plants of economic importance that have been valued by societies regionally, nationally and globally from the modern era to the present day. Topics include, but are not limited to, plant species used as food, spices, beverages, oils, fibers, paper, dyes, perfumes, body care, construction materials, fuels and ornamentals. Aspects related to the botany and ethnobotany of economically important plant species will be discussed including taxonomy, anatomy, physiology, ecology, conservation, human uses, social and environmental. and roles in the economy.	Sustainability course	Undergraduate
PCC	401	Impact of Industry on the Environment and Society	Relationship of society to safety and environmental aspects of manufactured products. Quantifying manufacturing risks. Protective methods, e.g. administrative, engineering, personal, treatment, pollution prevention. Social factors, e.g. political, regulatory, legal, consumer attitudes, public policy, perceptions. Understanding complex social issues, especially situations with conflicting goals. Critical comparison of options for risk reduction, and selecting reasonable (hopefully optimal) courses of action in complex and uncertain situations. Unsolved problems of industry and society (e.g. greenhouse effect). Relationships of ethics, laws and regulations to manufacturing.	Sustainability course	Undergraduate
PHI	420/520	Global Justice	The applications of the ideas of justice and right beyond and across the borders of individual nation states, attending to the facts of globalization and their consequences for political and economic justice and human rights. Topics: skepticism about global justice; transnational distributive justice, pollution, and poverty; national sovereignty, self-determination, and intervention; the ethics of war; international human rights; and global democracy. No one can receive credit for both PHI 420 and PHI 520.	Sustainability course	Undergraduate
PO	411	Agrosecurity	This course is designed to increase the awareness of the issues and vulnerabilities of the US agricultural system, the importance of agriculture in the US economy, and the importance of protecting it from disease and/or attack. This course is organized to integrate and assimilate knowledge across multiple disciplines including agriculture, animal health, human health, infectious diseases, business, economics, and public policy. Students will identify and analyze the interactions between these disciplines in light of increasing population and concentrated agriculture's increased vulnerability to major disruptions in food production. Students will also analyze where potential links in the food chain are susceptible to disruptions by individuals (or natural disasters), the consequences of these disruptions, and how to minimize the associated risks by developing case studies and strategies for defending against specific threats. Students must have junior standing.	Sustainability course	Undergraduate
PP	530	Agriculture, Ethics and the Environment	Case studies in ethical theory and moral issues in agriculture and life sciences research including ethical theories, populations, food, ozone depletion, soil quality, sustainable and organic agriculture, plant biotechnology and biodiversity, animalrights and welfare, water quality, pesticides, risk assessment, biologically-based pest management, environmental policy and research ethics. Students are active participants and use role playing to present a forum.	Sustainability course	Graduate

PRT	430	Tourism, Poverty, and Health	Students will learn about the potential role of tourism in fueling equitable development and human health in destination communities, and about the factors that lead to negative social and economic tourism impacts. Students will learn about equitable community development, human health and well-being principles; and about how micro-entrepreneurs and host communities react to the challenges and opportunities posted by tourism development. The course is grounded in scholarly knowledge and is also unreservedly engaged in real life; accordingly, students will work on new ways to help under-resourced individuals pursue dignified livelihoods through tourism. Fieldwork outside of class is required, with a fee of \$50.00. PRT majors and PRT minors only.	Sustainability course	Undergraduate
PRT	449	Human Dimensions of Natural Resources in Australia/New Zealand	This 3.5 week study abroad program examines human dimensions of natural and environmental conservation in Australia. The course will involve an orientation and lectures from faculty at James Cook University. Students will explore the natural environments in Australia including Great Barrier Reef, Tropical Rainforest and Outback and be introduced to Australian culture and history through interactions with communities. Educational travel, active participation, lectures, seminars, and reflective exercises facilitate learning to improve understanding of relationships between human societies and the natural environment. Students must pay program fees, airfare, some meals, and incidentals.	Sustainability course	Undergraduate
PRT	450	Sustaining Natural Resources in Australia/New Zealand	This 3.5 week study abroad program will examine issues related to natural history and environmental conservation in Australia. This course will involve an orientation and lectures from Australian university faculty. Students will explore natural environments in Australia including the Great Barrier Reef, Tropical Rainforest and Outback; learn about sustainable development and protection of the natural environment through educational travel, field trips, active participation, lecture presentations and seminars, written assignments, research projects and reflective exercises. Students must apply through NCSU Study Abroad Office. Students must pay program fees, airfare, some meals and incidentals.	Sustainability course	Undergraduate
PRT	419	Sustainable Tourism	This course introduces the concepts and principles associated with sustainable tourism development, emphasizing on their implications for management and planning purposes. Topics to be addressed include: concept, justification and evolution of sustainable development; socio-cultural, economic, and environmental dimensions of sustainable tourism; positive and negative impacts of tourism development; and principles conducive to sustainable tourism planning and community development. Given that each case of tourism development is unique, examples from the U.S. and around the world will be used to examine and discuss issues and practices of sustainable tourism development within different geo-cultural contexts. This course adopts the Problem-Based Learning Format, which promotes and enhances students' analytical skills, problem solving skill and team working skills. Junior or senior standing.	Sustainability course	undergraduate
PRT	510	Active Recreation and Community Health	This course focuses on the association of active recreation in communities and community health. Students explore individual, social, community, environmental, and policy factors that affect community health and the contribution of recreation and park programs and facilities. This is a seven week course.	Sustainability course	Graduate
PS	236	Issues in Global Politics	Selected problems facing the world community, related political issues, and international responses to them, including international trade, economic development, wars, arms control, terrorism, ethnic conflict, human rights, status of women, population growth, food security, and environmental degradation.	Sustainability course	Undergraduate
PS	320	U.S. Environmental Law and Politics	Emergence of the environment as an issue in United States politics. Law and policy pertaining to air and water pollution, land-use, water, energy, toxic substances, and wilderness. Roles of national and state governments, scientists, corporations, and citizens groups in addressing environmental problems.	Sustainability course	Undergraduate
PS	336	Global Environmental Politics	International politics, laws, and policies pertaining to global environmental problems in the realms of population, pollution, climate change, biological diversity, forests oceans, and fisheries.	Sustainability course	Undergraduate
PS	431	The United Nations and Global Order	United Nations in contemporary world politics. Functions and operation of central organs, commissions, and specialized agencies. Role in addressing global issues including peacekeeping, arms control, human rights, economic and social development, and environment.	Sustainability course	Undergraduate

PS	536	Global Environmental Law and Policy	International organizations, laws and policies addressing global environmental problems including: population growth, atmospheric pollution, climate change, use of oceans, forests and biodiversity. Relationship between environment and Third World economic development	Sustainability course	Graduate
PSE/WP S	476/576	Environmental Life Cycle Analysis	Overview of the various aspects of conducting and interpreting an environmental life cycle analysis on a product or service. Students will learn how to construct a life cycle analysis goal and scope, inventory, assessment and interpretation. Skills in the critique and communication of a life cycle analysis will be developed. Includes an overview of the following life cycle stages: raw materials, energy, transportation, production, use, and end of life. Emphasis on systems thinking. Targeted for students in any science or engineering program. Credit not allowed for both PSE 476 and WPS 576.	Sustainability course	Undergraduate
PSY	553	Principles and Practice Of Ecological/Community Psychology	Introduction to community psychology and its attempt to redefine social problems according to an ecological frame-of-reference with emphasis on humanitarian values, cultural diversity, the promotion of a psychological sense of community among individuals and groups, and the need for psychologists to engage in systematic community research and action.	Sustainability course	Graduate
SMT	230	Sustainability, Global Trade and Forest Products	This course is designed to give the participants an exposure to understanding the effects of global trade on sustainability issues. The course will include a focus on global issues leading to a sound environment, in addition to a healthy economic base, stable employment, adequate purchasing power, and maintenance of social and cultural integrity. Various sustainable forest products industries in the US and other countries will be used as example to explain the various concepts throughout this course.	Sustainability course	Undergraduate
SMT	232	Recycling to Create a Sustainable Environment	The goal of this class is to link the impetus for recycling and recycled materials to the building of a sustainable world. Recycling efficiencies for various materials will be examined as well as recycling practices and attitudes in other parts of the world. This course will explore the technology, economics, markets, trade and social impacts due to the recycling of materials. Case studies will provide an in-depth examination of the problems and potentials for the recycling of selected recycled materials. The use of Life Cycle Analysis (LCA) to evaluate recycling alternatives will be introduced. The economic, policy, social and resource availability drivers for recycling will be examined as well as the technological, economic, market and social barriers to recycling.	Sustainability course	Undergraduate
SMT	310	Introduction to Industrial Ecology	In this course, students will explore the main concepts of industrial ecology for sustainable materials. Students will learn about environmental supply chain, manufacturing of products from sustainable materials such as wood and agricultural materials, and how we can learn from nature to close the manufacturing loop. To support the activities in these technical areas, students will also learn how to better manage time, how to work efficiently in teams, and how best to interact with their co-workers.	Sustainability course	Undergraduate
SMT	346	Sustainable Materials Business Marketing	This course will examine the business and marketing approaches in the forest products industry from a theoretical as well as an applied perspective. Students will learn the importance of business processes and how products, price, distribution, and promotion plays a role in the purchase behavior of consumers. Students will analyze situations and cases to solve real and hypothetical business problems in the forest products industry.	Sustainability course	Undergraduate
SMT	231	Sustainable Manufacturing	The overall goal of the class is to make the students more informed and aware consumers of various products and how they are produced. The class will connect the economic and energy impacts of various manufacturing sectors with the environmental impacts, e.g., carbon, water, and pollutants. The concept of embodied energy, water use, and land impacts will be used to examine these manufacturing sectors. The concept of Life Cycle Analysis will be introduced and used to evaluate the use and trade-offs for different manufacturing techniques. The opportunities and trade-offs for reuse and recycling materials at the "end of life" will also be explored for the various products and their respective manufacturing industries.	Sustainability course	Undergraduate

SMT/W PS	201	Sustainable Materials for Green Housing	The overall goal of the class is to make the students more informed and aware consumers of materials used in housing. The class will connect the economic and energy impacts of producing common materials with the environmental impacts, e.g., carbon, water, and pollutants. The concepts of embodied energy, water use, and land impacts will be used to examine common building materials. The concept of Life Cycle Analysis will be introduced and used to evaluate the use and trade-offs for different building materials. The opportunities and trade-offs for reuse and recycling materials at the 'end of life' will also be explored.	Sustainability course	Undergraduate
SOC	450	Environmental Sociology	Systematic relations between natural environment and human societies. Dependency on the natural world. Population technology, cultural and economic influences on ecosystems. Development of environmentalism and alternative models for understanding threats and potentials. current environmental issues and considerations of their global contexts.	Sustainability course	Undergraduate
SOC/AF S	203	Current Social Problems	Examination of social problems linked to structures of economic, political, gender and racial inequality; including poverty, disease, racism, sexism, unemployment, psychological distress, educational failure, environmental destruction and violence. Possible solutions viewed from a variety of perspectives. Includes core sociological concepts, methods and theories	Sustainability course	Undergraduate
SOC/AF S	241	Sociology of Agriculture and Rural Society	Application of sociological concepts, methods, theories and styles of reasoning to major social problems facing rural America. Changing structure of agriculture; social impact of agricultural technology; rural community growth and decline; rural industrialization, rural poverty, natural resources and environmental issues in rural America. Includes core sociological concepts, methods, theories.	Sustainability course	Undergraduate
SSC	455	Soils, Environmental Quality and Global Challenges	As the world population grows to 9 billion people by 2050, we will be pressed to increase food security, respond to the consequences of a changing climate, and improve human health -- all while protecting the environment and maintaining natural resources. Soils play a critical role in many of these challenges. The goal of this course is to teach students how soils regulate environmental quality through a host of chemical, physical and biological processes. We will examine a series of global challenges, assess their related environmental issues and policies, and analyse the roles of soils in each issue.	Sustainability course	Undergraduate
SSC	185	Land and Life	Soil is a fundamental natural resource that sustains life on earth. Detailed information is provided about soils at local community	Sustainability course	Undergraduate
STS	323	World Population and Food Prospects	Examination of the dynamics of population size and food needs, production, distribution and utilization. Consequences of inadequate nutrition and food choices, efforts to increase the compatibility of effective food production systems and alternate crops and cropping systems examined.	Sustainability course	Undergraduate
SW	505	Human Behavior and the Social Environment: Social Justice	Theoretical and experiential knowledge related to oppression, privilege, and social and economic justice. Particular attention is given to persons and groups most affected by oppression and mechanisms that advance the achievement of a more just society.	Sustainability course	Graduate
USC	298-section 001 & 012	Introduction to Sustainability for EcoVillagers	This course is designed to promote the values of EcoVillage scholarship, ethics, and citizenship	Sustainability course	Undergraduate
USC	298- sections 003	Sustainable Planning and Urban Development	USC 298-003 is designed to support and provide academic enrichment to the EcoVillage Sustainable Planning & Urban Development Sightseers (SPUDS) Spring Break 2015 experience in San Francisco, California. Promoting the EcoVillage exploration of energy, the environment, and sustainability, Sustainable Planning and Urban Development for EcoVillage supports this exploration beyond the familiar local, state and regional lens. This class and its associated educational experience provide EcoVillage students with an opportunity to define sustainable planning & urban development in terms of economy, society, and environment and to explore a different region of the United States historically known for a commitment to, and various initiatives supportive of sustainability. Students will discover, identify and discuss cultural differences and social norms as it relates to energy, the environment and sustainability while provided support to consider applications to Raleigh, North Carolina and the Southeast. This course is restricted to EcoVillagers who have completed their Fall program requirements and the Fall EcoVillage required course, USC 298-001 "Introduction to Sustainability for EcoVillagers"	Sustainability course	Undergraduate

VPH	555	Public Health, Sustainable Development and Gender in Global Context	This course will examine the complex intersections of human health, public policy, agriculture in developing world, and gender issues, drawing on theory and research from international and interdisciplinary perspectives.	Sustainability course	Graduate
WGS	200	Introduction to Women's and Gender Studies	Introduction to women's and gender studies as an interdisciplinary field spanning the humanities, social sciences and natural sciences. Study of historical perspectives and contemporary understanding of women and gender. Theory, systematic analysis and experimental accounts used to explore complexities of gender, and other identity determinants, mechanisms of power and privilege, and avenues for social change.	Sustainability course	Undergraduate
WGS	224	Contemporary Issues in Ecofeminism	Contemporary issues in ecofeminism provides a historical introduction to and global perspectives on women's sociopolitical, ethical, and economic contributions to the 20th and 21st century environmental movement. Theory and political action as they interweave issues of gender, race, and class in western and non-western contexts will be emphasized. Students will read works by and about female Scientists/activists and examine their own communities, analyzing the ways that individuals, community values, and dominant institutions impact women's relationships with the environment. Students will formulate questions, responses, and interpretations through critical reading practices, class or online discussion groups, self-reflective writing, and comparative analyses.	Sustainability course	Undergraduate
WGS	492	Theoretical Issues in Women's and Gender Studies	Examination of feminist theory. Study of formative texts in modern feminism, drawn from various disciplines within the humanities, social sciences, and natural sciences. In-depth exploration of feminist perspectives on issues of race, class, gender, sexuality, work and mothering, among others. Analysis of local and global cultural practices using feminist theoretical frameworks.	Sustainability course	Undergraduate
WPS	201	Sustainable Materials for Green Housing	The overall goal of the class is to make the students more informed and aware consumers of materials used in housing. The class will connect the economic and energy impacts of producing common materials with the environmental impacts, e.g., carbon, water, and pollutants. The concepts of embodied energy, water use, and land impacts will be used to examine common building materials. The concept of Life Cycle Analysis will be introduced and used to evaluate the use and trade-offs for different building materials. The opportunities and trade-offs for reuse and recycling materials at the 'end of life' will also be explored.	Sustainability course	Undergraduate
NR	484	Environmental Impact Assessment	Impact assessment principles, practices, and their evolution. Lectures and field practicums concerning problems addressed by environmental assessment practitioners. Practical implications of current regulatory requirements, especially endangered species and wetlands.	Course that includes sustainability	Undergraduate
ACC	310	Intermediate Financial Accounting I	Conceptual framework of financial accounting and process of development of professional standards. Foundations of accounting and reporting systems. Measurement and reporting issues for cash, receivables, inventories, and non-current assets. Course includes a module in sustainability.	Course that includes sustainability	Undergraduate
ACC	311	Intermediate Financial Accounting II	A continuation of topics introduced in Intermediate Financial Accounting I [ACC 310]. Topics include accounting for investments in equity and debt securities, measurement and recognition of current and non-current liabilities, accounting for operating and capital leases, accounting for pension and post-retirement benefit plans, determination and classification issues related to deferred income taxes, and accounting for various forms of stock-based compensation plans. Course includes a module in sustainability.	Course that includes sustainability	Undergraduate
ACC	533	Accounting and Tax Research	A study of research methods, procedures and tools used to develop solutions to technical and policy-oriented business problems. Students will consult various competent authorities on taxation, accounting, auditing, and general business in the development of business problem solving techniques. This course includes a sustainability module.	Course that includes sustainability	Graduate

AEC	400	Applied Ecology	Global climate change, over-fishing, habitat loss, altered nutrient cycles, and the spread of invasive species are among the world's pressing global environmental issues. Solutions to these problems are complex, but firmly rooted in the fundamental tenets of ecological theory. The field of applied ecology is premised on using these fundamental ecological principles to help solve the environmental challenges we face. This course will provide an overview of the field of applied ecology, based on a series of 12 individual case studies. Working from the individual to global level, the course will provide a broad perspective on the field of applied ecology.	Course that includes sustainability	Undergraduate
AEC	420	Introduction to Fisheries Science	Role of fish in aquatic ecosystems, fish biology, fish ecology, fisheries management and conservation. Emphasis on aquatic ecosystems and food webs, life history and ecology of important sport and commercial fishes, population and community dynamics, and theory and practice of fisheries management and conservation. Case studies from freshwater, estuarine and marine systems.	Course that includes sustainability	Undergraduate
AEC	442	Biology of Fishes Laboratory	Field and laboratory exercises with the common fish species and communities of North Carolina. Field trips to local streams and lakes plus weekend trips to coastal, estuarine, and mountain habitats.	Course that includes sustainability	Undergraduate
AEC	492	External Learning Experience in Applied Ecology	Learning experience in applied ecology within an academic framework with facilities and resources on or off campus. Contact and arrangements with prospective supervisors must be done by the student. Prior approval by faculty advisor and minor coordinator in department of applied ecology is required. Students are responsible for risk and safety assessment at off campus locations. Students are responsible for transportation.	Course that includes sustainability	Undergraduate
AEC	493	Internal Learning Experience in Applied Ecology	Internal learning experience in applied ecology within an academic framework with facilities and resources on campus. Contact and arrangements with prospective supervisors must be done by the student. Prior approval by faculty advisor and minor coordinator in department of applied ecology is required. Students are responsible for risk and safety assessment at off campus locations.	Course that includes sustainability	Undergraduate
AEC	501	Ornithology	The biology of birds. Lecture topics include evolution, functional morphology, physiology, ecology and behavior. Field and museum laboratories emphasize particular aspects of morphology, ecology and behavior, as well as taxonomy and identification. One coastal weekend field trip required.	Course that includes sustainability	Graduate
AEC	419/519	Limnology	Structure and function of lakes and ponds, including physical, chemical and biological controls of productivity and species composition of aquatic plants and animals, and effects of pollution on water quality. One local weekend field trip is required. Credit in both ZO 419 and ZO 519 is not allowed	Course that includes sustainability	Undergraduate
AEC	460	Field Ecology and Methods	Field Ecology and Methods will expose senior students with interests in Ecology and Evolution to the diverse field approaches used to address ecological questions. The course considers and implements a variety of field approaches ranging from microcosm experiments to global studies of patterns and diversity. Course is restricted to seniors.	Course that includes sustainability	Undergraduate
AEE	705	International Agricultural Development	This course provides an opportunity to learn about global agricultural and extension education issues, challenges and opportunities relating to agricultural development. The course emphasis is on building necessary knowledge and skills for analyzing global agricultural and extension education issues and formulating alternatives for agricultural development. This course has been designed to help graduate students understand agriculture and extension education with a global perspective.	Course that includes sustainability	Undergraduate
AEE/A NS/PB	208	Agricultural Biotechnology: Issues and Implications	Trends and issues of agricultural biotechnology in today's society are addressed while covering the basic biological science behind the technology. Applications of and policy issues associated with plant, animal, and environmental biotechnology used in the agricultural industry are examined from an interdisciplinary approach.	Course that includes sustainability	Undergraduate
AES	323	Water Management	Water management principles applied to agriculture; hydrologic cycle, runoff, surface and sub-surface drainage, soil conservation measures to reduce erosion and sedimentation, irrigation, pond construction, open channel flow, water rights and environmental laws pertaining to water management. Emphasis on problem solving	Course that includes sustainability	Undergraduate

AES	332	Management of Animal Environments	Environmental relationships, design methods, materials and construction procedures as they relate to agricultural animal production facilities. Problem situations integrating structural design, environmental control, and waste handling.	Course that includes sustainability	Undergraduate
AES	443	Environmental Restoration Implementation	Students will learn how to implement environmental restoration designs for streams, wetlands, and stormwater best management practices to improve ecosystem health. Topics include interpretation of construction drawings and specifications, calculating construction quantities and developing contractor bid tabs, environmental permitting and regulations, erosion and sediment control, project management and scheduling, construction oversight, specialized construction materials and equipment for environmental projects, survey stakeout, vegetation installation and management, site inspection and maintenance, and monitoring of structural and ecological conditions of restoration projects. In-class field trips are required	Course that includes sustainability	Undergraduate
AFS/SO C	305	Racial and Ethnic Relations	Study of the nature of the relationships among racial and ethnic groups in societies around the world but with emphasis on the United States. Explores topics such as inequalities of wealth, power, and status, racism, conflict, and social boundaries among groups. Current trends in intergroup relations are discussed.	Course that includes sustainability	Undergraduate
ANT	252	Cultural Anthropology	Comparative study of contemporary human culture, social institutions and processes that influence behavior. The range of human cultural variation shown throughout the world, including the student's own cultural system.	Course that includes sustainability	Undergraduate
ANT	544	Cross-Cultural Perspectives on Women	Comparison of women in a variety of societies: western and non-western; hunting and gathering to industrialized. Cross-cultural perspectives on the similarity and diversity of women's statuses and roles. Effect of gender on social position. Credit will not be offered for both ANT 444 and ANT 544.	Course that includes sustainability	Graduate
ANT	315	The Aztecs, Maya, and Their Predecessors: Archaeology of Mesoamerica	This course introduces the peoples and cultures of Mesoamerica from prehistoric times to the Colonial period. Themes include the peopling of the New World, the development of agriculture and social inequity, and the rise of states and empires. Covers the cultures of the Olmec, Maya, Zapotec, and Aztec as well as the ongoing importance of these cultures for the people of Mexico and Central America. Introduces primary archaeological and ethnohistoric sources and the anthropological approach to understanding people and cultures through their material remains.	Course that includes sustainability	Undergraduate
ANT	354	Peoples and Cultures of the Pacific	The Pacific Ocean contains thousands of inhabited islands. This course examines the millions of people and thousands of societies that live in the Pacific and its three subregional areas Melanesia, Micronesia and Polynesia. Course topics include the Pacific environment, peopling of the Pacific, regional cultural variation, social organization, Exchange systems, politics, conflict, modernization, globalization and global warming in the Pacific region.	Course that includes sustainability	Undergraduate
ANT/HI	587	Cultural Resource Management	Theoretical and practical overview of U.S. federal and state laws, institutions, and practices related to the inventory, evaluation, preservation, protection, and overall management of cultural resources; history and philosophical bases of Cultural Resource Management (CRM); professional ethics; indigenous and other stakeholder interests in CRM; and comparative national regulations outside the U.S. and the international heritage management and organizations. Graduate standing in history required.	Course that includes sustainability	Graduate
ARC	232	Structures and Materials	An introduction to construction materials and building structures. Explorations of materials' properties, aesthetics, environmental impact, and performance. Quantitative and qualitative analysis of structural building elements. Course integrates lecture and laboratory. Off-campus field trips are included (students may need to coordinate transportation).	Course that includes sustainability	Undergraduate
ARC	401	Architectural Design: Urban	An architectural design studio intended to explore and integrate design issues of all types within an urban environment. Emphasis will be placed on both formal and technical issues of urban sites including transportation and land use planning, phasing of projects over time, relationships to other structures, and the application of development codes, regulations, and urban design principles to the fabric of the city.	Course that includes sustainability	Undergraduate

ARC	521	Daylighting and Passive Energy Systems for Architecture	An investigation of building energy systems and simulation techniques with emphases on thermal envelope, solar geometry, daylighting, passive heating & cooling, and building systems integration. The theoretical considerations will be accompanied by hands-on exercises using various simulation tools. Restricted to M.Arch, B.Arch, and BEDA Senior Students. Non-Architecture majors by instructor's permission.	Course that includes sustainability	Graduate
ARC	590	Special Topics in Architecture	Topics of current interest by faculty in the Department of Architecture. Subjects under this number normally to test and develop new courses. Course framed around using a campus building as a client to learn LEED.	Course that includes sustainability	Graduate
ARE	201	Introduction to Agricultural & Resource Economics	Introduction to economic principles of marginal benefits and costs with application to consumer and producer decisions. Functions of market exchange systems in determining prices and quantities and creation of wealth. Property rights and opportunities for exchange. Role of government in dealing with agricultural and resource problems. Macroeconomic analysis including inflation, unemployment, money and banking system. Credit will not be given for both ARE 201 and either EC 201 or EC 205.	Course that includes sustainability	Undergraduate
ARE	433	U.S. Agricultural Policy	Government economic policies and programs affecting agricultural inputs and farm products. Analysis of the rationale, objectives, and major types of agricultural programs and their effects on resource allocation and income distribution within agriculture and between agriculture and the rest of the economy.	Course that includes sustainability	Undergraduate
ARE	444	Ethics in Agribusiness	Ethical behavior is a crucial issue in American business, especially after numerous ethical lapses over the past decade, and for agribusiness given claims of marketing unhealthy foods, development of genetically-modified organisms, hiring of undocumented workers, and consolidation into industrial production facilities. Students are taught ethical theories and frameworks, used to discuss general ethical questions such as death, theft, and lying, followed by the more specific agribusiness issues mentioned above. Students will formulate their own opinions about these issues, recognize and understand the opinions of others, and be able to accurately and adequately communicate those opinions.	Course that includes sustainability	Undergraduate
BAE	474	Principles and Applications of Ecological Engineering	Governing principles of ecological engineering and the advanced biological, chemical, and physical conditions that determine the design of biological systems. Emphasis on 1) stream and wetland ecosystem restoration and 2) natural treatment systems for groundwater, stormwater, and wastewater such as riparian buffers, bioretention cells, and stormwater wetlands. A class field trip is required during non-scheduled time.	Course that includes sustainability	Undergraduate
BAE	560	Aerosol Science and Engineering	This course is designed for students who have a desire to work in the area of air quality. It will provide students with fundamental knowledge of aerosol properties, behavior and physical principles, and with hands-on experience in applying this knowledge to aerosol/PM measurements and control.	Course that includes sustainability	Undergraduate
BAE	561	Agricultural Air Quality	This course will prepare students to identify agricultural air pollutants and their sources, understand the on-farm and off-farm impacts of these pollutants, measure these pollutants, characterize and model the fate of these pollutants, and select and/or design cost-effective remediation measures. This course is restricted to seniors in engineering and MEAS, and graduate students in CALS, PAMS, and CNR.	Course that includes sustainability	Undergraduate
BAE	575	Design of Structural Stormwater Best Management Practices	The design of structural stormwater Best Management Practices (BMPs) used in the urban and suburban environments is reviewed, including stormwater wetlands, bio-retention areas, sand filters, innovative wet ponds, green roofs, permeable pavement, and reinforced grass swales. The course is application oriented and includes a pair of field trips.	Course that includes sustainability	Graduate
BAE	576	Watershed Monitoring and Assessment	Water measurement and structure sizing. Identification of water quality problems and water quality variable selection. Monitoring design, water quality sampling equipment, and sample collection and analysis. Statistical analysis and presentation of water quality data.	Course that includes sustainability	Graduate

BAE	580	Introduction to Land and Water Engineering	This distance course introduces students to concepts of the hydrologic cycle, water quality, precipitation, evapotranspiration, infiltration, watershed delineation, surface runoff and open channel flow. Students will apply these concepts to an engineering design problem. This course is designed for non-engineering distance graduate students and lifelong education students and students from engineering disciplines outside of BAE. It will not substitute for BAE 471. The course is only open to students with senior standing or higher.	Course that includes sustainability	Graduate
BAE	583	Ecohydraulics and River Corridor Function	This course provides an ecological perspective of lotic systems and introduces students to ecological processes that structure river corridors. This course defines hydraulic, hydrologic, chemical, sedimentary, and biotic influences on an aquatic ecosystem. The five modules define components of aquatic ecosystems and their interactions, and explore ecological implications of engineered designs and cause-effect relationships from the watershed scale down to individual organisms. This course assumes students have a working knowledge of general biological and physical principles related to fluvial ecosystems.	Course that includes sustainability	Graduate
BAE	371	Land Resources Environmental Engineering	Hydrology and erosion principles. Designing structures and selecting practices to control land runoff, erosion, sediment pollution and flooding.	Course that includes sustainability	Undergraduate
BAE	528	Biomass to Renewable Energy Processes	This course will introduce fundamental principles and practical applications of biomass-to-renewable energy processes, including anaerobic digestion of organic wastes for biogas and hydrogen production, bioethanol production from starch and lignocellulosic materials, biodiesel production from plant oils, and thermoconversion of biomass and waste materials. Restricted to engineering seniors and graduate standing in COE, CALS, PAMS or CNR.	Course that includes sustainability	Graduate
BIO	181	Introductory Biology: Ecology, Evolution, and Biodiversity	Emphasis on interactions of organisms with their environments, evolutionary change and role of natural selection in the evolution of life forms, biological diversity in the context of form and function of organisms, and on critical thinking, problem solving, and effective communication.	Course that includes sustainability	Undergraduate
BIO	350	Animal Phylogeny and Diversity	Phylogenetic history and adaptive radiation of animals; contrast of environmental determinants of biodiversity in tropical and polar regions; modern approaches to phylogeny; role of humans in influencing biodiversity. Students may not receive credit for both BIO 350 and BIO 140 or ZO 150 or BIO 402 or BIO 403.	Course that includes sustainability	Undergraduate
BIO	402	Invertebrate Biology	Over 90% of all animals are invertebrates, and many invertebrate species have proven extremely useful in medical and research applications. This course will survey invertebrate groups or clades (excluding the Protista), and will emphasize their functional biology, phylogeny, ecology, behavior, and use as models in research. Lab will emphasize an experimental approach and will involve work primarily with live material. Students may not receive credit for both BIO 402 and BIO 350 or BIO 140.	Course that includes sustainability	Undergraduate
BIO	440	The Human Animal: An Evolutionary Perspective	An in-depth look at the evolution of a wide range of human behaviors, and some aspects of physiology as well. We will critically explore the perceptions we hold of ourselves and the research that has sought to lend new insights into the fundamental bases of human behavior. New uses of evolutionary theory, including the field of evolutionary psychology, will be examined using a comparative approach and careful readings from primary and secondary literature in evolutionary biology and psychology. Classes will be largely discussion based.	Course that includes sustainability	Undergraduate
BIO/PB	330	Evolutionary Biology	Principles and patterns of organic evolution. Topics will include the origin of life, patterns of genetic variation, adaptations, natural selection, and the formation of species, the relationship between micro and macroevolution, and the importance of evolution to humans and medicine.	Course that includes sustainability	Undergraduate
BIO/PB	360	Ecology	The science of ecology, including factors which control distribution and population dynamics of organisms, structure and function of biological communities, and energy flow and nutrient cycling in ecosystems; contrasts among the major biomes; and principles governing ecological responses to global climatic and other environmental changes.	Course that includes sustainability	Undergraduate

BIT	474/574	Plant Genetic Engineering	This course covers fundamental hands-on techniques and strategies in plant genetic engineering. Plants are major sources of food, fiber and fuel and provide model systems for both fundamental and applied research. Students will learn techniques for stable and transient transformation of plants and plant cell cultures and selection and detection of transgene expression. Additional topics covered will include methods to generate and screen for mutants, synthetic biology and applications of plant genetic engineering. This is a half-semester course. Credit is not allowed for both BIT 474 and BIT 574.	Course that includes sustainability	Undergraduate
BMA/B IO	560	Population Ecology	Dynamics of natural populations. Current work, theories and problems dealing with population growth, fluctuation, limitation and patterns of dispersion, species interactions, community structure and ecological genetics. One semester of calculus and a junior/senior level ecology course are required.	Course that includes sustainability	Graduate
BUS	460	Consumer Behavior	The consumer decision process, with emphasis on consumer decision making, satisfaction/dissatisfaction factors, perception, learning, group influences, and marketing strategy implications. Restricted to majors within the College of Management. This course includes a module in sustainability.	Course that includes sustainability	Undergraduate
BUS	468	Marketing Strategy	This course is designed to build on the core marketing principles you learned in your introductory marketing course and to enhance your understanding of their strategic implications. This course includes a module in sustainability.	Course that includes sustainability	Undergraduate
BUS	590-005	Masters of Global Innovation Management (MGIM) Practicum	Special topics course - MGIM Innovation Practicum. Includes a module in sustainability.	Course that includes sustainability	Graduate
BUS	610	Sustainable Supply Chain Management	Special topics in Business Management. Course includes a sustainability module.	Course that includes sustainability	Graduate
CE	378	Environmental Chemistry and Microbiology	Principles of Environmental Chemistry and Microbiology, experimental techniques for assessing water and air quality; sampling; statistical interpretation of data.	Course that includes sustainability	Undergraduate
CE	480	Water Resources Engineering Project	Engineering design of selected projects in water resources engineering involving interactions with other scientific and engineering disciplines. Discussion of ethical conduct and professional engineering practice. Projects will include site work, storm drainage, water supply, water transmission and water-quality issues.	Course that includes sustainability	Undergraduate
CE	487	Introduction to Coastal and Ocean Engineering	Introduction to the analysis of civil engineering projects in the ocean and along the coastline. Basic wave mechanics, tides, and ocean dynamics as applied to the understanding of coastal erosion control and other marine problems. An optional two-day field trip to the North Carolina Outer Banks at a nominal student expense is a regular feature of the course.	Course that includes sustainability	Undergraduate
CE	583	Engineering Aspects Of Coastal Processes	Coastal environment, engineering aspects of mechanics of sediment movement, littoral drift, beach profiles, beach stability, meteorological effects, tidal inlets, inlet stability, shoaling, deltas, beach nourishment, mixing processes, pollution of coastal waters, interaction between shore processes and man-made structures, case studies.	Course that includes sustainability	Graduate
CE	701	Urban Transportation Planning	Planning and design of urban transportation systems as related to comprehensive urban planning; principles of land use planning, urban thoroughfare planning and regional planning	Course that includes sustainability	Graduate
CE	707	Transportation Policy and Funding	Understanding and debating important current transportation policy issues in the U.S. Raising and allocating funds for building and maintaining the transportation system. Highway, public transit, rail, air, and other modes.	Course that includes sustainability	Graduate
CE	779	Advanced Air Quality	Local, regional and global scale chemical interactions, transport and behavior of trace gases (sulfur carbon, nitrogen, hydrocarbon, and photo-chemical oxidants) in the atmosphere. covers three primary elements of air quality: anthropogenic and natural emissions of trace gases; interactions of the pollutants in the atmosphere; and monitoring and sampling of gaseous and particulate pollutants.	Course that includes sustainability	Graduate
CE	476/576	Air Pollution Control	Introduction to air pollution control fundamentals and design. Fundamentals include the physics, chemistry and thermodynamics of pollutant formation, prevention and control. Design will include gas treatment, process modification, and feedstock modification. Pollutants to be addressed include sulfur dioxide, nitrogen oxides, particulate matter, volatile organic compounds, hydrocarbons, and air toxics. Credit for both CE 476 and CE 576 will not be given.	Course that includes sustainability	Undergraduate

CE	477/577	Principles of Solid Waste Engineering	Solid waste management including generation, storage, transportation, processing, land disposal and regulation. Processing alternatives including incineration and composting. Integration of policy alternatives with evaluation of engineering decisions.	Course that includes sustainability	Undergraduate
CE	786	Hydroclimatology	Hydroclimatology, El-Nino southern oscillation, climate and streamflow forecasting, forecast verification measures, downscaling, Budyko's Framework, long-term water balance, data assimilation, ensemble Kalman Fiter.	Course that includes sustainability	Graduate
CE	383	Hydrology and Urban Water Systems	Study of engineering hydrology and design of elements of urban stormwater systems. Commonly encountered applications in urban stormwater management, flood control and groundwater engineering. Familiarization with effects of watershed development on quantity and quality of streamflow.	Course that includes sustainability	Undergraduate
CE	774	Environmental Bioprocess Technology	Principles of microbiological, biochemical, and biophysical processes used in environmental waste treatment and remediation processes, with particular emphasis on water quality control processes.	Course that includes sustainability	Graduate
CH	100	Chemistry and Society	Awareness and understanding of chemistry in everyday life for the non-science student. Non-mathematical treatment of essential fundamental concepts. Emphasis on practical applications of chemistry to consumer affairs, energy, medicine, food, sports, and pollution. Credit is not allowed for CH 100 if student has prior credit for CH 101.	Course that includes sustainability	Undergraduate
COM	250	Communication and Technology	Examination of past, current, and future intersections of technology, culture, and communication in everyday life. Impact of communication technology policies. Analysis of communication technologies in interpersonal, organizational, societal, and global contexts. Development of technology skills for the competent communicator.	Course that includes sustainability	undergraduate
COM	447	Communication and Globalization	History and current trends in globalization of media, information, and telecommunications technologies, organizations, policies, and contents. Political cultural implications of globalization, including debates over corporate vs. public control of global communication, U.S. dominance vs. international cooperation, and the global influence of American culture. Internet-based group research projects on globalization in collaboration with students in other countries.	Course that includes sustainability	undergraduate
COM	487	Internet and Society	Exploration of major issues involved in the growth of computer-mediated communication and information technologies. Construction of self and body; relation of information technology to social, civic, and political life; gender, race, and class as continuing critical points; knowledge and intellectual property; the implications of software and design on the nature of communication, knowledge, and information.	Course that includes sustainability	undergraduate
CS	224	Seeds, Biotechnology and Societies	An exploration of seeds, how seeds are the delivery system for crop biotechnology and how a specific culture's perception of science and agriculture influence the acceptance or rejections of modern genetic technologies. Topics include seed germination, survival and preservation; seed industry influence on societies and how societies are influencing the seed industry; seed production - commercially and at home; how our diverse genetic resources are preserved; how biotechnology is applied to agriculture and delivered through seeds; the impact biotech is having on the seed industry and subsequently on us and global agriculture; concerns and potential benefits of biotechnology application to crops.	Course that includes sustainability	Undergraduate
CS	312	Grassland Management for Natural Resources Conservation	Basic principles and practices of production and utilization of pasture and forage crops; impact on developing sustainable systems for livestock feed, soil and water conservation; use of computers to assist in whole farm planning and information retrieval.	Course that includes sustainability	Undergraduate
DDN	779	Human Use of the Urban Landscape	Techniques for documenting and analyzing user needs at cite planning scale. Methods of integrating user needs into design programming in design and redesign projects. Community participation methods. Examples of best practice in design of user-intensive settings in residential, health, education and recreation.	Course that includes sustainability	Graduate
EA	504	Environmental Monitoring and Analysis	Principles of Universal Design. Fieldwork-oriented. Monitoring and analysis of chemical and biological impacts to the environment. Theory of chemical, physical, biological, and ecological monitoring. Planning and conducting environmental sampling and monitoring programs. Management, analysis, and quality assurance and control. Enrollment in the course requires graduate standing or consent of the instructor.	Course that includes sustainability	Graduate

EAC	761	Gender Studies in Adult Higher Education	Explores topics and issues related to the experiences of men and women in adult and higher education. This includes examination of meanings and applications of diverse feminisms, particularly as they apply to study of gendered patterns of student development in higher education.	Course that includes sustainability	Graduate
ECD	225	Foundations of Cultural Competence	This course engages students in the process to work effectively with diverse populations to develop cross-cultural competencies and identify culturally-appropriate strategies in the workplace and life. This course introduces multicultural and international diversity concepts while having students participate in reflective and experiential activities. Students gain an overview of historical and psychological conceptual frameworks and models for understanding cultural differences and similarities within, among, and between groups of people domestically and internationally. Sophomore standing or above.	Course that includes sustainability	Undergraduate
ECG	590	Topics in Labor Economics	Examination of current problems on a lecture-discussion basis. Course content varies as changing conditions require new approaches to deal with emerging problems. Course includes a module in sustainability.	Course that includes sustainability	Graduate
ECG	790	Advanced Special Topics	Advanced Special Topics. Includes a module in sustainability.	Course that includes sustainability	Graduate
ECG	716	Topics In Environmental and Resource Economics	Advanced study of selected topics in environmental and resource economics. Topics vary with interests of instructor and students.	Course that includes sustainability	Graduate
ECG	437/537	Health Economics	Microeconomic analysis of public and private policy issues concerning health care financing and delivery in United States including: choice under conditions of asymmetric information; health insurance; performance of physician, hospital, long-term care and pharmaceutical markets.	Course that includes sustainability	Undergraduate
EDP	575	Multicultural Lifespan Development	This course surveys theories, principles, and issues of psychological development throughout the lifespan. Emphasis will be placed on understanding current developmental research and its application to the enhancement of development from birth to late adulthood. Implications for helping professionals working in multicultural contexts will be provided.	Course that includes sustainability	Graduate
EI	201	Exploring Interdisciplinary Entrepreneurial Thinking	Course covers the perspectives of entrepreneurial thinking from an interdisciplinary perspective including: expectations and	Course that includes sustainability	Undergraduate
EI	331	Interdisciplinary Entrepreneurial Thinking I: Skills and Planning Basics	Course covers the development and application of critical skills in entrepreneurship as well as the fundamentals of entrepreneurial planning including interdisciplinary opportunity identification and feasibility analysis. Some individual off campus travel might be required. Students are responsible for their own transportation to off campus activities. This course will be offered at least once per semester.	Course that includes sustainability	undergraduate
ENG/W GS	327	Language and Gender	Introduction to the use of language by men and women. Research in Linguistics and Women's Studies addressing issues such as the acquisition of gender-differentiated language, gender and conversational interaction, sexism in language, gender issues in society, and the relationship between language, gender, and other social constructs	Course that includes sustainability	Undergraduate
ENT	526	Organic Agriculture: Principles and Practices	This is a multidisciplinary class, and lectures cover many aspects of organic production given by a number of experts from both on and off campus. Classes also include discussions of issues and controversies surrounding organic production, as well as field trips to selected farms. This course is restricted to upper level undergraduate, graduate, or post-baccalaureate continuing education students.	Course that includes sustainability	Graduate
ENT/Z O	509	Biology of Aquatic Insects	Life history descriptions and identification of aquatic insects. Emphasis on behavioral and physiological adaptations to diverse habitats and the role of insects in aquatic ecosystem function and as indicators of water quality.	Course that includes sustainability	Graduate
ES	295	Special Topics in Environmental Science	The course provides opportunities for instruction on rapidly emerging issues in environmental science. The course also provides	Course that includes sustainability	Undergraduate
ES	400	Analysis of Environmental Issues	A capstone course for students in environmental sciences or related majors. The course teaches use of analytical approaches for solving environmental problems, and for communicating results. The course emphasizes development of student projects that lead to environmental decision-making, such as devising a resource management plan, developing a predictive model, prioritizing risk, identifying tipping points, designing new software or technologies, or predicting outcomes of environmental policies. Individual student projects fit within a team framework to simulate a work environment. Students enhance writing and seminar skills. Student may incur extra expenses with projects for this course.	Course that includes sustainability	Undergraduate

ES	496	Environmental Science Internship	Students can earn 1-3 credits for completing internships in the public or private sectors. Emphasis is placed on gaining work experience needed to explore and plan careers in the environmental field. Students must prepare an internship proposal. Students must provide own transportation for internship. Students are required to purchase internship liability insurance. Contact university insurance & risk management for details an acquiring the insurance and the current charge.	Course that includes sustainability	Undergraduate
ES	497	Professional Development in Environmental Science	The course provides 1-3 credits for students who develop skills necessary to organize, promote, and participate in an event such as a workshop, conference, or seminar. Students earn one credit for 50 hours of work. Examples of acceptable activities include organizing a panel of speakers on a specific topic, a speaker series, a career fair, or a workshop. The formats and topics of events are determined by the organizing student(s). Students must submit a proposal for a professional development activity prior to enrolling.	Course that includes sustainability	Undergraduate
ES	498	Research in Environmental Science	Students can earn 1-3 credits for environmental research. Students earn one credit for 50 hours of research activity. Research can be in a traditional laboratory, include fieldwork, or other creative activity. Research can be at the University, or other facility. Students will complete a final report or product that can be evaluated. Students must submit a proposal for research prior to enrolling.	Course that includes sustainability	Undergraduate
ES	499	Thesis in Environmental Science	The course provides 3 Cr for undergraduate students who complete a thesis. A thesis reports original, inquiry-based learning and discover in environmental sciences, and can follow ES 498 creating a research experience over two semesters. Students present the thesis to a community of peers and experts for evaluation. Students must submit a proposal before enrolling.	Course that includes sustainability	Undergraduate
ET	120	Introduction to Renewable Energy Technologies and Assessments	Overview of the various renewable energy assessment technologies. Students will learn what assessments and measurements can be taken to determine if renewable energy technologies will be effective in a particular location. Topics include biomass and biofuels, geothermal systems, solar thermal systems, photovoltaics, wind energy, and hydroelectric.	Course that includes sustainability	Undergraduate
ET	201	Environmental Technology Laboratory I	Use of field and laboratory instrumentation for monitoring water quantity and quality. Management, analysis, interpretation, and oral and written reporting of complex environmental data sets. Hands-on, real-world experience in water quality monitoring and maintenance. Required field trips may extend beyond class time.	Course that includes sustainability	Undergraduate
ET	240	Wind and Hydroelectric Energy Assessment	This course introduces concepts, designs, tools, techniques, and material requirements for systems that convert wind and water into	Course that includes sustainability	Undergraduate
ET	302	Environmental Technology Laboratory IV	Use of field and laboratory instrumentation for monitoring outdoor and indoor air quality. Management, analysis, interpretation, and oral and written reporting of complex environmental data sets. Hands-on, real-world experience in air quality monitoring and maintenance. Required field trips may extend beyond class time.	Course that includes sustainability	Undergraduate
ET	202	Environmental Technology Laboratory II	Use of field and laboratory instrumentation for monitoring plants, soils, and natural systems. Management, analysis, interpretation, and oral and written reporting of complex environmental datasets. Hands-on, real-world experience in plant and soil quality monitoring and maintenance. Required field trips may extend beyond class time.	Course that includes sustainability	Undergraduate
ET	220	Solar Photovoltaics Assessment	This course introduces specific elements in photovoltaic (PV) systems technologies including efficiency, modules, inverters, charge controllers, batteries, and system installation. Topics include National Electric Code (NEC), electrical specifications, photovoltaic system components, array design and power integration requirements that combine to form a unified structure. upon completion, students should be able to demonstrate an understanding of various photovoltaic designs and proper installation of NEC compliant solar electric power systems.	Course that includes sustainability	Undergraduate

ET	255	Assessing Lands for BioEnergy Production	Overview of the historical and current role of bioenergy and biomass potential, technologies and systems, resource supplies, current market developments, and barriers to use in the USA. Students will learn biomass classifications and develop skills to assess landscapes for woody and non-woody biomass stocks, yields and energy values. Skills for techniques to measure woody biomass for managed forest plantations and natural forest stands and select herbaceous bioenergy crops will be developed. Emphasize North Carolina sites and spatial data to develop conceptual framework and assessment skills. Targeted for science and non-science students.	Course that includes sustainability	Undergraduate
ET	460	Practice of Environmental Technology	Preparation and presentation of comprehensive environmental assessments and analyses. Critical roles of quality control and assurance. The ISO 14000 environmental management standard of the American National Standards Institute (ANSI). Preparation for certification as an environmental auditor by ANSI and registration as an Environmental Professional by the National Register of Environmental Professionals. Optional training and exams for Environmental Auditors Registration Association and American National Standards Institute/Register Accreditation Board Written Examination available.	Course that includes sustainability	Undergraduate
FOR	252	Introduction to Forest Science	Integration of biological principles into studies of tree growth, reproduction, establishment, survival, and disturbance. Discussions of regional silviculture and of effects of humans on forest ecosystems. Instruction in forest sampling and tree identification. Many laboratories meet outdoors	Course that includes sustainability	Undergraduate
FOR	260	Forest Ecology	Introduction to forest ecosystems, their structure, and the processes that regulate them including: radiation, temperature, water, and biogeochemistry; productivity; plant populations; structure and function of forest communities; succession; wind and fire; and human influences.	Course that includes sustainability	Undergraduate
FOR	265	Fire Management	Effects of wildfire and prescribed fire on forest ecosystem components and processes; fire behavior and the ecosystem and meteorologic factors that affect it; silvicultural uses of fire; organization, equipment, and tactics for wildfire suppression; fire suppression exercises on the North Carolina Division of Forest Resources' Forest Fire Simulator.	Course that includes sustainability	Undergraduate
FOR	415	World Forestry Study Tour	Field trip to Mexico and/or Central America for seven days over spring break. Examine tropical forestry issues through field visits to timber concessions, plantations, nurseries, wood products firms, protected areas, and agroforestry projects; meetings with representatives of forest research institutes, government agencies, timber industry, cooperatives, and environmental organizations; and interaction with local people. Fee for field trip determined annually. Offered during spring break, as a one week field trip to Mexico and/or Central America.	Course that includes sustainability	Undergraduate
FOR	513	Silviculture for Intensively Managed Plantations	This course provides an up-to-date understanding of the ecological and physiological bases of forest stand productivity and a silvicultural systems framework to use this knowledge for making site specific prescriptions that are cost effective and environmentally sustainable.	Course that includes sustainability	Graduate
FOR	784	The Practice Of Environmental Impact Assessment	Impact assessment principles, practices and their evolution. Lectures and field practicums concerning problems addressed by environmental assessment practitioners. Practical implications of current regulatory requirements, especially concerning endangered species and wetlands, as they affect environmental practitioners' performance. Required reports combine varied technical tasks and documentation for regulatory process review.	Course that includes sustainability	Graduate
FOR	575/675	Advanced Terrestrial Ecosystem Ecology	Views organisms and physical environment as integrated system. Outlines processes governing assimilation and cycling of energy, carbons, nutrients, and water. Evaluates ecosystem responses to intensive management, global climate change, air pollution, biofuels production, fragmentation, large-scale land use change. Illustrates application of ecosystem science approach to important regional and global questions through scaling of empirical, ecosystem-level data, ongoing research. Provides experience in hypothesis testing and experimental design, data analysis and interpretation, proposal development, and publication for research professionals. Graduate Standing.	Course that includes sustainability	Graduate

FOR	750	Ecological Restoration	Historical bases and philosophical examination of concepts of ecosystem restoration. Mechanics of restoring soils, hydrology, plant community composition and structure, and landscape levels ecosystem functions. Quantitative evaluations of restoration success.	Course that includes sustainability	Graduate
FOR	531	Wildland Fire Science	Physical, chemical, biological, and ecological processes associated with wildland fire, particular emphasis on fire behavior, fuels, weather, climate and the associated effects on ecology, management, fire suppression, prescribed fire, and smoke emissions and exposure. Fire's effect on national policy, social and natural history of North America. In-depth exercises in fire and smoke modeling using established predictive systems.	Course that includes sustainability	Graduate
FOR/F W	404	Forest Wildlife Management	Relationships between forest and wildlife management and the effects of silvicultural systems on wildlife. Species-habitat requirements, forest wildlife management techniques, and forest-wildlife policies and economics.	Course that includes sustainability	Undergraduate
FOR/N R	420/520	Watershed and Wetlands Hydrology	Principles of hydrologic science; classification and assessment of watersheds and stream networks; hydrologic, erosion, and water quality processes in natural and managed watersheds; wetlands hydrology; hydrologic measurements and data analysis; applications of hydrology and water quality management for forest agriculture, and urban ecosystems; watershed restoration. Emphasis field study of watersheds and hydrologic measurements. Two weekend field trips are required. Credit will not be given for both FOR[NR]420 and FOR[NR]520.	Course that includes sustainability	Undergraduate
FOR/S MT	202	Anatomy and Properties of Renewable Materials	Formation, cell morphology, cell wall, structure of softwoods, hardwoods, and other renewable materials; variability, naturally occurring defects, biological deterioration, and basic physical and mechanical properties of renewable materials in relation to products utilization. Techniques on hand lens and microscopic identification of renewable materials.	Course that includes sustainability	Undergraduate
FTD	200	Design Skills Workshop	First course in developing student's use of design tools for the production of prototype products from textile materials, beginning with the selection of appropriate fabric and other raw materials and extending through critiquing the product. Concepts of ethical and sustainable design are built into the analysis and design of the product. A variety of techniques for designing sewn textile products are explored, as well as methods and safe practices for using equipment in the studio. FTD Majors Only.	Course that includes sustainability	Undergraduate
FW	311	Piedmont Wildlife Ecology and Management	This 3-week course will involve relationships of wildlife and habitat, the use of GIS and GPS, use of new technology (PIT tags, radio telemetry), and field identification of habitats and animals. This course is taught off-campus at Hill Forest. It is a 3 week residential camps with side trips and overnight trips. Class meets all day for 3 weeks. Additional charge for room and board. Students must provide their own transportation to Hill Forest. Junior standing in one of the following: FOM, NRE, SFW, SFF, SZO, ESC.	Course that includes sustainability	Undergraduate
FW	313	Mountain Wildlife Ecology and Management	Visit different mountain communities along an elevation gradient from 2,000 to 6,000 feet and observe changes in plant and animal communities. Discuss wildlife and fisheries management issues, interact with agency personnel responsible for managing mountain fisheries and wildlife. One-week field trip to the North Carolina mountains. Additional charges for room and board.	Course that includes sustainability	Undergraduate
FW	314	Coastal Ecology and Management	Hands-on study of the fishery and wildlife resources associated with North Carolina coastal plain habitats. These habitats will include estuarine, ocean, longleaf pine savanna, pocosin, and Carolina bays. Common techniques and concepts used in terrestrial, marine, and estuarine ecology and management will be taught. Field identification of habitats, animals, and plants. Use of multiple sampling gear including bottom trawl, beam trawl, beach seine, gill nets, and coverboards. Use of water quality measurement equipment. This course meets all day for 1 week off-campus at CMAST in Morehead City, NC. Additional charge for room and board and boat rental. Students must provide their own transportation to CMAST.	Course that includes sustainability	Undergraduate

FW	465	African Ecology and Conservation	This course provides an international perspective on desert ecology, the African savanna ecosystem, African wildlife ecology and management. In addition, the management of a large national park of international importance, conservation of predators and their conflict with humans, and international tourism are discussed. Various sampling techniques are practiced during field work. A combination of lectures, field lectures, field work, field excursions, data analyses and home work form an integral part of the course.	Course that includes sustainability	Undergraduate
FW	460/560	International Wildlife Management and Conservation	An international perspective on wildlife management and conservation through investigation and comparison of historical events, policies, international conservation organizations and transfrontier conservation areas. Fundamental principles necessary in managing the African savannah ecosystem, protected areas and game ranches. Identifying global biomes, zoogeography and the impacts of ecotourism. Cannot receive credit for both FW 460/560.	Course that includes sustainability	Undergraduate
HESM	284	Women's Health Issues	This course will review health and wellness issues affecting women through their life span. It will explore medical concerns and prevention as well as social health issues that disproportionately affect women in contemporary society. Discussions of current critical topics in women's health will also take place. Minor courses.	Course that includes sustainability	Undergraduate
HI	233	The World Since 1750	This course surveys the making of the world from 1750 to the present. Topics include: the Industrial Revolution, the development of the Nation-States, the rise of European, American and Japanese Empires, WWI, inter-war reconfigurations of colonial empires, anti-colonial nationalist movements, the Great Depression, the Cold War, struggles for political and economic independence among newly independent nations, the US-dominated neo-liberal order from the 1980s to the present, and contemporary global conflicts over ethnicity, religion, resources, disease, and the environment.	Course that includes sustainability	Undergraduate
HI	465	Oil and Crisis in the Gulf	Historical roots and development of the Persian Gulf region from the late nineteenth century until the present with an emphasis on the social, economic, cultural and political transformations following the discovery of oil, and subsequent events such as the Arab Oil embargo of 1973, the Iranian Revolution, the Iran-Iraq war, and the two Gulf wars.	Course that includes sustainability	Undergraduate
HI	594	Cultural Heritage	Use of the past and its cultures in reinforcing identities. Global development of heritage preservation, cultural resource management, and heritage tourism. Role of heritage professionals in identification, study, assessment, preservation, interpretation, management, and promotion of historic and cultural resources. Law and regulations that protect and preserve cultural resources. Graduate standing or NDS.	Course that includes sustainability	Graduate
HI	423/523	Women in European Enlightenment	Historical analysis of feminist thought and action during the Enlightenment of the 1700s. Topics include women's role in the development of Western knowledge and science, historical construction of the gendered "nature" of women, education and political resources available to women, and their strategies for emancipation. Credit will not be given for both HI 423 and HI 523.	Course that includes sustainability	Undergraduate
HI	483/583	Science and Religion in European History	Are science and religion inherently in conflict with each other? Historical analysis of the idea of the "warfare between religion and science," treating their complex relationship and respective cultural authority before 1800, including the relationship of science and religion in Europe during periods of the Reformation, the creation of early modern states, and the Enlightenment of the 1700s. Topics include visions of nature and utopias, the creation of mechanistic science in the 1600s, and natural theology. Credit will not be given for both HI 483 and HI 583.	Course that includes sustainability	Undergraduate
HI	209	From Renaissance to Revolution: The Origins of Modern Europe	Exploration of the political, economic, social, and cultural history of Western Europe during an intense and exciting period of transition from a medieval to a modern world. Topics to be discussed include Renaissance art and philosophy; the printing revolution and the French Revolution; climate change and economic dislocation; witchcraze; religious reforms and religious wars; commercialization; navigation; empire; slavery; the new science; and new ideas about democracy, equality, and modernity.	Course that includes sustainability	Undergraduate
HI/CO M/GES	508	Emerging Technologies and Society	Provides frameworks for understanding emerging technologies and their social, political, and cultural contexts. Presents historical case studies, ethnographic accounts, and theoretical perspectives that introduce students to ways of thinking about science and technology, nature and culture, and democracy and expertise. Graduate standing is required.	Course that includes sustainability	Graduate

HS	431	Vegetable Production	Principles and practices of production and marketing of seventeen vegetable crops grown in the U.S. Additional topics include pest management, seed technology, food safety, sustainable agriculture, use of genetically engineered crops, and consumer issues.	Course that includes sustainability	Undergraduate
LAR	500	Design Build Studio	Advance studio labs. Section 0001 includes design and build of a sustainable landscape.	Course that includes sustainability	Graduate
LAR	576	Community Design	Processes through which citizens shape and manage built environment. Strategic planning, visioning process, community action, and mediation will be discussed and illustrated with case study examples from architecture, landscape architecture and planning. Analysis and assessment from case studies of participation techniques such as charrette, study circles, and visual appraisal.	Course that includes sustainability	Graduate
MAC	551	Advanced Auditing	A study of the impact of business risks on the design and performance of audit procedures to detect material misstatements in financial statements. Students will be exposed, through a case-based approach, to significant business issues related to audit planning, risk assessment and auditor response, corporate governance, reporting, and other significant business issues affecting audit professionals in their first years of employment. Includes project auditing sustainability data and reports.	Course that includes sustainability	Graduate
MAE	421	Design of Solar Thermal Systems	Analysis and design of active and passive solar thermal systems for residential and small commercial buildings. Solar insulation, flat plate collectors, thermal storage, heat exchanges, controls, design, performance calculations, economics. Site evaluation, shading, suncharts, types of passive systems. Heating load analysis. Overview of photovoltaics. On-site evaluation of NCSU Solar House.	Course that includes sustainability	Undergraduate
MBA	560	Marketing Management & Strategy	Market segmentation, targeting, and positioning. Consumer behavior. Channels of distribution, promotion strategy, product development strategy, and pricing strategy. Relationship marketing and marketing strategy. Applications in high-tech environments. Restricted to MBA students. Course includes a sustainability module.	Course that includes sustainability	Graduate
MBA	610	Critical Analytical Thinking	Special topics in Business Administration. Special topics course dealing with issues not covered in regularly scheduled courses. Restricted to MBA students. Course includes a module in sustainability.	Course that includes sustainability	Graduate
MBA	563	Product and Brand Management	Marketing planning and product management. New product concept evaluation and selection. Managing products over the life cycle. Developing and implementing a brand strategy. Repositioning and revitalizing brands Brand extension. Managing global brands. Includes module on sustainability in the innovation process and how new products can incorporate sustainability measures.	Course that includes sustainability	Graduate
MEA	214	Introduction to Atmospheric Sciences II	Second course in a series introducing the atmospheric environment. Topics include midlatitude weather systems from planetary scale to mesoscale, climate and climate change, implications and impacts of the climate change, and air pollution.	Course that includes sustainability	Undergraduate
MEA	323	Earth System Chemistry	Chemistry of the earth with an emphasis on the interactions of the biosphere, geosphere and atmosphere. The origin and chemical evolution of the solar system, chemical cycles in the environment, and the impact of man on biogeochemical processes.	Course that includes sustainability	Undergraduate
MEA	213	Introduction to Atmospheric Sciences I	Introduction to the atmospheric environment. Fundamental concepts and applications of atmospheric physics and dynamics and how they relate to day-to-day and seasonal weather as well as climate change.	Course that includes sustainability	Undergraduate
MEA	321	Fundamentals of Air Quality and Climate Change	An intermediate-level introduction, for meteorology majors, to the physical and chemical environment of the atmosphere and to climate change. Topics include the atmosphere's chemical composition; atmospheric chemical reaction processes in gas phase, liquid phase, and on particle surfaces	Course that includes sustainability	Undergraduate
MEA	476	Worldwide River and Delta Systems: Their Evolution and Human Impacts	Survey of major world rivers and deltas, such as the Amazon, Mississippi, Yello, Yangtze, Mekong, Ganges-Brahmaputra, Indus, Nile, etc. Descriptions of their initiation, development, and evolution processes. Definitions of the impacts caused by climate change and human activities. Examination of the river-ocean interactions and sedimentary and geochemical processes in terms of sea-level change, monsoon, and sediment dispersal and deposition.	Course that includes sustainability	Undergraduate

MEA	514	Advanced Physical Meteorology	Fundamental laws and concepts of thermodynamics and electromagnetic radiative transfer considered in an atmospheric context. Application of these principles to a number of meteorological problems, including radiative climate models, the global energy balance, atmospheric aerosols, lidar/radar backscatter and remotely sensed temperature fields.	Course that includes sustainability	Graduate
MEA	719	Climate Modeling	Climate system. Fundamental equations and time scales. Atmosphere, ocean, biosphere, cryosphere, lithosphere and hydrosphere subsystems. Computational numerical methods. Physical processes; atmosphere-ocean coupling, role of radiation, clouds and land surface processes. Climate anomalies due to changes in atmospheric composition, boundary conditions and extra-terrestrial forcing. Model validation, climate change detection, past climates and future climate scenarios.	Course that includes sustainability	Graduate
MEA	779	Advanced Air Quality	Local, regional and global scale chemical interactions, transport and behavior of trace gases (sulfur carbon, nitrogen, hydrocarbon, and photo-chemical oxidants) in the atmosphere. covers three primary elements of air quality: anthropogenic and natural emissions of trace gases; interactions of the pollutants in the atmosphere; and monitoring and sampling of gaseous and particulate pollutants	Course that includes sustainability	Graduate
MEA	415/515	Climate Dynamics	A physically based treatment of climate change, climate variability, and climate models, for upper-level undergraduate meteorology majors. Topics include Earth's energy balance and the greenhouse effect, drivers of future and past climate change, and climate model projections of global warming and its implications. Cannot receive credit for both MEA 415 and MEA 515.	Course that includes sustainability	Graduate
MEA	425/525	Introduction to Atmospheric Chemistry	The course covers history, regulations, sources, physics, and chemistry of major air pollutants and factors affecting their transport and fate. Emphasis is placed on atmospheric chemistry and physics underlying five major air pollutant problems including urban outdoor air pollution, indoor air pollution, acid deposition, stratospheric ozone reduction, and global climate change. Credit will not be allowed for MEA 425 and MEA 525.	Course that includes sustainability	Undergraduate
MEA/BI O	220	Marine Biology	Introduction to marine plants and animals, their adaptations to life in the sea and ecological interactions in selected marine environments (e.g. coral reefs, deep sea, salt marshes). Interactions of man with the sea: food from the seas, biology of diving. Optional trip.	Course that includes sustainability	Undergraduate
MIE	330	Introduction to Human Resources Management	The systematic principles for managing the human resource component of organizations. Topics include: environmental influences on planning, recruitment, and selection; managing workforce diversity; developing effectiveness and enhancing productivity; compensation, benefits, and security; and strengthening employee-management relations. This course contains a module in sustainability.	Course that includes sustainability	Undergraduate
MIE	432	Labor and Employee Relations	Utilizing textbook, readings, lectures, and practitioner presentations, students will become familiar with theories and principles of Labor-Management relations and the interchange between unions and employers. The course will review approaches to clarify, manage, reduce and resolve conflicts and to negotiate collective bargaining agreements. Course includes a sustainability module.	Course that includes sustainability	Undergraduate
MIE	418	Social Entrepreneurship Practicum	Application of entrepreneurship skills and knowledge to plan a social entrepreneurial venture envisioned by the student. This course is a	Course that includes sustainability	Undergraduate
MIE	306	Managing Ethics in Organizations	Management practices to define, communicate, and implement ethical conduct in business organizations. Normative and applied analysis of current ethical dilemmas of corporations in free markets, techniques for effective management of corporate social responsibility, and formulation and implementation of ethics management programs. College of Management majors only.	Course that includes sustainability	Undergraduate
NE/CE	772	Environmental Exposure and Risk Analysis	Course covers the identification, transport, and fate of hazardous substances in the environment; quantification of human exposures to such substances; dose-response analysis; and uncertainty and variability analysis. The general risk assessment framework, study design aspects for exposure assessment, and quantitative methods for estimating the consequences and probability of adverse health outcomes are emphasized.	Course that includes sustainability	Graduate
NR	406	Conservation of Biological Diversity	Population biology concepts fundamental to understanding the properties of the objects of conservation. Genetic diversity in agriculture, forestry, and animal breeding; the ethical and international policy issues in preservation and management.	Course that includes sustainability	Undergraduate

NR	400/500	Natural Resource Management	Theory and practice of integrated natural resource management. Quantitative optimization, economics of multiple-use, compounding and discounting, optimal rotations, linear programming. Public and private management case studies and team projects. Graduate students expected to provide more in-depth critique of planning process. Credit will not be allowed for both NR 400 and NR 500	Course that includes sustainability	Undergraduate
NR	421/521	Wetland Assessment, Delineation and Regulation	Wetland definitions and systems of classification and functional assessment; methods for assessing ecological functions of wetlands; identification and delineation of jurisdictional wetlands in accordance with US Army Corps of Engineers procedures; application of federal and state regulatory programs. Five Saturday field trips are required. Credit will not be given for both NR 421 and NR 521	Course that includes sustainability	Undergraduate
NTR	330	Public Health Nutrition	Students will explore factors that affect the health and nutrition of the population as well as how those factors are identified, studied, and applied to improve health issues. Students will identify services and programs available to address nutrition and health issues. Students will analyze current events related to public health, evaluate nutrition related policy, and advocate for issues related to nutrition.	Course that includes sustainability	Undergraduate
PB	250	Our Green World	Awareness and understanding of plants in the world for the non-science student. Essential fundamental concepts of plant structure, growth, processes, uses, biotechnology, evolution, environmental issues and ecology. Short field trips will be held that may require students to provide their own transportation. Credit cannot be received for both PB 205 and (PB 200 or PB 250).	Course that includes sustainability	Undergraduate
PCC	106	Polymer Chemistry and Environmental Sustainability	Polymers are prevalent in almost every part of our lives. Many polymers are petroleum based and their raw material supply is limited. Using a theme of environmental impact, this course will review the origin and preparation of key industrial raw materials and how they are used in polymer synthesis. Properties of synthetic polymers will be introduced and concepts for establishing sustainable polymers will be discussed.	Course that includes sustainability	Undergraduate
PHI	340	Philosophy of Science	Nature of science highlighted by differences between science and pseudoscience, relationships between science and religion, and roles of purpose-directed (teleological) and causal explanation in physical, life and social sciences	Course that includes sustainability	Undergraduate
PP	727	Ecology of Soil Ecosystems	An interdisciplinary course primarily focusing on the interactions between soil organisms and their environment, and the ecological consequences of these diverse complex interactions. A broad range of topics, including soil biodiversity, plant-microbial interactions, trophic interactions, energy flow and nutrient cycling, and microbial controls over plant and ecosystem responses to natural and anthropogenic perturbation (e.g. tillage or global change components) are addressed.	Course that includes sustainability	Graduate
PRT	458	Special Event Planning	Theoretical and applied approaches to the planning of special events. Components and considerations of event planning, applied to various recreational settings. Participation in a community special event is required. Attendance at professional conference also required. Includes sustainable event planning.	Course that includes sustainability	Undergraduate
PRT	555	Environmental Impacts of Recreation and Tourism	Understanding of environmental impacts of recreation and tourism, and different methods for assessing and managing such impacts. Examination of the scientific and management literature and application of impact assessment techniques.	Course that includes sustainability	Graduate
PRT	238	Diversity and Inclusion in Recreation and Sport	Provides knowledge, attitude awareness and resources needed to provide programs, services and facilities for all people. Students gain an understanding of people's differences and potential barriers to participation. 10 hours of volunteer work with people who have disabilities is required. Students are responsible for providing their own transportation to and from volunteer work. PRT, SMT and PGM Majors Only; PRT minors.	Course that includes sustainability	Undergraduate
PS	314	Science, Technology and Public Policy	Societal impacts of science and technology. Structures and processes for formulation, implementation, evaluation of United States science and technology policy. Political implications of selected issues in science and technology policy studies.	Course that includes sustainability	Undergraduate

PS	534	The Politics of Human Rights Policies	Human rights policies and politics within the modern global society; the interplay of international organizations, governments and non-governmental actors in promoting and undermining international human rights; examines how domestic politics, sovereignty, cultural norms, religion, geo-political competition, past colonialism, and economic considerations affect efforts to address human rights violations in different countries; human rights issues such as genocide, humanitarian intervention, women and gender issues, refugees, transitional justice or reconciliation, ethnic/racial divisions, human trafficking. etc. Graduate standing.	Course that includes sustainability	Graduate
PS/WG S	306	Gender and Politics in the United States	This course explores the role of gender in contemporary American politics. The course examines the historical course of gender politics to see how we have arrived at the present state. It investigates the activities that women and men play in modern politics-voting, running for office, serving in office, etc., and how women and men perform these activities in different ways. The course also focuses on major areas of public policy that affect women and men in different ways.	Course that includes sustainability	Undergraduate
PSE	425	Bioenergy & Biomaterials Engineering	This course acquaints students with the basic science, terminology, technology, economic concepts, and engineering concepts associated with the conversion of biomass into energy and materials. Topics include: biomass types and properties; biochemical platforms; thermochemical platforms; unit operations; the biorefinery; biocomposites. Some design content is included. Targeted to engineering students with a suitable background (PSE, CHE, BAE).	Course that includes sustainability	Undergraduate
SMT	200	Introduction to Sustainability and Technology	This laboratory is to be taken concurrently with SMT 201 - Sustainable Materials for Green Housing. This laboratory will delve deeper into concepts discussed in class. It will include an introduction into data collection and analysis, industrial ethics, and field trips to biomaterials-based industries. For SMT students only or with permission of instructor.	Course that includes sustainability	Undergraduate
SMT	203	Physical Properties of Sustainable Materials	Basic concepts involving the interaction of sustainable materials with moisture, heat, and electricity. Concepts needed to perform calculations related to material balance, energy balance, mass transfer by diffusion, and heat transfer by conduction. Principles and application of basic techniques for characterizing the physical properties of materials and for drying of lumber.	Course that includes sustainability	Undergraduate
SMT	210	Sustainable Materials Internship	Experience in the forest products or related industries with a departmentally selected employer.	Course that includes sustainability	Undergraduate
SMT	293	Independent Study in Sustainable Materials & Technology	Independent Study for Sustainable Materials & Technology students at the freshman and sophomore level developed under the direction of a faculty member.	Course that includes sustainability	Undergraduate
SMT	294	Independent Study in Sustainable Materials & Technology	Independent Study for Sustainable Materials & Technology students at the freshman and sophomore level developed under the direction of a faculty member.	Course that includes sustainability	Undergraduate
SMT	295	Special Topics in Sustainable Materials & Technology	Special Topics in Wood Products at the 200 level for offering of courses on an experimental basis.	Course that includes sustainability	Undergraduate
SMT	441	Mechanical Properties of Sustainable Materials	Overview of statics. Concepts of stress and strain. Mechanical properties of elastic and viscoelastic materials. Application of elastic theory to axial loading and bending, orthotropic elasticity of lamina and laminates, buckling of columns. Principles and application of basic techniques for characterizing the mechanical properties of sustainable materials.	Course that includes sustainability	Undergraduate
SMT	444	Sustainable Composites and Biopolymers	Manufacture, properties, and processing of lignocellulosic composites and polymers such as laminates, strandboard, particleboard, fiberboard, and nanocomposites. Principles and application of basic techniques for manufacture and testing of composites according to product and quality standards.	Course that includes sustainability	Undergraduate
SMT	483	Capstone in Sustainable Materials and Technology	Capstone course in sustainable materials and technology; integration of sustainable material and technology concepts with economic, environmental, and societal considerations; case studies and practicum in sustainable materials and technologies.	Course that includes sustainability	Undergraduate
SMT	493	Independent Study in Sustainable Materials & Technology	Independent Study for Sustainable Materials & Technology students at the advanced level developed under the direction of a faculty member.	Course that includes sustainability	Undergraduate
SMT	494	Independent Study in Sustainable Materials & Technology	Independent Study for Sustainable Materials & Technology students at the advanced level developed under the direction of a faculty member.	Course that includes sustainability	Undergraduate

SMT	301	Chemistry of Sustainable Materials	Introduction of polymer science concepts (thermal transitions, molecular weight, viscoelasticity) to sustainable materials such as wood, cork starch, silk, etc. Detailed instruction on the chemistry of sustainable materials including reactivity, decay, the chemical aspects of thermal treatments, the separation of sustainable materials into their individual components, the reactivity and modification of the individual components, and the conversion of sustainable materials into energy products.	Course that includes sustainability	Undergraduate
SMT	302	Processing of Biomaterials	Principles of the manufacturing processes used in the sustainable and renewable materials industries. Content includes primary and secondary manufacturing, theory of machining basics, and biomaterials-based composite fabrication. Field trips might require meeting outside of class time.	Course that includes sustainability	Undergraduate
SMT/F OR	202	Anatomy and Properties of Renewable Materials	Formation, cell morphology, cell wall, structure of softwoods, hardwoods, and other renewable materials; variability, naturally occurring defects, biological deterioration, and basic physical and mechanical properties of renewable materials in relation to products utilization. Techniques on hand lens and microscopic identification of renewable materials.	Course that includes sustainability	Undergraduate
SOC	350	Food and Society	Relationships among individuals, groups, and organizations in the production, consumption, and distribution of food. Influences of gender, class, race, and ethnicity. Impacts of laws and regulations, markets, and social movements.	Course that includes sustainability	Undergraduate
SOC	445	Inequality, Ideology, and Social Justice	Systematically addresses the question of why people believe what they do about the legitimacy of inequality; explores the role of self-interest, secular and religious values, considers specific types of ideology such as meritocracy, racism, sexism, colonialism; applies various theories to explain patterns of belief; looks at the role of media and propaganda in shaping beliefs.	Course that includes sustainability	Undergraduate
SOC	509	Population Problems	Examination of population growth, rates of change and distribution. Emphasis on functional roles of population, i.e., age, sex, race, residence, occupation, marital status and education. Stress on population dynamics fertility, mortality and migration. Analysis on population policy in relation to national and international goals stressing a world view.	Course that includes sustainability	Graduate
SOC	405	Racism in the U.S.	The course will examine the nature of racism in American society and its correlates: prejudice, discrimination, racial conflict, and racial oppression. Emphasis on the history and development of racism in the U.S. as well as its impact on minority groups. Sociological explanations for the emergence and continuation of racism.	Course that includes sustainability	Undergraduate
SOC/W GS	704	Feminist Thought in the Social Sciences	This course is designed to provide an overview of feminist thought in the social sciences. We evaluate theoretical writings on social structure, social processes, the development of consciousness about gender inequality. We include both discussion of and distortions within mainstream theory and the recent development of alternative theory using the standpoint of women as a point of departure. We begin with general theoretical issues and move quickly to the complexity of matrices of domination within U.S. and global contexts.	Course that includes sustainability	Graduate
SSC	427	Biological Approaches to Sustainable Soil Systems	Ecological and biochemical concepts will be applied to managing soils in agro-ecological settings such as organic and conventionally managed farms and gardens, emphasizing microbial transformations of nutrients and matter. Topics covered include soil organic matter formation and fractionation, decomposition, microbial assimilation of nutrients, fertilizer management, tillage, crop rotations, cover crop management. Companion course SSC 428 and SSC 341 recommended.	Course that includes sustainability	Undergraduate
SSC	562	Environmental Applications Of Soil Science	Identification and evaluation of basic factors influencing movement of potential pollutants through soil and their underlying strata. Development of understanding of processes of soil and site evaluation for waste disposal and transport of pollutants through soils.	Course that includes sustainability	Graduate
SSC	361	Role of Soils in Environmental Management	Importance of soils in land application of municipal, industrial and agricultural wastes; onsite disposal of domestic wastewater; bioremediation of contaminated sites; erosion and sedimentation control; farm nutrient management; and nonpoint source water pollution.	Course that includes sustainability	Undergraduate
SSC/BA E	573	Introduction to Surface Hydrologic/Water Quality Modeling	Concepts in basic hydrologic, erosion and chemical transport used in modeling. Evaluation of typical hydrologic/water quality models on watershed systems. Usage of state-of-the-art models in project examples.	Course that includes sustainability	Graduate

USC	100	Transition into a Diverse Community	USC 100 is required for all Summer Start students. It is designed to assist freshmen in making an effective transition to the rigors of a large diverse research-focused university. The course is designed to provide students with the support and knowledge needed to address the academic and personal challenges as well as other transitional issues. This course will also help students understand how culture shapes identity. Classroom discussions, small group work, completion of StrengthsQuest, and an introduction to technological and other resources are all vital components of this course. Topics include: diversity, cultural awareness, StrengthsQuest, academic adjustment, college success, social adjustment, campus resources, and health	Course that includes sustainability	Undergraduate
VPH	554	Trade and Agricultural Health	This course is designed for agriculture and food safety specialists, veterinarians, and epidemiologists interested in learning about international trade and agricultural health. WTO/SPS affect all aspects of agricultural health including production, food security, public health, tourism and the environment.	Course that includes sustainability	Undergraduate
WGS	300	Introduction to Feminist Theories	This course provides an overview of primarily US and western feminist theoretical perspectives by focusing on the variety of viewpoints within feminism and their specific historical roots. More than half of the course is devoted to studying specific themes and issues in women's history. The historical background lays the foundation for examining specific feminist theories, including liberal feminism, difference feminism and black feminism/womanism. The course prepares students for further work in Women's and Gender Studies, including WGS 492.	Course that includes sustainability	Undergraduate
WGS	370	Advanced Studies of Gender in Science	This course is designed to provide students with an in-depth view of recent research about the influence of contemporary gender relations on science and engineering. Readings address feminist theories about sex/gender, race/class/sexualities, the social construction of science, and technological innovation. Discussions will focus on scholarship that explores how, why, and when a "gender lens" brings value to understanding nature and knowledge.	Course that includes sustainability	Undergraduate
WGS (PS)	306	Gender and Politics in the United States	This course explores the role of gender in contemporary American politics. The course examines the historical course of gender politics to see how we have arrived at the present state. It investigates the activities that women and men play in modern politics-voting, running for office, serving in office, etc., and how women and men perform these activities in different ways. The course also focuses on major areas of public policy that affect women and men in different ways.	Course that includes sustainability	Undergraduate
WGS (PS)	418	Gender Law and Policies	Law and policy pertaining to contemporary gender issues. Examination of agenda setting, policy formation, implementation, judicial interpretation and evaluation of selected issues, such as reproductive policies, equal employment and sexual abuse.	Course that includes sustainability	Undergraduate
WGS/A NT	444	Cross-Cultural Perspectives on Women	Comparison of women in a variety of societies: western and non-western; hunting and gathering to industrialized. Cross-cultural perspective on the similarity and diversity of women's statuses and roles. Effect of gender on social position	Course that includes sustainability	Undergraduate
WGS/R EL	473/573	Religion, Gender, and Reproductive Technologies	Examines comparative religious ethics concerning gender marriage, parenthood, children, and the relationship of human beings to the "natural". Relates these views to new and emerging reproductive and genetic technologies. Compares the internally diverse perspectives of three major religious traditions with regard to their interpretations of these technologies. Analyzes the impact of particular uses of these technologies on the rights of women and girls. Students cannot earn credit for both REL 473 and REL 573.	Course that includes sustainability	Undergraduate
WGS/S OC	304	Women and Men in Society	A sociological analysis of women and men in contemporary American society. Perpetuation of and change in gender stratification using sociological concepts, theories and research. How gender expectations developed and transmitted. Historical data and research on diversity in American society used for analysis of causes and consequences of gender inequality.	Course that includes sustainability	Undergraduate
WPS	723	Forest Biomaterials Chemistry	Chemical reactivity, structure and functional background of forest-derived polymers relative to paper science and biomaterials/bioenergy are covered. An understanding for the relationships between a material's structure and its properties will be developed with respect to applications. Course includes a basics of polymers, biomacromolecules (carbohydrates and lignin), pulping and bleaching chemistry, new technologies and environmental issues	Course that includes sustainability	Graduate

Engineering fundamentals and process technology for the production of biomaterials including paper and bioenergy are covered. These will include heat transfer, chemical kinetics, fluid mechanics, and thermodynamics. Applications include a) process technology for the production of paper b) heat and material balances in a pulping and papermaking c) process technologies for the production of bioenergy d) design of bioreactors e) recovery and purification of products f) gasification and pyrolysis reactions and g) catalytic conversion of syngas.