Sustainability-focused/related Courses

The RU courses included on these pages contain content on the environment and/or sustainability. Please see the academic catalog for more details on these courses. These courses were taken from the RU Environmental Center website's Education page which were compiled during the Spring semester 2009.

Art	English	Mathematics
Biology	Foods and Nutrition	Nursing
Chemistry	Geography	Physics
Communication	Geology	Psychology
Criminal Justice	Interior Design and Fashion	Recreation, Parks, and Tourism
Economics	Management	Sociology

Art

ART 302. Exhibition Fundamentals
We discuss issues such as conservation of works of art and the effective use of supplies and materials for the art museum. The class usually spends a couple of class days restoring a work of art on campus (outside).

Art 427. American Art and Architecture
Students have the option of writing their term papers on buildings which are examples of green/sustainable architecture.

Art 303. Beginning Jewelry & Metalworking

Art 403. Advanced Jewelry & Metalworking

Art 600. Graduate Level Jewelry & Metalworking
Students meet for 2 hours, 2 times a week for the allotted number of weeks in the semester. Almost all of the materials that students use come from the earth. This includes, copper, sterling silver, gold and gemstones. I discuss safety practices for the studio, which includes proper disposal chemicals. I expose students to "green trends in the jewelry industry" through a variety of magazines and library books. I also introduce jewelry made from found objects and from recycled materials/objects. This is a very popular movement in cotemporary jewelry making.

Biology

BIOL 103. Environmental Biology. (4)
An introduction to how the natural world works and of the scientific methods used to study the natural world. Emphasis is on the study of ecology and the process and products of evolution. Applications are made to the importance of biological diversity, and the impact of humans on the natural world and the methods used to understand and ameliorate such impacts.

Explanation: Students are introduced to the topics of natural resource and biodiversity conservation, human population issues, and global climate change in lecture, laboratory exercises, films/documentaries, reading assignments, and class discussion.

Coverage: Length of coverage varies by instructor, but focus of the course is primarily environmental.

BIOL 103. Environmental Biology in Panama. (4)
An introduction to how the natural world works and of the scientific methods used to study the natural world. Emphasis is on the study of ecology and the process and products of evolution. Applications are made to the importance of biological diversity, and the impact of humans on the natural world and the methods used to understand and ameliorate such impacts.

Explanation: This is a study-abroad field course in Panama offered in May. Students are introduced to the topics of ecosystem processes, adaptations of plants and animals to their environment, and natural resource and biodiversity conservation with an emphasis on tropical ecosystems. These topics are explored via field trips (experimental stations, rainforests, coral reefs, zoos, botanical gardens, and aquariums), field research projects, films/documentaries, guest lectures and exercises, internet research, reading assignments, and class discussion.

Coverage: These topics are integrated throughout the course and occupy the bulk of the course work.

BIOL 104. Human Biology. (4)
An introduction to the basic principles of biology, with emphasis on human beings as biological organisms. Humans will be considered as products of evolution, as physiological systems, as reproducing entities, as members of their ecosystem, and as biological engineers able to change other organisms. The nature of scientific investigation will be stressed and current applications to biological technology and its effect on society will be considered.

Explanation: Topics include relationship between plants and humans, impact of agriculture on the environment, human demography and its impact on natural systems. Topics introduced by lecture, discussions, reading assignments, and lab exercises.

Coverage: Length of coverage of environmental topics varies by instructor.

BIOL 131. Ecology and Adaptation. (4)
A study of the distribution, abundance, and diversity of organisms in nature. The laboratory component will teach basic laboratory skills while enhancing students' ability to conduct field sampling, observational studies, and experiments.

Explanation: Students explore environmental issues such as biogeochemical cycles in ecosystems and the impact of human intervention in those processes resulting in environmental degradation, biodiversity loss, and global climate change. Conservation and ecosystem restoration is covered with an emphasis on the significance of biodiversity and the methods used in long-term maintenance and sustainability of ecosystems needed to support this diversity. Lecture, discussions, reading assignments, laboratory exercises, and films/documentaries may be used to examine these topics.

Coverage: Length of coverage of these topics may vary by instructor, but occupies at least one-third of the course.

BIOL 215. Plants and Society. (4)
A study of autotrophic Monerans and Protists, Fungi, and Plants: classification, general structure and function, distribution and ecology,and economic importance.

Explanation: explores the ways plants and plant products (e.g., foods, beverages, herbs & spices, medicinal & recreational drugs, paper, fiber & wood products) have influenced human cultures both historically and today. We investigate plants and plant products by growing and tasting vegetables, herbs, spices, and other plants and exploring tropical and ethnobotanical plant collections in the RU Greenhouse. To provide necessary background for these topics, we discuss basic botanical topics - plant structure, growth, and nutrition; plant breeding and genetic modification; conservation of plant-based resources; and the diversity of organisms traditionally studied by botanists. Course objectives are to increase student awareness and appreciation of the diversity plants and plant products most often used in human societies; (2) to explore the origins and historical and cultural contributions of economically important plants to human societies; and (3) to understand biological and evolutionary reasons why certain plant resources and certain plant groups are useful to humans.

BIOL 216. General Zoology. (4)
Introduces classifi cation, nomenclature, structure, function, development and evolution of the nonphotosynthetic protistans and the major animal phyla.

Explanation: Although this course focuses on the natural history and taxonomy/ natural history of a wide range of organisms, many articles and stories discussing examples from a particular taxon focus on issues of conservation and applied management of that group. Furthermore, weekly student presentations on the particular group often discuss conservation-minded questions, emphasizing the ecological importance of their target group.

Coverage: Sustainability is not the focus of the course, but management and conservation of natural populations touched upon throughout.

BIOL 353/PSYC 353. Comparative Behavior. (3)
Study of animal behavior from viewpoints of zoology, ethology and comparative psychology. Emphasis on review of animal phyla for sensory capacities, motor capabilities and coordinating mechanisms; classification of behavioral traits; analysis of instinctive behavior, learned behavior, social behavior, animal communications and evolutionary significance of social organization.

Explanation: Students are introduced to the application of behavioral studies to conservation through a reading assignment, lecture and a laboratory exercise.

Coverage: Although not the focus of the course, this topic is touched upon in various places throughout the course as applicable , and is the focus of at least one lecture, and one reading assignment.

BIOL 380. Ornithology. (4)
Offered as an integrated lecture and laboratory/
field study emphasizing the evolution, anatomy, physiology, identification, behavior,
and ecology of birds. At least one weekend field trip will be scheduled.

Explanation: Ornithology is based on three main sections. **Evolution**: Major Orders of Birds introduces students to some of the differences, as well as similarities, among some of the major Orders of birds, concentrating on those that inhabit the continental United States. **Anatomy and Physiology**: The Biology of Birds provides an overview of respiration, skeletal and muscular arrangement, flight and feathers, and other basic biological attributes of birds. **Avian Conservation**: This section covers field studies and how to recognize, design, and conduct basic studies that will add to conservation efforts. Included in this section are the political and biological consideration of the US migratory bird refuge system.

BIOL383. Molecular Forensics (4). A survey of how molecular genetic tools are used to investigate forensic and ecological processes in human and natural populations. Specific topics will include methods for studying genetic variation at the protein and DNA levels, quantitative predictions from ecological and evolutionary theory, and application of molecular genetic markers to questions related to individual/population/species identification, gene flow, genetic drift, and non-random mating. Laboratory portion includes a study of Deer diversity using molecular markers (mitochondrial DNA and DNA fingerprinting).

BIOL 390. Conservation Biology. (3)
Examines the importance of biodiversity to the global environment. Students will gain an appreciation of the complexity of biotic communities associated with important ecosystems and will examine man's role in influencing these communities. Current controversies regarding species preservation will be explored through readings and discussion.

Explanation: Students are introduced to the importance of maintaining biodiversity at all levels from genetic to ecosystem. Techniques for monitoring, conserving, and restoring biodiversity are examined via lecture, class exercises, assigned reading, video clips, and class discussion.

Coverage: Conservation of biodiversity is the focus of this course, and fully integrated into every aspect.

BIOL 392. Pollution Biology. (4)
Designed to provide Biology majors with an understanding of important pollution problems facing society, and to provide the student with practical experience in environmental sampling and analysis.

Explanation: Issues stemming from anthropogenic chemical release into the environment are explored, including environmental legislation, methods in toxicology, routes of exposure, ecotoxicology, modes of action/sources/consequences of common pollutants via lectures, class discussion of primary literature, and student-driven independent research projects.

Coverage: Entire course is devoted to the coverage of these topics.

BIOL 423. General Ecology. (4)
An integrated field and laboratory study of living organisms and how they are affected by living and nonliving factors in their environment. Emphasis on the study of natural populations and communities and factors governing their distribution and abundance.

Explanation: Topics include the distribution, diversity, and function of natural populations, communities, ecosystems, and biogeochemical cycles, as well as humanity's impacts upon them, including pollution, biodiversity loss, and climate change. These topics are covered via lecture, laboratory exercises, reading assignments, and class discussion.

Coverage: These topics are integrated into every aspect of the course.

BIOL 464. Vertebrate Zoology. (4)
An introduction to vertebrate zoology including an examination of origin; class characteristics; evolution; and adaptations of body form, locomotion, feeding, protective, spacing, social, reproductive, activity cycles and special adaptations for various types of habitats. Emphasis on collection, preservation and identification of vertebrates.

Explanation: This class focuses on the natural history and taxonomy/classification of vertebrate groups, and class discussions invariably touch upon conservation issues - e.g., how past management of a taxon has affected its stability in today's' environment. Current and future management decisions are discussed in light of anthropogenic alterations to habitat and the future land needs of humans. The laboratory portion of the course focuses on field techniques, which are completed ethically and emphasize that a better understanding of a species in its natural environs leads to improved conservation decisions.

Coverage: Sustainability is not the focus of the course, but management and conservation of natural populations touched upon throughout.

BIOL 476. Field Botany. (4)
An integrated lecture and field/laboratory course focusing on the identification, classification, and evolutionary relationships of vascular plants in the eastern United States, with emphasis on the Virginia flora and field and herbarium techniques.

Explanation: a field-oriented, applied course focusing on biological concepts and skills used by environmental scientists, naturalists, plant ecologists, foresters, and wildlife biologists. Emphasis is on identification and recognition of trees, shrubs, and wildflowers of the southern Appalachians and understanding of ecological factors influencing the distribution and dynamics of plant communities in this region. After successfully completing this course, students should be able to recognize common trees and shrubs of the eastern US by sight, use dichotomous keys to identify native and naturalized woody and herbaceous plant species,

distinguish ecologically important plant families and ecological communities, and implement field sampling and analytical techniques used to study vegetation and associated environmental issues.

BIOL 481. Special Topics in Biology: Tropical Ecology (4)
This is a travel abroad course to the Virgin Islands. During the semester, class meets weekly on campus to discuss tropical habitats and organisms that will likely be encountered during the trip. Over spring break, the class travels to St. John where they stay at the Virgin Islands Environmental Resource Station to explore tropical forests, mangroves, and coral reefs.

Explanation: Topics include the examination of tropical marine ecosystems, marine reserve creation, management, and evaluation, nutrient pollution impacts on coastal ecosystems (seagrass/reef), water and sewage issues, and threats to biota from rampant development. These topics are explored via reading assignments, class discussion, and guest speakers.

Coverage: The focus of the course is on the study of tropical ecosystems. A small portion, 1 class period, and 2 hours of field trip is devoted to ecosystem conservation.

Chemistry

CHEM 215: Environmental Chemistry
A description of the chemistry behind environmental topics and their effect on humans and society. The topics include the ozone layer, urban air quality, global warming, alternative fuels, synthetic organic compounds, water purification, heavy metals, and radioactivity. A third of the course is devoted to reading and discussing current news articles.

Communication

SCOM (MSTD) 204: Introduction to News Reporting
Sometimes contains a module with sustainability information

SCOM (MSTD) 225: Introduction to Public Relations
Corporate social responsibility is a frequent topic. Sustainability is a sub-topic.

SCOM (COMM) 235: Writing for public relations
Corporate social responsibility is a frequent topic.

SCOM (MSTD) 404: Specialized reporting
Sometimes contains a module with sustainability information

SCOM (MSTD) 407: Science and environment writing
Content in this course deals with sustainability and information about it as presented to the public. The web site for the course is http://www.radford.edu/wkovarik/class/science This is the most significant course with respect to sustainability
issues.

SCOM (COMM) 408: Public relations case studies
Corporate social responsibility is a frequent topic.

SCOM (COMM) 411: Public relations media and campaigns
Corporate social responsibility is a frequent topic.

SCOM (COMM)430: Crisis management and communication
Corporate social responsibility is a frequent topic.

SCOM (COMM) 508: Public relations case studies
Corporate social responsibility is a frequent topic.

Criminal Justice

CRJU 380: Rural Crime and Law Enforcement

CRJU 235: Police and Society

CRJU 430: Comparative Criminal Justice Systems

CRJU 676: Environmental Criminology
Steve Owen is developing a course that he hopes to offer next year that covers material pertaining to sustainability.

Economics

ECON 272. Natural Resource Economics. (3) Three hours lecture. *Prerequisite: ECON 106.* Analysis of the development, conservation and preservation of natural systems, mineral and energy resources.

ECON 375. Environmental Economics. (3) Three hours lecture. *Prerequisite: ECON 106 and junior or senior standing.* Examines the nature and significance of threats to the environment, the history of environmental protection in the United States and the forces shaping public policy. Tools of economics analysis used to compare and contrast various legal and market-oriented approaches in dealing with environmental problems and sustainable development.

English

ENGL454: Literature and the Environment
Examines literature concerning the relationship between humans and the environment. Study of landmark non-fictional works of an emerging ecological ethic as well as fictional works that invite an ecocritical approach. They will examine how changing literary interpretations of the land have influenced attitudes toward non-human nature and how cultural values have shaped our definitions of nature, or perceptions of it, and our interactions with the natural world.

Foods and Nutrition

FDSN 204. Basic Food Preparation
Students learn the concepts related to the selection and preparation of standard food products. The purpose of this course is to present to the students information consistent to introductory food preparation methods and ideas, including culinary presentation and technique. Emphasis is placed on acceptable products of standard food products, adapting recipes for modified diets, and utilization of small tools and equipment. Students analyze all recipes prepared using Nutrition Analysis software and work with modified recipes for special dietary needs. The areas discussed are organic foods, use of pesticides in agriculture, genetically

modified foods, food waste, eating lower on the food chain, aquaculture (raising fish commercially) and poor environmental practices in food production. This consists of lectures, perhaps some discussion and test questions.

Geography

GEOG130: Physical Geography
Introduction to the physical geography of the Earth (atmospheric systems, biosphere, and landforms) and their interrelationships among various environmental elements.

GEOG140: Introduction to Environmental Studies
Review of local, national, and international environmental problems, and of the various analytic and policy approaches for resolving such problems. This course introduces students to basic scientific and policy tools for understanding and addressing environmental problems.

GEOG241: Environmental Regulation
Review of pertinent U.S. and international environmental laws and regulations, and of the principle analytic tools that inform the creation and enforcement of such laws and regulations.

GEOG335: Biogeography
Study of the processes influencing the distribution patterns of terrestrial organisms. Introduction to applied biogeography.

GEOG336: Human Ecology
Investigation of ways in which humans interact with the Earth's other species. Focus is on the modification of natural ecosystems and organisms from pre-history to the 21rst century, including the domestication of plants and animals, dispersal of wild and domestic species, and the development of human-dominated agricultural and urban ecosystems. Some field work is expected.

GEOG340: International Environmental Problems
Overview of international environmental problems, climate change, energy use, deforestation, loss of biodiversity, poverty and trade, population growth, industrial policy. Discussion of appropriate U.S. and international policy response.

GEOG361: Public Lands
Presents an overview of the nation's major public lands systems. It covers history of the federal lands, legal and institutional framework, and planning and management concepts and processes such as environmental impact analysis. Current policy issues will be examined from several perspectives.

GEOG362: Geography of Rivers
An overview of the physical, ecological, social, and regulatory aspects of river systems. This is an issues-related course but with a foundation of basic understanding of rivers as physical and ecological systems.

GEOG492: Land Use
Study of the concepts and perception of land use. Course stresses compatibility of geoecologic systems and land use.

GEOG493: Planning Techniques

Study of issues involved in comprehensive planning of communities and lands beyond urban realms. Emphasis on discussion of major planning concerns; particular attention paid to nature of rural problems and directions in future.

Geology

GEOL 100: Earth Resources and Natural Hazards
The first half of the semester covers population growth statistics in conjunction with the origins and consumption of natural resources, including mineral resources, energy resources, and water resources. Sustainability concepts are outlined in an early chapter and then related specifically to each type of resource covered in subsequent chapters. The second half of the semester deals with natural hazards, including floods, droughts, hurricanes, earthquakes, volcanic eruptions, landslides, and more. The role of population growth in increasing the impact of natural hazards on sustainability is covered. The issues are addressed through textbook reading assignments, classroom lectures and discussions, online readings and quizzes, online blogs and discussions, and online videos and worksheets.

GEOL105: Exploring the Earth
Develops understanding of physical aspects of the science of geology, including study of the earth's materials, processes and structure.

GEOL360: Geomorphology
Introduction to surcial processes and landforms. Fluvial, eolian, glacial, karst and coastal zone processes analyzed. Map and air photo interpretation included.

GEOL365: Oceanography
Introduction to the physical, chemical, geological, and biological processes in the marine environment and their interaction. Includes analysis of topical issues such as global climate and sea level changes, mineral and energy resources from the sea, marine pollution, and law of the sea.

GEOL455 - Principles of Engineering Geology
A study of the application of geologic principles and data collection techniques to the evaluation of design and construction problems relating to engineering projects including dams, highways, landfills, tunnels and reservoirs, including an overview of availability and suitability of soil and rock as construction materials.

GEOL474 - Hydrogeology
A qualitative and quantitative study of groundwater availability and movement, and the development of groundwater as a resource. Included will be pertinent geologic and engineering aspects of groundwater flow and the effect of man on the groundwater regime. Laboratory includes a field investigation.

Interior Design and Fashion

DSNF 233 Meaning of Dress
One chapter of the textbook covers corporate social responsibility and includes environmental practices of textile companies and manufacturers. Lecture also incorporates green textiles and green companies. Covers 2 class periods (1 hour 15 minutes each).

DSNI 220 Drafting II
Mention the framework of sustainability including principles, planning, and resources as it relates to site planning…with some emphasis on the planning leg. This takes about half of a 1 hour 15 minute class period.

DSNI 230 Materials, Finishes, & Textiles I
Sustainability is introduced in this course through lecture, lab, and a special project. At the beginning of the semester, lecture topics introduce the interior design student to the concepts of green design, life cycle analysis, renewable, reusable, and recyclable as they relate to the acquisition, manufacturer, use, and disposal of interior materials. In lab, students are required to research a specific green product and collect product literature and a sample for inclusion in the green products area of our materials library. A special project, the Green Journal, is a semester long project and worth a substantial portion of the grade for the course. The journal itself is constructed by hand from recycled product and journal entries are varied. Subject matter may include sketches, written words, photographs, clippings from magazines, and material, finish or textile samples.

DSNI 235 Materials and Finishes II
Sustainability and green design are coved in this course with lectures, reading assignments, and class exercises. These issues are covered through specification, selection and use of recycled and renewable materials and finishes in interior environments. There are two class lectures (50 minutes each) where sustainability and green design are coved and then it continues to be a topic that is reinforced throughout the rest of the semester in projects and assignments. Students in this course are also responsible for ordering and maintaining the green products and samples available in the resource room.

DSNI 300 Junior Studio I
Sustainability is incorporated into the course through the development of project solutions. OFF GRID a design project asking students to use 3 steel box car containers for a residential retreat and the solutions need to be as "off grid" and sustainable as possible without compromising aesthetics, comfort or function.
Issues are addressed through: Speakers, Field trip to the Green Building Expo, Student research, Lectures. One third of the term was devoted to this project and its various stages.

DSNI 305 Junior Studio II
A client has asked the studio to design 35,000 square feet of space and to meet LEED_CI status. Students act in teams to gather pertinent data relative to that requirement and will write a report indicating the typical design solutions that will fit this criteria.
Issues are addressed through: Speakers, Field trip to site, Student research and team develop documentation, Lectures. This term will have 3 projects, but this one runs through the entire term.

DSNI 340 Lighting for Interiors
Cover quite broadly electrical production and transmission, then electrical production as it relates to lighting, and environmental impact of the various ways that electricity is produced and transmitted, and students do a paper on some environmental issue concerning electrical production/transmission/use. Lecture covers 2 class periods (1 hour 15 minutes each)

DSNI 355 History of Interiors II
Sustainability and green design are covered in this course by lecture. We cover the evolution of these issues throughout history and the impact it has on design today.
There are approximately two class lectures (1 hour and 20 min each) if condensed, that would cover these topics, but it is disbursed throughout the entire semester according to what time period we are discussing.

DSN 400 Sustainable Healthcare
In this special topics class, we focus on healthcare design and examine the ethical issues involved in caring for individuals who are in need and how this care impacts the natural world. Sustainability is covered in lectures, readings (course packet and book), discussion, site visits, ethical scenarios, and guest lecturers throughout the entire semester (2-credit hour class that met M and W for 50 minutes).

DSNI 405 Senior Studio II
The students design a comprehensive healthcare project that must be sustainable. The students gather information relevant to the project archetype and apply sustainable design principles. The topic of sustainability is weaved throughout the semester in application form as it applies to all phases of the design process (e.g., information gathering to conceptual design to construction drawings and specifications) (3-credit studio that meets T and TH for 3 hours on each day).

DSNI 465 Design Theory and Research II
In this class, students examine the current theory and research in interior design relevant to corporate, retail, hospitality, residential, and institutional environments. As part of this examination, students become familiar with how each specialty area in design is incorporating sustainability. Sustainability is covered through lecture and discussion and comprises approximately 10 to 20 minutes for 5 lecture periods.

DSNI 490 Professional Procedures and Ethics
A few brief discussions will be made as to the importance of "Green" design and the impact on our work and home environments.

DSNM 420 Design Products & Services
Sustainability is covered via lecture and addresses the effects on the environment from materials gathering, production, consumption (including light pollution), and disposal of home furnishing products. Sustainable options are provided to arrest current methods.
Sustainability is an integral component in the home furnishing chapters. The coverage of these chapters consume approximately six weeks of the semester.

DSNM 443 Economics of Design
One chapter of the textbook covers Ethics and Social Responsibility. Information on green sustainability is covered in one 50 minute lecture.

Management

MGNT 428. Business Policy and Strategy. (3)
Three hours lecture. *Prerequisite: FINC 331, MGNT 357, MKTG340 and senior standing.* A capstone course focusing on how organizations achieve sustained success in a competitive global economy. Functional skills acquired in other business classes are integrated in making ethical strategic decisions and applying them to competitive positioning. A business core requirement.

MGNT 460. Contemporary Issues in Management. (3)
Three hour seminar. *Prerequisite: Senior standing and MGNT 322, or permission of instructor.* Contemporary

issues organizations face with emphasis on the professional conduct of business in a dynamic environment. Special topics may include business ethics, social responsibility, public affairs, competitiveness, community relations, labor relations, issues management or environmental management.

MGNT 685. Strategic Management. (3)
Three hours lecture. *Prerequisites: MBA status or permission of the instructor, ACTG 611, FINC 631, MGMT 624, MKTG 641.* Integrates graduate business courses in a top level strategy development course. Emphasis on environmental analysis and decision making. A capstone course; must be taken during or after the term in which the last required MBA course is taken.

Mathematics

MATH 312: Math for Social Analysis
Math 312 students learn mathematics in interdisciplinary and social contexts encouraging critical analysis and exploration of the world and connections between mathematics and students' lives outside of school. The largest curriculum unit is centered on environmentalism, where students learn about and mathematize issues such as global warming, mountaintop removal in Appalachia, rainforest depletion, water conservation, and endangered species. Class activities and projects, participation in a National Teach-In on climate change, reading assignments, guest speakers, and movies/video clips have all been incorporated in the class to help students learn mathematics, deepen their understandings of these issues, and learn ways to become part of positive change.
Coverage: Approximately 3-4 full weeks per semester

Nursing

NURS 111. Personal Health
Emphasizes current health issues most applicable to college-age population. Students exposed to information and strategies used to deal effectively with life adjustment problems and to promote healthful living habits. Environmental threats to personal health are analyzed.

NURS 321. Pathophysiology
Major pathophysiologic concepts are explored. Theories relating etiology, pathogenesis, and clinical manifestations are used to study common disease processes. Concepts from anatomy and physiology provide the foundation for exploring human dysfunction. Concepts learned in this course are basic to the health professions. This course is open to all students. As we discuss the different diseases processes in pathophysiology included are environmental issues that relate to causes of diseases/or risk factors for that disease. We discuss prevention measures and general well-being that assists individuals in preventing disease. I use lecture, power point, class discussion, class presentations and a written paper.

NURS 352. Mental Health Nursing
Development of nursing knowledge and skill for mental health promotion, protection, and restoration. How the environment can affect cognitive processing, mental status, and pschopharmacology is addressed.

NURS 451. Community Health Nursing
Focuses on client/environment interactions incorporating clinical experiences with diverse populations in a variety of community settings and with individuals, families, aggregates, and communities. Issues discussed to provide a safe and healthy environment include health policy, regulatory processes (OSHA, CDC), methods/tools for data collection/analysis, injury registries/ergonomics, and program planning. Additionally,

content to support community-level change, such as impacting environmental change, includes comprehensive health planning/Healthy People, identify assets and gaps in service structure, health status indicators, effectiveness of interventions, and accessibility and quality of individual and population-wide health services, effective use of the media, public awareness/marketing campaigns, mobilizing the community for action, and ethical issues of social justice and individual versus aggregate rights.

NURS 453. Leadership in Nursing
Focuses on the major leadership and professional development skills necessary for professional practice including leadership style, management and leadership theories, change, quality management, fiscal and economic issues, personnel management, legal and ethical issues, healthcare organizations and policy, professionalism, personal nursing philosophy, political action, career development, and historical influences on nursing today. An example of an environmental impact issue is one of proper disposal of hazardous hospital and health care materials.

NURS 628. Advanced Pathophysiology
This course is designed for the study of physiological alterations underlying disease entities and relating knowledge to interpret changes in normal function that result in symptoms indicative of illness. Students will examine current research in pathophysiology. The course provides the student with an essential theoretical basis for advanced nursing practice. Each system covered, particularly respiratory, cardiac, GI, endocrine, neoplasia, and neuro, the issue of environmental exposures is addressed as possibly impacting the pathological changes in the system.

NURS 633. Advanced Nursing Practice in Rural Families and Communities
This course will focus on the advanced practice nurse's role in health promotion and illness prevention through understanding family dynamics (in the community), applying principles of epidemiology and community assessment for families and aggregates in rural communities. An epidemiological approach is employed to examine the effects of the environment on the health status and outcomes of rural residents. Issues such as Mountaintop Removal are analyzed.

NURS637. Advanced Family Nursing IV: Chronic Illness Across the Lifespan
This course is designed to prepare the student to practice advanced nursing skills with rural and urban community based clients and families experiencing chronic conditions. Emphasis is on analyzing, synthesizing, and applying current family and health care theories, research, and practice related to individuals and families across the lifespan. The focus includes wellness promotion, health protection, management and maintenance of chronic conditions, restoration and rehabilitation, coordination of services, collaborative care with other providers, and appropriate referral. In discussing the management of illness, management/elimination of environmental exposures is discussed. In particularly with respiratory diseases such as COPD, asthma and lung CA. These are also incorporated into discussions of migraine and other neuro disorders, and integumentary disorders.

Physics

PHYS(PHSC)301: Meteorology

Basic principles of meteorology, including earth's atmosphere, insulation, humidity, adiabatic processes, large-scale circulation of the atmosphere, mid-altitude weather, violent weather phenomena, and climatology.

PHSC 431: Energy and the Environment

Psychology

PSYC347: Environmental Psychology
Covers topics related to the interrelationship between human behavior and experience and the built and natural environment.

Recreation, Parks, and Tourism

RCPT 230 Introduction to Outdoor Recreation
The principles of deep ecology (e.g., The impact of humans in the world is excessive and rapidly getting worse; The diversity of life, including cultures, can flourish only with reduced human impact) are discussed as part of a lecture on the state of the world. We spend approximately half a class period (about 30 minutes) discussing the principles as well as comparing dominate worldviews and deep ecology (e.g., dominance over nature vs. harmony with nature; belief in ample resource reserves vs. earth "supplies" are limited; consumerism vs. doing with enough/recycling; national/centralized communities vs. minority traditions/bioregions).

RCPT 317 Adventure Programming
This course covers the leadership of adventure-based sports. Students are required to teach environmental ethics and practices associated with rock climbing, various paddle sports, and caving. Lessons occur each 3-hour class period for approximately 20 minutes. Students are also required to research and write a paper on a natural resource management topics related to adventure sports.

RCPT 331 Outdoor Living Skills
This class covers the leadership of outdoor living skills in the context of backpacking. Students learn and practice Leave No Trace Ethics on two different weekend backpacking trips. Leave No Trace is a national program to educate recreational users of our public lands. Each student also conducts a 50-minute class presentation on one the Leave No Trace principles. Students receive the national Leave No Trace Trainer certification at course completion.

RCPT 431 – Managing Travel Resources
The theme of sustainability is woven throughout this class on tourism. Students are introduced to sustainable tourism, including (1) cultural, (2) economic, and (3) environmental impacts. Sustainability is explained through lecture, readings and field trips. Each of the three topics has a 3-hour focus, with the concepts being re-iterated throughout the semester.

RCPT 476 – Wilderness Institute
This is a 28-day wilderness leadership expedition taught during summer session one. Students are taught and practice Leave No Trace Ethics throughout the 28-day field experience. Formal classes are taught in the areas of environmental ethics and land management issues. Approximately sixteen hours are formally spent on these topics. Students receive the national Leave No Trace certification at course completion and the Wilderness Education Association Leadership certificate.

Sociology

SOCY 110. Introduction to Sociology. (3)
Three hours lecture. Introduces basic concepts and methods of sociology. It presents significant research and theory in areas such as culture, social structure, socialization, deviance, social stratification and social institutions.

Explanation: In many sections of introduction to sociology, there is a chapter or a module that covers environment, sustainability, and/or population growth. This varies by instructor and textbook.

SOCY 110. Introduction to Sociology – Honors (Spring 2009, Dr. Corroto)
"The Architecture of Sociology: An interdisciplinary approach."
Explanation: The course applies an interdisciplinary approach to understanding Sociology through an examination of the built environment. Students will see how power relations are negotiated through the design of housing, strip plazas, and office parks and how great buildings may serve to unify a society. Architecture and design are the media through which sociology is introduced. The course includes environmental topics such as "green concepts and sustainability.

SOCY 210. Social Problems. (3)
Three hours lecture. *Prerequisite: SOCY 110.*
An analysis of problems such as crime and delinquency, overpopulation, social inequality and poverty and minority oppression is the focus of this course.
Explanation: Course covers issues related to environment and sustainability including population growth, globalization, and environmental justice. Amount of coverage and topics vary by instructor.

SOCY 301. Culture Change and Globalization
Three hours lecture. Prerequisite: ANTH 121. Examination of anthropological theories on processes of culture change, including globalization and the changes it brings to societies around the world.
Explanation: While this class covers all types of culture change, a substantial amount of the class covers culture change situations that clearly demonstrate the delicate balance between humans and their environments. This includes the ways in past and present that human cultures produce environmental change, and the ways that environmental change can produce culture change. Students research the 21st century impacts of natural disasters, logging and deforestation, damming, and various forms of mining on cultures around the world, as well as other current-event topics that demonstrate the changing relationships between humans and the environment in an era of rapid globalization.

SOCY 341. Sociology of Health and Medicine. (3)
Three hours lecture. *Prerequisite: SOCY 110.* Covers the health professional-patient relationship, relationships between health professionals, the nature of care in different health facilities, social and environmental causes of illness, death and dying, and the general quality of health care and delivery in American society.
Explanation: Course includes environmental topics such as toxic waste, environmental justice, and environmental racism.

SOCY 370. Environmental Sociology. (3)
Three hours lecture. *Prerequisites: SOCY 110 and junior or senior standing.* Examines sociological issues relating to individuals, society and the natural environment. It focuses on a range of environmental problems utilizing an historical and comparative approach in assessing societal changes and their impact on nature as well as attitudinal differences toward the environment from multicultural perspectives.
Explanation: This class covers all aspects of environmental sociology including, but not limited to, environmental attitudes and behaviors, social impacts of climate change, energy and society, population, sustainability, resource management, and environmentalism. 100% of the course is devoted to environmental and/or sustainability issues.

SOCY 411. Appalachian Cultures
Three hours lecture. Prerequisites: ANTH 121 or APST 200 or SOCY 110 or permission of the instructor.

Contemporary Appalachian culture; anthropological explanations of regional culture explored; causes and repercussions of culture change in Appalachia examined.
Explanation: A section of the course syllabus focuses on cultural attachment to land. This includes readings and discussion of environmental issues such as mountaintop removal coal mining, coal-fired power plants, and electricity grid power lines. Class projects often focus on these issues, and have created student-faculty research teams whose findings have been used in expert testimony in State Corporation Commission hearings. Up to half of the readings and about 26% of class time is devoted to these topics.

SOCY 433. Rural Sociology. (3)
Three hours lecture. *Prerequisite: SOCY 110.* The study of rural society including its organization, rural people and their activities. The focus is on historical background, recent developments and significant current and future trends.
Explanation: Given the intimate relationship among rural areas, rural economy, and land use, about 50% of this course directly relates to environmental issues including agriculture, resource extraction, population, and sustainability.

SOCY 441. Global Inequalities. (3)
Three hours lecture. *Prerequisites: SOCY 110, SOCY 250 or junior/senior standing with permission of instructor.* Focuses on the social, economic, and political factors that shape unequal life chances between and within nations. Theories of development, the role of developed nations, evidence of various types of inequalities, and possible ways to address the global inequalities – including specific projects that have been successful – will be examined. The role of international treaties, of various international and multinational commissions, and of non-governmental agencies will be given particular attention. This course may be used to meet requirements for the minor in Women's Studies.
Explanation: Course includes chapter on environment and sustainability in the context of globalization.

SOCY 471. Economic and Environmental Anthropology
Three hours lecture. Prerequisite: ANTH 121 or permission of the instructor. Examination of anthropological theories on economic organization and behavior, and related environmental issues, for societies around the world. Cross-cultural study of economic diversity using cases from the anthropological and archaeological literature.
Explanation: This course focuses on people's survival strategies and socio-economic adaptations to their environments. It takes the ecosystems approach known as Cultural Ecology, examining both the ways environment shapes culture, and the ways culture impacts the environment, with case examples from around the world, spanning past, present, and future times. The first part of the semester, we explore people's adaptations to land and natural resources, and the different survival strategies that people have fashioned over time including hunting and gathering, pastoralism, horticulture, agriculture, and industrial strategies. The second half of the semester, we examine present and future economic-environmental issues at the local, regional, and global levels. Students select a current environmental problem-oriented issue and research its impact on world cultures in depth for their final exam paper.