

AC 1 COURSE INVENTORY:

Sustainability courses offered:

ART 254. *Sculpture and the Environment*

Credits: 4. Sculpture with an emphasis on ecology. Construction processes include wood, metal and natural materials in outdoor and indoor projects. Readings on Eco Art. Prerequisite: ART 106 or instructor permission. Fulfills arts and social justice/environmental responsibility requirements.

BIOL 212. *Environmental Science*

Credits: 4. Study of the structure and function of ecosystems with reference to energy flow, nutrient cycling, population growth and regulation, and community organization and dynamics. Particular emphasis on the relationship between humans and the environment. Fulfills natural science and mathematics and social justice/ environmental responsibility requirements.

BIOL 438. *General Ecology*

Credits: 4. Basic ecological principles governing the structure and function of populations, communities and ecosystems. Study how these are being affected by human activity and how the implementation of environmentally sustainable practices could mitigate the impact of these human activities.

CHEM 105. *Chemistry of Recycling*

Credits: 4. This course uses basic chemistry to explore the science behind recycling, as well as the context for recycling and the political and economic realities of treating and using recycled materials. Three hours lecture and three hours lab per week. Does not count towards the chemistry major or minor. Prerequisite: satisfaction of quantitative literacy requirement. Fulfills natural science and mathematics and social justice/ environmental responsibility requirements.

ECON 344. *Environmental and Resource Economics*

Credits: 4. Is economic growth necessary to provide the prosperity needed to pay for environmental restoration or does such growth create environmental problems we can never undo? The course uses economic theory, ecological concepts and systems approaches to examine current management practices of our renewable and nonrenewable resources. Prerequisite: ECON 222 or consent of the instructor. Fulfills social justice/environmental responsibility requirement. Alternate years.

ENVS 101. *Intro to Environmental Studies*

Credits: 4. An introductory course to the interdisciplinary approach as it relates to environmental studies. Intended to introduce students to a broad array of environmental issues and conflicts; case study, problem-solving approach. Fulfills social justice/environmental responsibility requirement.

ENVS 110. *Practicum in Sustainable Agriculture*

Credits: 1 This course develops skills and knowledge in sustainable agriculture through practical experience on the Guilford College Farm or partner sites abroad. The heart of the course is a weekly 3 hour work day on the College Farm. During the work time, we'll also discuss the week's readings, and students will reflect and write on their experiences in a weekly journal. This course can be taken multiple times, for up to 4 credits total, and it is a prerequisite for the upper level ENVS 310 Advanced Practicum in sustainable Agriculture.

ENVS 310. *Advanced Practicum in Sustainable Agriculture*

Credits: 1-4. This course builds on ENVS 110 to further develop skills and knowledge through practical experience on the Guilford College Farm or partner sites abroad and advanced readings in sustainable agriculture. Students will work independently on projects determined by their interests and the needs of the farm. For instance, students might be responsible for marketing, harvesting, maintenance, crop weather protection, conducting specific experiments, or developing new markets or crops. This course can be taken multiple times, for up to 4 credits. Requires experience, commitment, and attention to detail. Prerequisites: ENVS 110 and instructor's permission.

ENVS 330/GEOL 230. *Environmental Pollution*

Credits: 4. This course examines the impacts of human culture and activity on the quality of air, water and soil with a focus on sources of contamination and the fate of pollutants in the environment. Laboratory focuses on experimental work and field studies that introduce students to the scientific investigation of environmental problems. Fulfills natural science and mathematics and social justice/environmental responsibility requirements. Generally alternate years.

FYS 101: *Sustainable Communities*

Credits: This course explores community-based solutions to some of the most pressing social and environmental crises of our day. Our consumerist society, addicted to petroleum, is unsustainable. We need swift, collective action and positive social change from the ground up. Recycling and changing light bulbs will not be enough. After a brief introduction to the concepts of sustainability and resilience, we will learn about some of the big problems confronting human beings in the twenty-first century, including climate change, resource depletion, consumerism, population growth, sprawl, water scarcity, and waste. Next we will consider ways to relocalize our culture and economy in order to build communities that are more resilient and self-sufficient. Finally, we will develop a plan for a sustainable community that addresses food, transportation, construction, education, health care, and business. Our aim will be to find practical, local ways to restore balance to humanity and heal the planet. All semester long our work will be interdisciplinary, drawing on environmental studies, urban planning, economics, political science, sociology, anthropology, and psychology.

FYS 101. *Addicted to Energy*

Credits: . In this course, we will explore the nature of "energy" and its crucial role in today's society. We are encouraged to save energy, we have energy bills, and we have a Department of Energy in our government. Yet the exact nature of energy is poorly understood by most people. We will define energy clearly and study how it works. We will examine the sources of energy and how they are used in the US as well as other countries. The central question of this course is: "Why is it so difficult to wean ourselves off the addiction to fossil fuels as a source of energy?" To that end, we will study in detail the processes by which energy is extracted from nature: the chemistry of fossil fuels as well as the physics of nuclear and solar power. We will examine many of the "alternative" and "renewable" energy sources to determine their function and feasibility.

FYS 101. *Sustainable Living: Not Just Green, but the Whole Rainbow*

Through books, films, and personal experiences, we will explore what it means to live in a sustainable and just manner in our contemporary world. We will examine the concept of "sustainability" and consider its application for our personal lives, our communities, and our global environment. We will investigate how we are facing a future of environmental crisis while we are hobbled by a divisive legacy of racism and white privilege. Drawing upon a variety of disciplines, including economics, psychology, philosophy, and ecology, we will examine and discuss both sets of problems. We will explore the roles that personal (ir)responsibility

and human nature may play in creating these problems as well as the social structures that discourage well-intentioned behaviors. Lastly, we will learn how different individuals, businesses, communities, and organizations can serve as guides to more sustainable ways of living in which we restore social justice and mitigate further environmental damage. Throughout this course, we will explore the following Quaker testimonies: truth seeking, peace, simplicity, equality, and integrity.

Geol 223. *Hydrology*

Credits: 4. This course is focused on the dynamic nature of the water cycle, and includes investigations on human reliance and impacts upon this vital resource. Course content will include investigation of both surface and groundwater systems, including flow dynamics, precipitation, surface runoff, stream restoration, streamflow monitoring and data analysis, ground water geology, and basic well design. Laboratory included. Prerequisite: GEOL 121 or instructor permission and an understanding of algebra. Alternate years.

IDS 437. *Barrier Islands: Ecology & Development*

Credits: 4. Focuses on coastal processes (the science of wind and waves, tides and currents), coastal habitats (from the high-energy beach to the salt marsh), and coastal problems (caused when humans attempt to control natural coastal processes in order to live on a fragile island) as seen on the barrier islands of North Carolina. The course includes a required field trip to the North Carolina coast. Prerequisites: Minimum 88 semester credits earned and completion of Historical Perspectives requirement. Fulfill interdisciplinary studies (IDS 400) and social justice & environmental studies requirements.

IDS 428. *Agricultural revolutions*

Credits: 4. This course explores the social, political, cultural, and environmental dimensions of agriculture in the United States and globally. We will study the first agricultural revolution (the original emergence of agriculture twelve thousand years ago), the industrialization of agriculture, and 21st century social movements that promote organic, sustainable, or local agriculture, including peasant and food sovereignty movements. The course integrates anthropology, sociology, history, environmental studies, and literary studies. Students will conduct field research on local farming, farmers' markets, or agricultural activism. Prerequisites: Minimum 88 semester credits earned and completion of Historical Perspectives requirement.

IDS 472. *Environmental Planning*

Credits: 4. This course is designed to give students the opportunity to apply interdisciplinary methods and tools to assess the current status of environmentally sensitive areas; to protect natural resources, ecosystems and watersheds; and to study the management and preservation of existing green spaces. Students will also investigate current designs for the development of more sustainable communities, including urban planning strategies that relate to preservation and restoration of the environment. This course will integrate discussion of the scientific concepts that underlie environmental planning decisions, as well as local and federal policies relevant to planning issues. Students interested in closely related fields are encouraged toward in-depth study in these areas, including other scientific disciplines, economics, cultural impacts, policy and law, etc. The course will include a large, applied project that will give students the opportunity to integrate and apply their disciplinary expertise to a complex environmental issue.

IDS 482. *Ecofeminism and Environmental Justice*

Credits: 4. Examines the contributions of religion to the environmental movement and the way in which the current environmental crisis and the movement responding to this crisis are reshaping religion. Prerequisites: senior status, Historical perspectives and at least one course in women's studies, religious studies, environmental studies, or African American, Native American, Pacific Islander/Asian-American or Latino/a studies.

PSCI 319. *Modern Environmental Problems*

Credits: 4. Examines the complex emergence of the American environmental movement as a response to the historical, political and socio-economic patterns following World War II. Students will analyze environmental policies in response to specific and varied problems such as pollution, species protection, urban sprawl and management of national parks. Fulfills social justice/environmental responsibility requirement.

PHIL 242. *Environmental Ethics*

Credits: 4. Exploration of environmental topics from several theoretical, cultural and religious perspectives. Questions include: What are our responsibilities to the environment? To what extent are these responsibilities affected by the interests of other persons or groups? What is the source of these responsibilities and to whom are we obligated?

SOAN 225. *Culture and the Environment*

Credits: 4. Introduces environmental anthropology and examines human-environment relations and the social construction of nature in cross-cultural perspective. Explores traditional environmental knowledge and the relationship between indigenous peoples and environmentalism. Fulfills social justice/environmental responsibility requirement.

Courses offered that include sustainability:

BIOL 112. *Integrative Biology: Organisms, Ecology, and Evolution*

Credits: 4. Introduces the principles and concepts of the animal and plant kingdoms, including protists and fungi. Emphases include evolution, taxonomy, ecosystems, communities, population and population changes, development, anatomy, physiology, genetics, organs, and organ systems. Discusses how human influence and climate change affect ecosystems, communities, population changes, as well as individual species. Fulfills natural science and mathematics requirement.

BIOL 151. *HP: Evolution: Galapagos Islands- An Historical Perspective*

Credits: 4. An examination of the views of species origins prior to Darwin, Darwin's theories and those of his contemporaries and the history of evolutionary theory in modern times. One of the weekly class periods will be used to give students practical experience in the methods of evolutionary study, such as techniques for determining protein all types, and examining species relationships through DNA analysis. Also examined invasive species, tourism, and urban development in the Galapagos Islands and how this has impacted the unique and sensitive ecosystems of the islands.

BIOL 332. *Invertebrate Zoology*

Credits: 4. Advanced study of invertebrate phyla with emphasis on taxonomy, physiology and ecology of the several groups. Study case studies of how pollution and climate change affect populations of invertebrates such as sponges, molluscs, and insects and subsequently their ecosystems.

BIOL 334. *Animal Behavior*

Credits: 4. The zoological approach to the study of animal behavior (ethology), behavioral ecology, types of social organization and communication in animals, and the evolution of behavior in selected species. The laboratory section of the course will provide opportunities for students to observe and record the behavior of

a variety of animals. Students will conduct individual research projects at the North Carolina Zoo. Individual research projects often include studies of how human activities such as mining are impacting select populations and their behavior.

BIOL 336. *Ornithology*

Credits: 4. In-depth study of evolution, anatomy, physiology, ecology and behavior of birds as unique vertebrates adapted for flight. In all parts of the course, the underlying theme of birds as unique vertebrates adapted for flight will be emphasized, and we will examine how flight as a primary means of locomotion has imposed certain limitations and permitted the expression of other rather remarkable characteristics of birds. We will also use the current literature to examine the role of birds as model organisms for research in many areas of modern biology. Finally, we will explore numerous examples of threats to the survival of bird populations, and current efforts underway to identify and prevent those threats. Laboratory involves extensive field work in identification of birds in various habitats.

BUS 215. *Business Law and Environment*

Credits: 4. Survey of the U.S. legal environment and legal concepts relevant to the operations of the business system including topics of court systems and procedures, ethics, torts, intellectual property, contracts, agency, sales, products liability, environmental, international, employment, business organizations, and criminal law. Fulfills business and policy studies and social justice/environmental responsibility requirements.

ENGL 151- *HP:Lit and Hist of Key West*

Our aim in the course will be to understand the development of Key West, the southernmost point in the Continental United States, as a city and island from its Cuban and Native American roots to its literary presence in the Great Depression and its rich environmentalist heritage. This course is designed to connect the Confederate ghosts of Key West to the immigrants from neighboring isles to the nonnative writers so infatuated with its stereotypical paradisiacal climate. Ernest Hemingway, Tennessee Williams, Elizabeth Bishop, and Wallace Stevens are just a few of the literary elite to keep house and leave legacy on the island, creating their most critically acclaimed works.

ENGL 228. *American Nature Writing (REL 120)*

Credits: 4. Examines literary nature writing in America from the 19th century to the present, with a primary focus on the different ways writers have presented the natural world as sacred. Writings consider both individuals' current estrangement from the natural world and possibilities for developing intimacy with the earth through a deep sense of "place."

FYS. 101. *Reflecting Nature*

Credits: 4 The course intends to help you see the many ways in which to approach the idea and reality of nature, of particular natural places, and of yourself in and as nature in a particular place. The readings, assignments, and experiences should help you to gain a broad understanding of the subject matter from a variety of points of view. This course is, by design, *interdisciplinary*. If you will bear with the photo teacher using a photo metaphor, we will use different lenses to observe, learn about, and create from a single subject, a single BIG IDEA (Nature) and to develop our sense that we do so in a particular place, The Cape Fear River Basin.

FYS 101. *The Power of Place*

Studying researchers and theorists across multiple disciplines and their ideas on the relationship between our thoughts, behaviors, emotions, and the places with which we interact. The course explores this

person-place relationship across five different topics: 1) peak performance; 2) natural places; 3) indoor environments; 4) virtual reality; and 5) addiction. The course content will be interdisciplinary. The class considers each topic using two or more disciplines, including but not limited to psychology, sports studies, environmental science, neuroscience, and evolutionary biology. In this way, you will learn that there are multiple ways to approach any one topic.

FYS 101. *In The Elements of Technology*

Focuses first on what technology can and should do. What are the devices, apps, and other tools that are worth using and how do we make them work? How can we use these tools in our learning, both in this class and in the rest of our education? What tools cause more trouble than they're worth? And what might the technological future look like, both good and bad? We'll then look at where this technology comes from. Why, for example, has the chemical element tantalum been called "the most important element you've never heard of?" How does the manufacture of your phone, tablet, or computer start in mines and continue in factories thousands of miles away that build and assemble components as big as batteries and as small as the device that makes your phone vibrate, and result in something that you use every single day? What are the social, environmental, and political consequences (some beneficial, some detrimental) for the countries and people involved in the mining of the elements and the manufacture and use of all the devices we rely on so heavily?

Geol 121. *Geology and the environment*

Credits: 4. First-hand introduction to the materials the Earth is made of, as well as the forces that shape the Earth, and interactions between human activities and the environment. Many of the labs are done in the field. Fulfills natural science and mathematics and social justice/environmental responsibility requirements. Offered yearly in fall.

Geol 122. *Historical Geology*

Credits: 4. Historical account of discovery of geologic time and development of the theory of evolution; origin and development of the earth; geologic history of North America—both life and lands. Emphasis in laboratory on interpretation of earth history and use of the Quaker Quadrangle. The meaning of time, the origin and evolution of life, the growth and destruction of mountain ranges, the motions, rifts, and collisions of continents, and the beginnings of human life are all fair game. Our only record of these topics is the rocks of the Earth, some of them billions of years old. We will learn how to inspect and interpret this record and to apply these skills to studying the history of our planet. We will also develop an understanding of how scientific knowledge is generated and of the particular difficulties of geologic study and research. Geology, and especially historical geology, explores the development of Earth on superhuman scales of time and space, only rarely allowing for testing of ideas in the laboratory. Above all, the course should give perspective to human life and culture. Understanding the planet's processes and our place in its history provides a clearer view of the time and place in which we live. This perspective will also influence how we think about ourselves, those around us, and about the meaning of life itself.

Geol 190. *Terroir: The science of Wine*

Credits: 4. An interdisciplinary look at the science behind wine. The course will investigate the geology and geography of the major wine-growing areas of the world, and see how climate, culture and geology play a role in what grapes flourish where. Students will also learn the basics of sensory evaluation of wines. Enrollment limited to students over age 21. Must provide proof of age and sign a waiver. This course is not accepted as an elective for the A.B. or the B.S. in geology, or for the minor in earth sciences. Fulfills natural science and mathematics requirement.

Geol 340. *Images of the Earth: GIS and Remote Sensing.*

Focuses on various ways to classify, represent and visualize the Earth's surface. Interpretation, creation and use of maps, aerial photographs and satellite images. Exploration, construction and use of geographic information systems (GIS) and other computer-based methods to create maps and visualize data. Application of knowledge and techniques to issues such as ecosystem management, environmental assessment, urban planning, geologic mapping, global change and archaeology. Can also count toward the CTIS major.

GST 250 *Practically Bicycling*

Credits: 4. This project focuses on the ways in which bikes are used, and useful, in everyday life – both by individuals and by communities. We'll learn how to do basic bicycle maintenance and repair; we'll try different kinds of riding (roads, trails, bikeways, stationary machines) under different conditions; and we'll examine links between bicycling, economics, community and equity.

HIST 212. *HP: American Frontiers*

Credits: 4. Defining frontiers as contested places where people met and struggled over control of natural resources, the labor necessary to exploit those resources and the right to define the boundaries of society, the course examines various frontier regions across North America from the late eighteenth century through the early twentieth.

HIST 227. *Urban Environmental History*

Credits: 4. This course uses three urban case studies as lenses to explore urban environmental history. By restricting the focus to three cities, the course explores each deeply. Fulfills humanities and social justice/environmental responsibility requirements.

HIST 312. *Indians in American History since 1800*

Credits: 4. Traces first the relationships between American Indians and the European colonial enterprises of the late 18th century and then explores in detail Indian efforts to chart their own path within an expansive and emerging United States over the course of the 19th and 20th centuries. Among the themes are dispossession, resistance, "civilization," ecology and resource management, meanings of tribal identity. Fulfills humanities and diversity in the U.S. requirements.

HIST 324. *American Rivers*

Credits: 4. The course uses American rivers and their watersheds as focal points to study the various ways in which people have interacted with their environments and each other. It focuses on a few specific rivers, using a case-study approach to explore the issues which all rivers face. Additionally, students select a river of their choice on which they conduct a semester-long research project. Fulfills humanities and social justice/environmental responsibility requirements.

IDS 461. *Nothin' But Disasters*

Credits: 4. Looks at how the natural world operates, how natural processes such as volcanoes, earthquakes, hurricanes, floods, tsunamis, landslides, meteorite impact and mass extinctions can harm humans and their works, and how we can avoid these disasters. We will use course elements include science, myth, religion, literature, film, economics and public policy.

JPS 103. *Community Problem Solving*

Throughout American history, people in local communities have formed groups unaffiliated with government or corporations, to act collectively around shared interests. Responding to everything from women's right to vote, to unfair labor practices, and to increasing social and economic inequities, these groups appear to be growing especially rapidly today. They are taking collective action on issues in education, housing, immigration, employment, police accountability, the environment, sexual assault, and many other areas of concern to their members. These groups include neighborhood associations, community organizing groups, labor unions, self-help groups, social entrepreneurs, anarchist groups, faith-based organizations, campus-based groups, and advocacy groups, among others. Local examples of such groups include the Beloved Community Center, Urban Ministry, Greensboro Housing Coalition, the Servant Center, the Interactive Resource Center, Food Not Bombs, Parents and Friends of Lesbians and Gays (PFLAG), Faith Action International House, NAACP, and groups formed as part of the Occupy Movement, including Occupy Greensboro. Engaging in critical study of such groups, and preparing students to participate in their work is central to the Community and Justice Studies major. The major draws on the body of knowledge from Social Theory to study the ways in which diverse communities work toward justice for their members, and for the larger society. As such, the purpose of this introductory course in CMJS is to engage in an in-depth, first-hand study of approaches to community problem-solving, including an examination of the larger social, political, and economic contexts in which organizations work toward social change.

PSCI 318. *Environmentalism in Early America*

Credits: 4. This course examines the complex dialogue between nature and politics in the United States during the late 19th and early 20th century. It will focus on the complicated links between material circumstances, ideas and politics, which affected the physical context of the American environment and the changing experience of American life. Fulfills social justice/environmental responsibility requirement.

PSY 344. *Environmental Psychology*

Credits: 4. Study of the impact of human knowledge, attitudes and behavior on environmental problems and their solution. Prerequisite: PSY 100 or ENVS 100. Fulfills social justice/environmental responsibility requirement. Alternate years.

