

**Inventory of Sustainability-Focused and Sustainability-Related Courses
West Chester University
February 2018**

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This is the Spring 2018 inventory of courses taught at WCU that are either sustainability-focused or sustainability-related. A survey was distributed to all university faculty members that asked to identify and describe courses that they have taught in the past two years that fell under the definitions provided for sustainability-focused or sustainability-related.

The Curriculum and Research Subcommittee of the Climate Action Planning Team developed definitions for sustainability-focused and sustainability-related courses for West Chester University in 2012 as part of its process in writing the university's Climate Action Plan.

- Sustainability-focused courses concentrate on the concept of sustainability, including its social, economic, and environmental dimensions, or examine an issue or topic using sustainability as a lens.
- Sustainability-related courses incorporate sustainability as a distinct course component or module or concentrate on a single sustainability principle or issue.

With responses from over 250 faculty members to the campus-wide survey, we can document the total courses, the level of those courses, total sections, and total academic departments for both sustainability-focused and sustainability-related:

Sustainability Focused	
Total Courses:	44
Level:	29 UG / 3 G / 12 B
Total Sections:	106
Academic Departments:	20

Sustainability Related	
Total Courses:	118
Level:	85 UG / 19 G / 14 B
Total Sections:	461
Academic Departments:	23

The inventory below is organized in alphabetical order by the course code. It includes the course code, course title, academic department, level, and course description. The inventory begins with the list of sustainability focused courses followed by the sustainability related courses.

Sustainability Focused Courses

Codes	Title	Department	Level	Description
ANT375/NTD 581	Sustainable Food Systems and Culture: Field School in Italy	Anthropology and Sociology/Nutrition	UG/G	Field school in Perugia, Italy exploring sustainable food culture (markets, vineyards, farms, etc) including changes to modern agriculture and loss of old food practices.
ARH389	Art of Spain	Art and Design	UG	The Art of Spain and Latin America from Prehistoric to Contemporary. Evaluation Policy 2. [15%] 250 word essay on an assigned topic (included) GE1, PO4. Each student had to write an abstract after reading an article that dealt with a Spanish or Latin American eco artist who dealt with sustainability. Lecture - Week 11, 21st century Land Artists
ARH401	Contemporary Art	Art and Design	UG	This course gives an overview of contemporary art in the late 20th and 21st centuries. We will explore themes of Art as Entertainment, Spectacle, Joke, Meditation, Sustainability, etc.. The second focus is the context of the artworks' conception, production, and reception by the public. How does the notion of identity manifest in Yoko Ono's Cut Piece (2003), or Kara Walker's cut-paper silhouettes (1990s - present)? They each address race, gender, sexuality, and power but the cultural and chronological context of their creation differs. Issues and identification of sustainability in the arts in examples of environmental art, eco-art, ecofeminist art and sustainable art, materials and techniques will help students connect with a greater understanding of global issues and social concerns.
ARH419	Women Artists	Art and Design	UG	Week 10 Ecofeminist Artists and Sustainability 1970s and now. Alice Aycock, Nancy Holt . .

BIO415	Tropical Ecology & Conservation	Biology	UG	This course will explore the ecology of the many biomes that comprise the tropics, including tropical wet, dry, and cloud forests, savannas, grasslands, and deserts. We will also study the ecology of tropical oceans and freshwater systems. Our study of tropical ecology will focus on interactions between biotic (ecosystem structure, plants, animals) and abiotic (climate, soils, nutrient cycling) ecosystem features. Students will also become familiar with a suite of contemporary conservation issues affecting tropical regions. Throughout the course we will draw on multiple fields of study including landscape, ecosystem, wildlife, and community ecology to enhance our understanding of tropical ecology and conservation.
BIO435	Course Topics - Climate Change	Biology	UG/G	The course examines the impacts of climate change on biodiversity and how we can mitigate these effects.
BIO435	Course Topics in Biology - Tropical Ecology of Puerto Rico	Biology	UG	This course will explore aspects of tropical ecology from a primarily field-based perspective. After learning about Puerto Rican tropical ecology in the classroom, students will tour and explore a range of tropical ecosystems including dry forest, tropical rainforest, high-elevation cloud forest, and coastal mangroves. Students will also meet with Puerto Rican scientists studying aspects of tropical ecology including ecologically-sound agricultural practices and watershed management. Note that field and classroom activities will typically require 10+ hours of student time per day during the trip.
BIO473	Conservation Biology	Biology	UG/G	The application of basic biological and ecological principles for the preservation of biological diversity. Emphasis will be on understanding the threats to biodiversity, the values of biodiversity, and preservation strategies including ecological risk assessment and the management of endangered species, habitats, and ecosystems.
CHE403	Environmental Chemistry	Chemistry	UG	This course is to introduce students to the chemistry of the atmosphere, hydrosphere, and geosphere. Close attention will be paid to energy and matter flow between these regions. As a broad survey course, we can feel free to wander in our discussions about the environment and chemistry. Topics will include, but are not limited to: Nature of the environment and our place in it, Energy sources and sinks, Chemistry of the troposphere and stratosphere, Global warming, Pesticides, Water quality, and Chemistry of soils.

EDC590	Practicum in School Counseling	Counselor Education	G	Practicum and Internship give students work experience in schools. Their work enhances students' lives in a variety of ways.
EDC601	Counseling Internship in Elementary School	Counselor Education	G	Practicum and Internship give students work experience in schools. Their work enhances students' lives in a variety of ways.
EDO400/500	Environmental and Sustainability Education: History, Theory and Practice	Environmental Education	UG/G	History, Theory, and Practice: Advanced overview of the development of environmental and sustainability education with emphasis on theoretical perspectives and professional applications.
EDO410/510	Systems and Sustainability	Environmental Education	UG/G	Examination of how systems thinking applies to learning for sustainability in schools and other institutions. Topics include curriculum, grounds, facilities, and missions.
EDO420/520	Outdoor and Place Based Education	Environmental Education	UG/G	The foundations of outdoor and place-based education, with emphases on experiential and authentic learning. School-based applications will be addressed.
EDO425/525	Independent Study in Environmental & Sustainability Education	Environmental Education	UG/G	Special research projects, reports, and readings in conservation and outdoor education.
EDO450/550	Education for Sustainability: Methods and Projects	Environmental Education	UG/G	Methods for integrating education for sustainability into schools and non-formal settings, using authentic projects to demonstrate and apply learning.
EDO498/598	Workshop in Environmental Education	Environmental Education	UG/G	Contact department for more information about this course.
EDO555	The Sustainable Campus	Environmental Education	G	This course will provide future student affairs educators and higher education practitioners with an overview on sustainability as it relates to college and university campuses. Students will examine topics such as campus ecology, and environmental, human and economic sustainability. Student will learn how to develop and implement programs, plans and policies to create a more sustainable campus now and for the future.
ENG400	The Literature and Language of Environmentalism	English	UG	This advanced majors' seminar read classic texts of environmentalism (such as Silent Spring and Monkey-Wrench Gang), investigated environmental rhetoric, and attempted the high-impact pedagogy practice of No Impact Week. Students wrote extended research papers as well as participated in and analyzed public writing. They attended the Climate March in D.C. and engaged in discipline-specific assignments related to that activity.

ENV102	Humans and the Environment	Health	UG	Humans and the Environment (Health Dept.) is an interdisciplinary course that draws upon the three disciplines of environmental health, earth sciences and biology (ecology) and also chemistry, physics, political science and geography in a comprehensive manner to enable students to think critically about pressing environmental issues. In addition to WCU general education Goal 4, this course also specifically addresses Goal 3 (think critically and analytically) by examining the causes of pollution, the human health and environmental effects of pollution and the technical, behavioral and legal control of these problems. This course also addresses Goal 6 (make informed decisions and ethical choices [®]) by emphasizing the role of the individual in improved personal and professional decision-making for better overall environmental quality.
ESS102	Humans and the Environment	Earth & Space Sciences	UG	Humans and the Environment is an interdisciplinary course that explores the assumptions and patterns inherent in educational, economic, and scientific systems to motivate a semester-long exploration of systems thinking. Students learn how unsustainability arises from pathological characteristics of modern systems and how systems can be re-imagined and recreated to become sustainable.
GEO101	World Geography	Geography and Planning	UG	The scope of geography and understanding of the world's regions generated by it. Human society is examined in a frame of spatial, environmental, and resource factors. Map skills and other 'tools' of geography are introduced.
GEO102	Physical Geography	Geography and Planning	UG	Introduces students to atmosphere, biosphere, soils, and geomorphology including anthropogenic influences to these spheres (e.g. climate change, ozone 'hole' in stratosphere, etc.)
GEO205	Geography of Agriculture, Food & Sustainability	Geography and Planning	UG	With conversion of close to half of the Earth's land surface to agricultural use, a culture's food system is often indicative of its relationship to the planet as agriculture has fundamentally changed physical and cultural landscapes. Many agricultural systems are highly vulnerable to anticipated global climate and environmental change.
GEO230	Environmental Conservation and Sustainability	Geography and Planning	UG	An inquiry into the problems of resources protection, management and sustainability. Emphasis is placed on the United States.

GEO334	Sustainable Living	Geography and Planning	UG	Practical solutions and innovative thinking in how students can adopt a more sustainable lifestyle personally and professionally. Three interconnected objectives of sustainability- economic vitality, environmental integrity, and social equity- will serve as core themes in the course.
GEO336/PLN536	Environmental Planning	Geography and Planning	UG/G	Introduction to the concepts and tools of environmental planning which include landscape form and function in planning. Applications to local and regional issues are stressed.
HON314	Science, Technology and Environmental Systems	Educational Foundations and Policy Studies	UG	Science, Technology and Environmental Systems: An integral exploration of science, technology, and environmental systems in relation to environmental sustainability, with emphasis on agriculture, food systems, and the professions.
HON352	Climate Change and Environmental Stewardship	History	UG	Focuses on the history of Climate change over the past 3 million years; the science of climate change; political, philosophical, and ethical responses to climate change; the climate change denial movement; and the impact of personal choices.
MGT313	Business and Society	Management	UG	Explores the relationship between business entities and key societal stakeholders. This class identifies areas where the interests of each are in conflict and harmony and offers best practices for managing the interface between business and society
NSL311	Care of the Child-Bearing Family Lab	Nursing	UG	Clinical experiences are provided in agencies where relatively well populations have been identified, such as schools, day care centers, senior citizen's programs and childbirth settings.
NTD277/ANT277	Sustainable Food Systems	Nutrition/Anthropology and Sociology	UG	This course will be taught the first time in fall, 2018. Co-taught as a "I" course, it will focus on anthropological approach to observing, participating and interviewing to learn of sustainable food practices and to find creative solutions for a fairer, more sustainable food system.
PHI451/551	Religion and Ecology	Philosophy	UG/G	This course explores contemporary environmental issues from the perspectives of different religious traditions through a postcolonial interreligious lens. This course compares spiritual and religious views of the ecosystem, its meaning, and its relation to human beings. This course focuses on the challenge of rethinking theology in relation to a just and sustainable society by exploring the current environmental issues.

PHI480	Environmental Ethics	Philosophy	UG	Study of the moral relationship between human beings and nonhuman nature in this planet, and consider how to ethically defend our actions on the ecosystem and its more-than-human contents. This course examines the human relationship to the natural world and what kinds of moral and social obligations we have to other beings and the earth.
PSC354	Environmental Politics and Policy	Political Science	UG	This course explores the politics of governing the environment both nationally and globally. During the semester students will investigate the policymaking process as it relates to current environmental challenges.
PSC399	Food Politics	Political Science	UG	This course will examine topics of temporal or special interest which are not normally part of the regular ongoing political science curriculum. Students will be provided an opportunity to pursue specialized research, study, or application of knowledge and skills in an applied setting.
PSY410	Independent Research	Psychology	UG/G	The course is centered on students conducting research projects that center on the research I conduct in Gishwati forest Rwanda. We examine issues of human-animal interactions such as crop raiding by chimpanzees and address the conservation issues of this behavior and develop strategies to mitigate crop raiding. We also examine issues of biological conservation with a focus on Gishwati's primates
SCB102	Humans and the Environment	Biology	UG	This is an approved General Education Interdisciplinary (I) course in which we will examine interactions between humans and the environment. We will explore subjects including human population growth, environmental history, human-induced environmental changes, and prospects for the future. Throughout the course we will incorporate the viewpoints of multiple disciplines, including biology, sociology, and geography, to develop a well-informed perspective of globally relevant environmental issues. Additionally, this course will cover current local and global environmental stewardship efforts to explore the ways in which humans can have a positive effect on the environment.
SOC245	Environmental Sociology	Anthropology and Sociology	UG	Themes in this course emphasize how culture shapes environmental processes and everyday life; articulate demographic theoretical perspectives of population growth; examine the social structure of society to better understand the social dynamics of environmental processes; and analyze environmental inequality along the bases of social class, gender, and race/ethnicity.

SPK208	Public Speaking	Communication Studies	UG	For this course, students completed a service-learning project that required them to volunteer for 5 hours with a local organization that incorporated sustainability in its mission. This experience then became the foundation for two major speech assignments.
WRT220	Research Writing: Your Stuff & Your World	English	UG	Taught general education students research writing based on the materials economy structure popularized by Annie Leonard's "The Story of Stuff."
WRT220	Research Writing: Sustainability	English	UG	Taught general education students research writing by asking them to research local systems (water) and common items (Story of Stuff), take part in No Impact Week modified activities to understand challenges of sustainable living, and creating an action plan to make changes related to sustainability.

Sustainability Related Courses

Codes	Title	Department	Level	Description
ACC202	Managerial Accounting	Accounting	UG	While not the focus of the course we cover sustainability as part of a corporations social responsibilities. Different times during the course we talk about the balanced scorecard, which has a one component a corporation's responsibility to sustainability.
ART228	Digital Photography	Art and Design	UG	<p>In Fall 2017 I introduced an assignment titled "Defining Sustainability." (This assignment was inspired by the Brandywine Project -- a few members of my department had taken the workshop and I applied for the workshop, which was held over Winter Break 2018.)</p> <p>I was surprised by the wide range of responses from students. Some had already had a lot of exposure to classes and projects relating to sustainability and others were totally out of their element. The first part of the project was to research the topic, then write a definition of what sustainability meant to them. This was followed by illustrating their definition through photography. There were varying levels of success, but I realized they needed more time to develop their thoughts on the topic. (3 weeks was not sufficient).</p> <p>This semester I plan to introduce the assignment within the 5th week of class. Students will research the topic and write a reflective paper about their definition and how they plan to illustrate it. After Spring Break they will share their reflections with their peers (small groups) and brainstorm alternative ways of illustrating their definition. Students will be required to develop more than one approach/solution to the visual problem.</p> <p>This will be followed by preliminary visual work (about the 9th week of class), a written research paper completed (about the 11th week) and the final project presentation and critique the last week of class.</p> <p>By having the project span over the semester I am hoping students will have more time to develop a unique and individual visual approach to defining sustainability.</p>
ART301	Mixed Media	Art and Design	UG	<p>This course introduces students to various materials and techniques used in visual art. Materials explored will include, but not be limited to, dyes, gels, inks, paint, paper, photographs, prints, pumice, and wax. Techniques may include, but not be limited to, assemblage, book-making, collage, encaustic, relief printing, transfer, mono-printing, and welding.</p>

ART350	Global Art & Design: Copenhagen	Art and Design	UG	Copenhagen was a four-week study abroad program in Denmark for majors enrolled in our BFA of Graphic and Interactive Design program. The course covered sustainability & minimalism as they relate (primarily) to Scandinavian art, graphic design and industrial design sensibilities. Students defined an individual research topic and developed an informational graphic describing a sustainable practice, policy or cultural identifier unique to Denmark.
BIO227	Vertebrate Ecology	Biology	UG	Animal life in the surrounding localities. Identification, behavior, habitats, feeding, and reproduction. There are lectures on the impacts of human activities on vertebrates.
BIO270	Ecology	Biology	UG	Relationships between living organisms and their environment. Includes design of nature preserves, impacts of human activities on biosphere, and why we should preserve biodiversity.
BIO315	Terrestrial Ecosystem Ecology	Biology	UG	In this course you will learn how materials and energy are transferred into, within, and out of terrestrial ecosystems. Particular emphasis will be placed on how carbon, water, and nutrients cycle through ecosystems. Knowledge of ecosystem ecology is essential to biologists because it links biotic elements of the environment (including humans) with underlying physical processes, providing a thorough understanding of ecosystem function. Once you have gained an understanding of interactions between biotic and abiotic ecosystem components, you will better comprehend ecosystem threats posed by anthropogenic disturbances, including climate change.
BIO435/535	Special Topics: Forest Biology	Biology	UG/G	This course is intended to provide you with a broad understanding of current content, concepts, and research methods related to tree biology, dendrology ecology, natural history, and research methods related to forest biology and ecosystems. Particular focus will be made on the woody plants of temperate deciduous forests found in this region. Exposure to these topics and applied methods should encourage and prepare any students who may be interested in pursuing careers and graduate studies in forest biology and forestry.

BIO466/566	Plant Physiology	Biology	UG/G	In this course you will learn about the interactions between plants and the environment from a physiological perspective. The course will focus principally on the movement of water, nutrients, and carbon through plants. Plant physiological processes will be examined in the context of the environments in which plants live. We will explore plant physiological responses to climate change, increasing atmospheric CO ₂ concentration, and stressors such as drought, high salinity, and low-oxygen conditions.
BIO475/575	Plant Communities	Biology	UG/G	This course is intended to give you with a broad survey of and familiarity with current research related to key ecological, morphological, and physiological strategies plants employ from seed through adult stages. In addition, an integration of these strategies will be made to highlight and explain the major plant communities of North America. Particular focus will be made on temperate deciduous forests, which harbor the most common plant communities in our region.
BIO478	Plant Evolution	Biology	UG	Department of Biology. Application of contemporary phylogenetic theory to explain the genesis of plant biodiversity. Origins of critical plant adaptations are explored with regard to time of origin, environmental conditions and ancestry.
BIO485	Systematic Botany	Biology	UG	Principles of evolution as illustrated by the principles of plant taxonomy. Modern concepts of biosystematics. Systematic relationships of plants in relation with habitat requirements.
BIO490	Biology Seminar	Biology	UG	Reports on special topics and current developments in the biological sciences. In addition, students give an individual presentation and write a term paper on the topic of why we should preserve biodiversity.
BIO535	Special Topics: Ethnobotany	Biology	G	Ethnobotany, and the subfield of economic botany, focus on the interaction between plants and people, and as such, the purpose of this course is to explore these complex relationships through numerous lenses. Ethnobotany is an interdisciplinary field, drawing from botany, anthropology, archaeology, chemistry, pharmacology, medicine, history, religion, geography, art, politics, sociology, and various other fields. Throughout this class, we will focus on ethnobotanical themes relating to a handful of these topics.

CRJ455	Immigration and Criminal Justice	Criminal Justice	UG	This new field, sometimes referred to as "crimmigration law" reflects the on-the-ground reality of changes in law and practice that have blurred the lines between criminal and immigration enforcement. We have an emphasis in discussing the changing events in the current political policy and therefore have discussed the environmental concerns of "The Trump Wall" several times in our class.
DPA703	Advanced Economic and Financial Decision Making	Public Policy and Administration	G	This course trains students on the use of economic and financial management tools and theories to evaluate the impact of public policies and fiscal decisions. Emphasis is placed on the application of economic and budget theory to financial decision making in the fields of public administration, and policy. Particular attention is paid to economic and budgetary functions, including: control, management, planning, policy, and collaboration.
ECO112	Principles of Microeconomics	Economics and Finance	UG	This course has content on pollution and economic/market remedies to address this. Also, remedies for over use of common resources are discussed.
EDC590	Practicum	Counselor Education	UG	Practicum is the first field course for students interested in certification in School Counseling. Identifying and implementing social and system change is a focus in this course.
ENG392	Writing and Teaching Writing in Secondary Schools	English	UG/G	Secondary Schools (7-12) Students' culminating project/Unit Plan focused on issue/s of sustainability (social, economic, environmental).
ESP309	Latin America on Film	Languages and Cultures	UG	This course explores contemporary Latin American film production in order to foster a better understanding of Latin American cultures and history while investigating the complex power dynamics in Latin American societies. Films are the points of departure to address critical issues such as history, culture, politics, economics, and religion; ethnic diversity, gender, class-based and racial conflicts; violence, dictatorship, and revolution; and the place of Latin America in an increasingly globalized world. There is one unit on First Peoples and Earth Rights which focuses on Indigenous Struggles and Water Rights in the Andes as well as Earth Rights and Sustainability.
ESS101	Introduction to Geology	Earth and Space Sciences	UG	The course focuses on the earth's composition and history and the processes that occur on and within the earth. Sustainability related because a significant unit is devoted to the causes, consequences, and severity of climate change. Also emphasize that this is the only Earth the need to conserve our habitat.

ESS130	Our Coastal Ocean	Earth and Space Sciences	UG	WCU General Education course that explores our ocean (oceanography), and specifically the coastal area that is most influential to our community
ESS170	Our Atmosphere	Earth and Space Sciences	UG	Why is the sky blue? What will the weather be tomorrow? What makes tornadoes? How did the ozone hole develop? What is the greenhouse effect? This class will use these questions and others to investigate the basic physical processes that determine the weather and climate on earth.
ESS201/523	Field Geology	Earth and Space Sciences	UG/G	Taught at the undergraduate level as ESS201 and at the grad level as ESS523. Both courses are concerned with basic field methods in geology: the use of a Brunton compass, creating geologic maps and rock identification. While not the focus of the course, the impact of human activities on natural systems is an inescapable component of most field trips
ESS204	Historical Geology	Earth and Space Sciences	UG	An examination of how Earth has evolved over geologic time, from its origin as a tiny lifeless planetesimal to its present state as a dynamic planetary system teeming with life. Rocks, fossils, and other evidence of Earth's past are analyzed and evaluated with knowledge of modern physical and biological processes to infer Earth's history, understand its present state, and predict its future. Gen Ed Attribute: Writing Emphasis. Lecture plus lab.
ESS321/521	Geometrics	Earth and Space Sciences	UG/G	A course in exploratory analysis of geoscience data that is anchored on the idea that the meaning of the data originates in complex systems that include the natural world and the researchers themselves. The course is an application of systems thinking to data analysis. Students learn that exploratory approaches that are more open to patterns of complexity and chaos are less likely to be constrained by reductionist modes of thinking associated with unsustainability.
ESS330	Introduction to Oceanography	Earth and Space Sciences	UG	An introductory oceanography course that explores our ocean. It covers 4 areas of oceanographic research area : physical, chemical, biological and geological oceanography. A section on climate change: evidence, causes, effects, adaptation, and mitigation is taught.
ESS331	Intro to Paleontology	Earth and Space Sciences	UG	Identification and study of common fossils in order to understand their life processes and geologic significance. Analysis and interpretation of modern and fossils to understand the present state of the world ocean, biodiversity, and rates of extinction. Lecture and Laboratory.

ESS332/532	Advanced Oceanography	Earth and Space Sciences	UG/G	An advanced course in oceanography covering resources, oceanographic literature, animal-sediment relationships, field techniques, estuaries, salt marshes, sea level changes, and pollution.
ESS336/536	Environmental Geology	Earth and Space Sciences	UG/G	Uses sustainability and systems thinking as two of five conceptual elements that make up a framework for understanding human relationships with natural systems. Students learn how the framework informs the ways geoscientists work to reduce the risk of hazards, maintain critical resources such as water and soil, and limit the effect of pollutants.
ESS370	Intro to Meteorology	Earth and Space Sciences	UG	A study of the principles governing the earth's atmosphere and how these principles determine weather conditions.
ESS420/520	Structural Geology	Earth and Space Sciences	UG/G	The course is concerned with the architecture of Earth's crust, the geometry of rock in the crust, stress in the Earth and the response of rock to stress. The course is related to sustainability by the importance of the subject matter to resource exploration and development. The basic principals of hydrofracturing rock are discussed as is the relationship between injection wells and earthquakes.
ESS435/535	Remote Sensing	Earth and Space Sciences	UG/G	An introduction to the science and technology of remote sensing and the applications of remote sensing data to geology, oceanography, meteorology, and the environment. Includes a discussion of the history and principles of remote sensing; fundamentals of electromagnetic radiation; theory and types of active and passive remote sensing systems; fundamentals of image interpretation; operation of environmental satellites; and future imaging systems.
ESS450	Sedimentology and Stratigraphy	Earth and Space Sciences	UG	Class, laboratory, and field studies of sediments, sedimentary rocks, tectonostratigraphy, and event stratigraphy; sediment sources, agents and modes of transport, and sinks; depositional processes, environments, and diagenesis; description, mapping, and correlation of strata to infer temporal-spatial relationships, climate and sea-level change, tectonic regimes, locate and manage Earth resources, and interpret Earth history.
ESS570	Principles of Meteorology	Earth and Space Sciences	G	An in-depth study of the dynamic nature of the atmosphere with an emphasis on the role of weather-related phenomena in daily life.
ESS596	Earth Systems Science	Earth and Space Sciences	G	A course that applies systems thinking to earth systems and to systems of scientific thought. Students learn that understanding the complexities of both natural and human systems is a prerequisite to living sustainably.

FIN325	Corporate Finance	Economics and Finance	UG	Covers essentials of corporate Finance: financial analysis, ratios, capital budgeting, the time value of money, stock and bond valuation, and statistics. The department is Finance and Economics. In my course for the last two semesters I have assigned a research paper to design a 100% renewable energy grid for America using solar and wind power with 6-16 large utility scale solar and wind farms. The grid was balanced out with traditional grid power sources until battery cost and efficiency improves. Desert Sunlight and Ivanpah were used as two existing large projects to prepare construction and operating cash flow. Students gained a basic understanding of the price per kilowatt hour (10.5 cents) , total national electrical demand, and the basic method of building panels, combiner boxes, and grid-connections. Students also addressed the benefits of pollution free energy and the reduced effects of global warming.
GEO101	World Geography	Geography and Planning	UG	This course is designed to give students an overview of the world's regions from a geographical standpoint, including spatial, environmental and resource factors. The book I use includes environmental, population & settlement, economic, cultural and political areas of geography.
GEO103	Human Geography	Geography and Planning	UG	An inquiry into the theoretical and applied approaches to the study of human spatial behavior and the distribution of social problems.
GEO200	Global Cities	Geography and Planning	UG	Survey course focusing on understanding all aspects of cities throughout the world. One unit dedicated to green cities/sustainable cities.
GEO204	Introduction to Urban Studies	Geography and Planning	UG	Survey course focusing on all aspects of understanding cities. One unit dedicated to urban sustainability.
GEO214	Introduction to Planning	Geography and Planning	UG	The methods of analyzing problems of urban and regional planning. Emphasis is placed on systems of housing, recreation, transportation, industry, and commerce.
GEO302	Geography of Latin America	Geography and Planning	UG	Survey course focusing on physical and human geography of Latin America and the Caribbean. Sustainability discussions woven into all units as Latin America's "competitive advantage."
GEO303	Geography of Europe	Geography and Planning	UG	Survey course focusing on physical and human geography of Europe. Sustainability discussions incorporated into physical geography unit and cities and towns unit.

GEO331 / 531	Transportation Planning	Geography and Planning	UG/G	Transportation Planning in the Geography and Planning Department, is an introductory course in the history, methods, and policies of American transportation planning. A significant component of the course is understanding the environmental, social, and economic impacts of existing transportation systems and the changes that can be made to create less energy- and resource-intensive transportation systems.
GEO341/506	Landscape Analysis	Geography and Planning	UG/G	The study of contemporary geographical patterns of plants and animals, and the overall processes which influence landscape development and characteristics, such as climatic and geomorphic events, and anthropogenic activities.
GEO402/585	Field Methods in Geography	Geography and Planning	UG/G	An advanced field course that includes urban and land-use studies. Use of field methods, mapping, and data collection for geographical reports.
HEA103	Drugs & Society	Health	UG	Provide knowledge regarding the use and abuse of substances in our society and the impact on the individual, family, and community. Teaching strategies also will be incorporated.
HEA242	Intro to Public and Community Health	Health	UG	This course is intended to provide the student with an overview of public/community health in the United States. The history of public/community health along with the growth of the public health system will be reviewed through lecture and class discussions and problem solving sessions. The course will present the relationship between health and the community including the impact of social, cultural, and economic factors. Pertinent public and community health issues such minority health, aging, chronic disease, communicable disease, and health care delivery will be examined.
HEA325	Stress Management	Health	UG	Comprehensive survey of stress concepts, theories, and management techniques. Emphasis is placed on personal application.
HEA348	Population Health: Analysis, Surveillance, and Intervention	Health	UG	This course will introduce students to the concepts of population health, and examine topics that are pertinent to the education and practice of public health and healthcare management in today's dynamic environment. Representative topics include core functions of public health, public health system organization, the basic science of public health, how to assess the health of communities, the role of managerial epidemiology, ways of improving the health of populations, and the contribution of data to this process, as well as the management of the health of diverse populations.

HEA526	Biostatistics in Public Health	Health	G	An overview of scientific methods, research designs, sampling, and survey techniques pertinent to the study of health issues will be presented. Choice and use of epidemiological and statistical software to analyze health data sets will be emphasized. Specifically, this course focuses on the application of statistical methods to different public-health research designs, and data with different scales of measurement. Students will display and summarize public health-related data, and also apply and interpret different statistical tests. Students will be able to complete all tasks using SPSS. Data interpretation and professional write-up is emphasized. Active participation is critical for successfully completing this course.
HIS100	World History since 1900	History	UG	World history since 1900, focuses on globalization, decolonization, social justice.
HIS102	History of Civilization II	History	UG	World history since 1500, focuses on globalization, social justice.
HIS152	US History II	History	UG	Includes units on the environmental impact of resource extraction since 1865, and the birth of the modern conservation, preservation, and environmental movements. This semester it adds an end of the semester unit on climate change since 1865 and American political responses
HIS344	Pennsylvania History	History	UG	Includes units on the environmental impact of resource extraction since 1865, and the birth of the modern pollution control, conservation, preservation, and environmental movements, focusing on Pennsylvania history.
HIS364	American Urban History	History	UG	In this semester students consider the evolution and development of cities and suburbs, their role in American society and politics and the opportunities/lack of opportunities that different Americans have found in these environments. In looking at many topics (access to housing, technology, work/labor, class/sexuality, politics, ethnicity/race) an important component is sustainability related--we examine the impact of animals (particularly before WWI), trash disposal especially with the advent of paper products and packaged foods in the late 19th century and the people who made their living as scavengers, the impact of different forms of transportation and manufacturing on health and the physical environment, cemeteries and parks and community gardens, etc.

HIS400	Advertising & Consumer Culture	History	UG	Sustainability is my theme when I teach the History capstone course during which students develop a research question and produce a paper. Most students have not really thought about this topic in an depth before so the first third of the semester students read several articles and view several documentaries as an introduction to the growth of consumerism and its consequences in American and other societies, going back to the ancient world. Students use the rest of the semester to develop their own research topic, depending on their area of concentration in historical period and part of the globe.
HON212	Moral Choice in a Technological Age	Philosophy	UG	An ethical study of morality focused on leadership and the facilitation of deliberative communities for decision-making. Use the Blue River Declaration (2011), Aldo Leopold, environmental ethicists and Native American perspectives to support discussions on sustainability.
KIN110	American Sign Language I	Kinesiology	UG	This is the first in a sequence of 4 American Sign Language courses. Students in this course will develop a fundamental vocabulary and understanding of American Sign Language. You will recognize, comprehend, apply and demonstrate culturally appropriate linguistic behaviors (vocabulary selection, grammar usage, turn-taking skills, feedback signals, eye-gaze, etc.) in order to communicate with other students and signers. In addition, information will be provided about deaf culture, general impact, barriers and opportunities related to hearing loss and Deaf Gain.
KIN111	American Sign Language II	Kinesiology	UG	This is the second of 4 courses in the ASL foreign language option. In this course students will increase communication skills; develop conversational skills in ASL. The students in this course will also continue to expand their knowledge of deaf culture by being provided with a better understanding of cultural values and behavioral roles of the Deaf community on the U.S. This course includes receptive and expressive activities, sign vocabulary, grammatical structure, receptive and expressive finger spelling, and facial expressions and body language.

KIN210	Intermediate American Sign Language I	Kinesiology	UG	This course is the third in a sequence of 4 ASL courses. In this class you will build on what was learned in KIN/CSD 110 11, continuing to emphasize the development of proper ASL grammar, syntax and vocabulary with emphasis on conversation and narration/storytelling. Vocabulary-building and mastery of grammar will be through rigorous receptive and expressive language activities. Topics discussed in ASL include the location and description of items in rooms and buildings, complaints, making suggestions, and making requests. Exposure to and knowledge of Deaf culture is an integral part of the course.
KIN211	Intermediate American Sign Language II	Kinesiology	UG	This is the final course in the WCU American Sign Language program and provides students with opportunities to expand their sign production and comprehension skills in ASL. Students continue to expand their awareness of ASL conventions, grammar and vocabulary, including an extensive review of topical signs and idioms. Students develop a greater competency in their receptive understanding of connected ASL discourse and in their expression of extended ideas, concepts, and stories in ASL. Their expressive competency in discussion of ideas includes an expression of their understanding of Deaf culture. Students continue the growth of their technical awareness of Deaf culture and ASL linguistics.
KIN246	Sport, Culture, and Society	Kinesiology	UG	Current theories and research in the area of sport and society will be introduced. Focus of the course is interdisciplinary, incorporating sociological, psychological, historical, anthropological, philosophical, and economic perspectives. Topics include moral, ethical, racial, and gender issues in sport in relation to the North American culture.
LAN305	Film of Spain	Languages and Cultures	UG	We look at dominating agents that establish social relations in society/culture. Included in this is how they affect our everyday living situations and how regular folks contest dominating agents. We study immigration, waste, war, resistance, gender, inequality, cultural production...and how to read, analyze, and talk about these issues.
LAN319	Cultural Realities of Spain	Languages and Cultures	UG	We look at dominating agents that establish social relations in society/culture. Included in this is how they affect our everyday living situations and how regular folks contest dominating agents. We study immigration, waste, war, resistance, gender, inequality, cultural production...and how to read, analyze, and talk about these issues.

LAN407/556	Contemporary Culture of Spain	Languages and Cultures	UG/G	We look at dominating agents that establish social relations in society/culture. Included in this is how they affect our everyday living situations and how regular folks contest dominating agents. We study immigration, waste, war, resistance, gender, inequality, cultural production...and how to read, analyze, and talk about these issues.
LAN555	Computer Applications for Language Learning	Languages and Cultures	G	This course introduces students to theory and practice in using and designing computer-based socially responsible learning content for language learning. Drawing on scholarship in the field of computer assisted language learning, students will be introduced to best practices in designing, publishing, creating, testing, and assessing the quality of computer based learning.
LIT165	Topics in Literature	English	UG	Emphasis on issues of sustainability (social, economic, environmental) in urban/local areas.
MAT145	Calculus for the Life Sciences	Mathematics	UG	An overview of differential and integral calculus, motivated through biological problems. Topics include mathematical modeling with functions, limits, continuity, differentiation, optimization, and integration. Graphing calculators are used as an aid in the application of calculus concepts and methods to realistic biological problems.
NSG311	Community Based and Maternal Newborn Health Didactic	Nursing	UG	The didactic portion of the 4 sections of a community-based and maternal newborn course providing theory and topics which were sustainability related including environmental influences on health, community aspects of social determinants of health, social justice, nutrition and sustainability in healthcare and maternal-child nursing and issues in women's health.
NSL311	Community Based and Maternal Newborn Health Clinical Experience	Nursing	UG	The clinical component of NSG 311 where students are required to obtain clinical hours in the hospital or community-based healthcare setting. This course has assignments related to identifying sustainable solutions to unsustainable practices presently used in the hospital or healthcare setting, and present a 10 minute presentation on the topic to increase student awareness of sustainable principles. During home health visits, students are charged with identifying social determinants of health and sustainable solutions to provide healthcare to vulnerable populations.

NTD205	Introduction to the Principles of Food Selection and Preparation	Nutrition	UG	<p>This course will consist of a nutritionally based study of the basic principles of food selection and preparation with an emphasis on food safety. Course includes a comparative study and integration of convenience food and traditionally prepared food, enhanced by an experiential lab component.</p> <p>One of the course objectives: Discuss environmental issues related to food (irradiation, genetically modified foods, biotechnology, organic)</p>
NTD304	Global Nutrition	Nutrition	UG	We looked at issues of climate change and the impact on food security, and we also looked at how technology (such as hydrofracking) created threats to our farming, food and water resources.
NTD305	Vegetarian Nutrition	Nutrition	UG	Covers plant-based diets, nutrition, benefits to environment, planet, animal welfare, etc. Discussed social justice, sustainability, economics, health issues.
NTD410	Quantity Food Production	Nutrition	UG	A basic course in quantity food production. Emphasis is placed on the essentials of operating a foodservice facility - menu planning, purchasing, storage, issuing, food production, service, distribution, quality control, sustainability, and food safety.
NTD412	Advanced Nutrition	Nutrition	UG	Covers vitamins and minerals, emphasis on achieving micronutrient adequacy without heavy reliance on animal food consumption, sustainable agriculture and benefits of diets based on plants.
NTD416	Foodsystems Management 1	Nutrition	UG	A study of the organization and administration of foodservice and nutrition systems and the functions and responsibilities specific to management; decision-making, planning, organizing, and staffing. Sustainability is referenced in most chapters.
NTD417	Food Systems Management 2	Nutrition	UG	A study of the organization and administration of foodservice and nutrition systems and the functions and responsibilities specific to management; controlling operations, budgeting, and marketing. Management of human resources, food, materials, capital, facilities, and markets as related to various foodservice systems will be examined. Sustainability is reference in most chapters.
NTD625	Food Policy and Programs	Nutrition	G	Examine food policies from farm to table, including sustainable food practices, environmental impact. This class has nutrition and food insecurity/vulnerable populations focus.

PAX200	Introduction to Peace and Conflict Studies	Philosophy	UG	An interdisciplinary inquiry into the nature and causes of social conflict. The aim throughout is to find ways of avoiding destructive conflict, whether through negotiation or other means. The issue of justice as a factor in conflict receives special attention.
PEA142	Yoga I	Kinesiology	UG	The purpose of the PEA 142, Yoga I and PEA 143 Yoga II is to help each student to develop a personal Yoga practice. The philosophy of Yoga includes aspects such as, do no harm, tell the truth, take only what you need, moderation, and letting go of what is not needed. Within the courses, there are lectures, discussions, and assignments that help each student to explore what this means for them on a daily basis not only in mindful movement and breath but also as a consumer in the world.
PEA143	Yoga II	Kinesiology	UG	The purpose of the PEA 142, Yoga I and PEA 143 Yoga II is to help each student to develop a personal Yoga practice. The philosophy of Yoga includes aspects such as, do no harm, tell the truth, take only what you need, moderation, and letting go of what is not needed. Within the courses, there are lectures, discussions, and assignments that help each student to explore what this means for them on a daily basis not only in mindful movement and breath but also as a consumer in the world.
PEA242	Yoga 3	Kinesiology	UG	This course is the third in the Yoga sequence and will provide further development of Yoga skills for the participant. Individual interested in teaching Yoga will explore teaching methodology and will address the individual requirements established by the Yoga Alliance.
PHI101	Introduction to Philosophy	Philosophy	UG	Surveys the history of Western philosophy and its primary questions including "What is really real?," "What can we know for certain?" and "What should human beings value and protect?"
PHI102	Introduction to Religious Study	Philosophy	UG	This course is a both survey of world religions and exploration of critical issues such as gender, class, and cultural and environmental problems. This class is a writing emphasis and interdisciplinary course.
PHI180	Introduction to Ethics	Philosophy	UG	An ethical study of major moral problems related to oppression and the environment. Use the Blue River Declaration (2011), Aldo Leopold, environmental ethicists and Native American perspectives to discuss mountaintop coal mining, logging of National Forests, etc.

PHI204	Philosophy and Religion of India	Philosophy	UG	This course examines the history, practices, and basic tenets of philosophies of India. This course focuses on the challenge of rethinking Indian philosophies in relation to a just and sustainable society by exploring the current ecological issues such as climate change, alternative energy and fossil fuel, food production and GMOs, etc.
PHI280	Philosophy and Film	Philosophy	UG	This course helps students understand and discuss philosophy, film, and how the two disciplines intersect. Students' critical thinking skills will improve as they use film theory and terminology to decipher key philosophical texts, and vice versa. The impact of environmental factors (climate change, food access/deserts, water control) on issues of social justice and equity is covered.
PHY100	Elements of Physics - The Energy Crisis	Physics and Pre-Engineering	UG	Elements of Physical Science offers students the opportunity to develop a deep understanding of the meaning of the term "energy". By the end of the course, students will be able to use the principles of physics to calculate the energy costs of many day-to-day human activities and to evaluate popular claims regarding energy costs and savings on local and global scales. The content areas of this course include kinematics, dynamics, thermodynamics, electromagnetism, electronics, quantum mechanics, and nuclear physics.
PHY100	Physics and Technology for Future Presidents	Physics and Pre-Engineering	UG	This course is designed to help students to develop a useful understanding of how the physical world around them functions and provide them the tools necessary to make informed decisions about their interaction with it. Emphasis is placed on developing critical thinking skills. The Topics covered include energy, momentum, force, heat, electricity, magnetism, light and radiation. These are introduced and discussed in the context of experiences and decisions informed non-science majors will encounter. The course focuses on sources of energy; its utilization and the resulting impact on the environment in general and global warming in particular.

PPA510	Topics in Ethics and Public Administration	Public Policy and Administration	G	This elective topics course will provide a graduate level introduction to the subject of ethics. Simply put, the study of ethics deals with issues of right and wrong, and good and bad. The course will include discussions of both personal ethics and professional ethics, with a primary focus on professional ethics within the field of public administration. Perspectives to be considered will include: government employees, not-for-profit employees, professional contracts serving public sector entities, and finally elected officials. The course will have a number of key discussion topics with each week focusing on one of these topical areas. An emphasis is placed on accountability and responsibility of public service, the methods of moral reasoning and the connection to behavior, decision-making and ethical situations.
PPA514	American Public Policy	Public Policy and Administration	G	This course introduces students to American Public Policy. This course includes a survey of literature; examination of approaches; discussion of concepts and issues all within the field of American politics and the American public policy process.
SCB210	Origins of Life and the Universe	Physics and Pre-Engineering	UG	Examines phenomena that led to intelligent life on Earth. It examines the conditions in the early universe that gave rise to matter, how that matter was processed in multiple generations of stars to produce the elements needed for biochemistry, the history of conditions on the surface of the Earth through geological time that led to the flowering of life on the planet, and how conditions permitted that life to evolve. The course also applies what we learned about life in Earth to investigate the likelihood of life arising elsewhere in the cosmos.
SCI101	The Carbon Cycle	Earth and Space Sciences	UG	Uses the carbon cycle as a thematic organizer to teach biological and geological concepts. In SCI 101, students make in-depth, qualitative and semi-quantitative investigations of some aspects of the carbon cycle on the WCU campus, such as the woodland on South Campus and the coal-burning power plant, and consider the global implications of their results.
SOC200	Introduction to Sociology	Anthropology and Sociology	UG	This course serves as an introduction to the science of sociology and is designed to help students better understand the world in which they live. We explore prominent sociological principles, concepts, theories, and ideas, with emphasis on understanding the impact of social structure in shaping our lives, as well as the relationships between social institutions in contemporary American society.

SOC360	Sociology of Culture	Anthropology and Sociology	UG	Culture incorporates language, ideas, beliefs, values, traditions, and a range of other vehicles used to experience and express meaning. It is a learned (though taken-for-granted) system of shared meaning that not only allows us to perceive, think about, and make sense of our world, but also provides the means for sharing experiences with others. In this course, we examine how culture both holds society together and fuels social change.
SOC361	Sociology of Medicine	Anthropology and Sociology	UG	A sociological perspective on health, illness, and medical care; the course covers environmental health.
SSC331	Secondary Social Studies Teaching Methods	History	UG	Designed to prepare History, Geography, and Political Science majors in the Elective Social Studies Certification program to teach a variety of disciplines in middle and high schools. In SSC 331 Secondary Social Studies Teaching Methods, teacher candidates and faculty design and teach a huge range of lessons and units that often include sustainability issues. These lessons and/or activities most often emerge in lessons that focus on the discipline of Geography, but can also emerge in History, Economics, and Civics lessons, too. These lessons and units help candidates fulfill National Council for the Social Studies expectations for the preparation of Social Studies Teachers.
SWG501	Foundation Practice I	Social Work - Graduate	G	This course focuses on foundations of social work practice and learning how to engage, assess, and intervene with marginalized and oppressed individuals in their environments. Social work is inherently a political profession and requires students to understand the intersection of macro level advocacy and activism related to issues of social equity and consumption.
SWG502	Foundation Practice II	Social Work - Graduate	G	This course focuses on foundations of social work practice and learning how to engage, assess, and intervene with families with marginalized and oppressed families and groups in their environments. Macro level advocacy and activism related to issues of social equity and consumption also apply.

SWG511	The Dialect of Oppression and Liberation	Social Work - Graduate	G	<p>A foundation course for the Master of Social Work Degree. The primary aims of the course are to introduce students to historical events surrounding oppression, discrimination, and racism. These historical events are discussed in the context of today's society and the effects these events have on contemporary society. The interdependent relationship between the individual, groups, and communities with the environment grounds most of the discussions. Sustainability is often addressed in this course in relation to social service and roadblocks to social work service provision. The ecological perspective across systems also informs this course to challenge preconceived ideas about social phenomena and methods to acquire critical thinking skills.</p>
SWG542	Advanced policy and community practice	Social Work - Graduate	G	<p>Includes environmental justice issues and possible consideration of soil, air, water issues for Policy proposal along with other areas for final policy proposal. Improvements and sustainability mentioned. Examples of city projects with sustainability goals included.</p>
SWG554	Human Development Across the Life Span	Social Work - Graduate	G	<p>This course uses a developmental and ecological perspective to explore the interaction of biological, psychological, and sociocultural systems, and the influence of human diversity and economics as determinants of human behavior of individuals and families.</p>

SWG590	Seminar in Social Work: Advanced Clinical Practice in Integrated Care	Social Work - Graduate	G	This course is an inter-professional, graduate level elective for students in health and behavioral health sciences for learning the latest in integrated health or "whole health" approaches to working with individuals, families, and communities around issues of behavior, food security, health, and recovery. SAMHSA, the NIH, and HRSA, along with a number of health professional organizations and foundations have been calling for a more integrated (primary health care and behavioral health care) approach to services. Crucial to this approach is to understand the public health ramifications of food security and nutrition and the interconnectedness of these factors on a person's health and recovery. Also addressed will be the interplay of health care needs, culture, values, and barriers to access to care. A number of integrated health organizations in the tristate area are looking for professionals trained in this whole health approach, able to work as part of an inter-professional team in collaborating with people toward improving health and supporting recovery. Health professionals and administrators from these organizations will be guest lecturers. Students will visit some of these organizations. Developing a hypothetical, integrated health program proposal (a team effort) is a key component of the course.
SWG590	Human Rights & Philadelphia	Social Work - Graduate	G	In-depth topics in social work offered to complement the program's concentration and not offered in required courses.
SWG590	Human Rights & Social Work	Social Work - Graduate	G	In-depth topics in social work offered to complement the program's concentration and not offered in required courses.
WOS100	Body Politics	Women's and Gender Studies	UG	This course examines the body as a contested site of both pleasure and oppression. Considerable focus will be placed on the impact of culture on our understandings of the body, including ideas about gender, race, and sexuality. Students of all genders will be encouraged to explore how their own body image has been shaped by social norms that are simultaneously accepted and resisted. This course thereby provides an opportunity to question a variety of norms surrounding the body, including ideas about beauty, size, shape and ability.
WOS225	Intro to Women's and Gender Studies	Women's and Gender Studies	UG	An interdisciplinary course designed to enable students to analyze the lived experience of women, to evaluate the impact of gender, to question the implications of changing cultural patterns, and to sample first-hand efforts for social change.

WOS276	Sexual Identity and Culture	Women's and Gender Studies	UG	Interdisciplinary introduction to meanings attached to human sexuality, exploring intersections between theories of sexual identity and theories of gender, class, race, ethnicity, age, and nationality.
WOS405	Feminist Theory	Women's and Gender Studies	G	Designed to introduce and discuss basic questions in contemporary feminist theory, the course will explore different philosophies of feminism and include such issues as motherhood, intersections with other theories of oppression, and body politics.
WRH310	Written Rhetoric: Power, Politics, and Environmental Writing.	English	UG	This course for the English major's writings track applies the program's core themes of the relationships among language, thought, and culture to writing about nature and the environment. This workshop serves the writing track course category called power and politics.
WRT120	WRT 120 Effective Writing	English	UG	Emphasis on Writing and issues of Sustainability (social, economic, and environmental).
WRT205	Critical Writing: Investigating Experience	English	UG	Focused on placed-based learning, research with a focus on issues of sustainability.