ENVIRONMENTAL STUDIES - GAYLORD NELSON INSTITUTE (ENVIR ST)

ENVIR ST/F&W ECOL 100 — FORESTS OF THE WORLD
3 credits.
Ecology and conservation of a wide range of forests, from tropical rain and dry forests, boreal forests, to temperate forests, outside of the USA. The main threats to forests, and different strategies to solve conservation and sustainable management issues in international forestry. Trade-offs in forest conservation and management, resulting from different values that people place on forests, issues in equity and equality in access to forest resources. The role of forests in climate change and extinction of species. Enroll Info: None
Requisites: None
Course Designation: Breadth - Either Biological Science or Social Science
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/SOIL SCI 101 — FORUM ON THE ENVIRONMENT
1-2 credits.
Lectures and discussions about environmental issues. Historical and contemporary environmental impacts of humans on the biosphere. Global futures: population, technology, societal values, resources and prospects for sustainable management. Enroll Info: None
Requisites: None
Course Designation: Breadth - Either Social Science or Natural Science
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2021

ENVIR ST/ATM OCN/GEOSCI 102 — CLIMATE AND CLIMATE CHANGE
3 credits.
This course describes the basic climate principles governing the climate system. It describes the climate and climate variability at present, climate evolution in the past, and the projected climate change into the future. The scientific principles underlying the natural and anthropogenic greenhouse effect and climate model forecasts are elucidated. Enroll Info: None
Requisites: None
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/AGROECOL/AGRONYM/C&E SOC/ENTOM 103 — AGROECOLOGY: AN INTRODUCTION TO THE ECOLOGY OF FOOD AND AGRICULTURE
3 credits.
Agroecology has blossomed across the world in recent decades as not only a science, but also a practice, and a movement. Employ the multiple disciplines and perspectives that Agroecology affords to analyze our agricultural and food systems within a broader context of dynamic social and ecological relationships. Enroll Info: None
Requisites: None
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/GEOSCI 106 — ENVIRONMENTAL GEOLOGY
3 credits.
Application of geology to problems resulting from the ever more intense use of the earth and its resources. Lecture and discussion. Enroll Info: Not open to those who have had Geosci 101, 100, or 109. Open to Fr
Requisites: None
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST 112 — ENVIRONMENTAL STUDIES: SOCIAL SCIENCE PERSPECTIVES
3 credits.
Explores different social science approaches to interpreting the relationship between environment and society at various scales, from the local to the global. Traces the social origins of environmental concerns, their social impacts, and the different responses they engender. Enroll Info: None
Requisites: Not open to students with credit for GEOG/ENVIR ST 337
Course Designation: Breadth - Social Science
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021
ENVR ST 113 — ENVIRONMENTAL STUDIES: ENVIRONMENTAL HUMANITIES
3 credits.

What is "The Environment"? Starting with the idea that what is "environmental" are relations of the human and nonhuman, course offers a global perspective on environmental humanities, introducing fields like philosophy, ethics and religion, literature, fine arts, history, and anthropology. Answer questions such as, How are some "environments" rendered as "natural," or as "problems" in Environmental Studies? How do we understand the expressions of global environmentalisms in terms of difference: among persons, between groups, and with respect to nonhumans? Master key skills such as comparison to answer fundamental questions about diverse environmental experience worldwide. Enroll Info: None
Requisites: None
Course Designation: Breadth - Humanities
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVR ST 115 — ENVIRONMENTAL HUMANITIES: ASIAN/PACIFIC PERSPECTIVES
3-4 credits.

Course offers a case-based approach to environmental studies from a humanistic perspective, taking into account diverse and connected transnational systems of Asia, materials draw on themes like forests, water, disaster, war, and conservation and wildlife. Course introduces disciplines in the Environmental Humanities (literature, religion, music, etc.) through studies in tradition, theory and practice across South Asia, Southeast Asia, East Asia and ocean and Pasifik regions including Aotearoa, New Zealand. Throughout the course we ask, how are environmental worldviews cast as the basis for action and understanding in the present? Enroll Info: None
Requisites: None
Course Designation: Breadth - Humanities
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVR ST 117 — GREENHOUSE ROOTS SEMINAR
1 credit.

GreenHouse residents will be challenged to think deeply about themselves and their place in the social and biophysical communities of which they are a part. We will read some classic and provocative essays to help us engage the meaning(s) of "sustainability" and to consider how our lifestyle and career choices impact other people and the environment. We will also take field trips to experience firsthand the deep history of sustainability in Wisconsin and to learn more about current sustainability initiatives on the UW-Madison campus and in the greater Madison Area. Enroll Info: None
Requisites: None
Course Designation: Member of the GreenHouse Learning Community
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVR ST/GEOG 120 — INTRODUCTION TO THE EARTH SYSTEM
3 credits.

Introduces students to how the Earth system works and what makes Earth livable. Through this course you will gain a deeper appreciation for how the atmosphere, oceans, life, and earth's surface interact to shape our local, regional and global landscapes. Many students take this course to fulfill their physical science requirement. Others use it as a gateway to majors and careers in Geography, Environmental Studies, and Environmental Science. Enroll Info: Not open to students with credit for ENVR ST/GEOG 127
Requisites: None
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVR ST/HIST SCI/HISTORY 125 — GREEN SCREEN: ENVIRONMENTAL PERSPECTIVES THROUGH FILM
3 credits.

From Teddy Roosevelt's 1909 African safari to the Hollywood blockbuster King Kong, from the world of Walt Disney to The March of the Penguins, cinema has been a powerful force in shaping public and scientific understanding of nature throughout the twentieth and twenty-first century. How can film shed light on changing environmental ideas and beliefs in American thought, politics, and culture? And how can we come to see and appreciate contested issues of race, class, and gender in nature on screen? This course will explore such questions as we come to understand the role of film in helping to define the contours of past, present, and future environmental visions in the United States, and their impact on the real world struggles of people and wildlife throughout the world. Enroll Info: None
Requisites: None
Course Designation: Breadth - Either Humanities or Social Science
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2017

ENVR ST/ILS 126 — PRINCIPLES OF ENVIRONMENTAL SCIENCE
4 credits.

This course relates principles of environmental science to our daily activities, with an eye to sustainability, conservation, and systems thinking. It introduces science as a process of inquiry and discovery rather than just a pre-established set of facts. Topics relate to energy, water, and land use, and include food, electric power, materials, buildings, transportation, and waste. Enroll Info: None
Requisites: None
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021
ENVIR ST/GEOG 127 — PHYSICAL SYSTEMS OF THE ENVIRONMENT
5 credits.

Climatic regimes, landforms, soils, waters and life forms at the earth’s surface in terms of energy-transforming processes, locational patterns, and changes through time. Enroll Info: Open to Freshmen not open to those with GEOS/ENVIR ST 120, 123, 124, or 125 credit or ILS 132 credit

Requisites: None
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/GEOG 139 — GLOBAL ENVIRONMENTAL ISSUES
3 credits.

Explores the global and local nature of environmental problems, including issues of climate change, food, energy, globalization, deforestation, biodiversity loss, resource access, environmental justice, and population. Considers how we should analyze and act on environmental problems as we confront the apparently daunting scale of such issues. What appear to be single global environmental issues are actually composed of many smaller, context-specific, and place-dependent problems or conflicts. Through an interdisciplinary and geographic perspective, these issues can be understood and addressed at the scale of our lived lives. Enroll Info: None

Requisites: None
Course Designation: Breadth - Social Science
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/ENGL 153 — LITERATURE AND THE ENVIRONMENT
3 credits.

An introduction to literature in English about the natural world and humankind’s relationship with it; specific topics will vary. Enroll Info: None

Requisites: None
Course Designation: Breadth - Literature. Counts toward the Humanities req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Summer 2021

ENVIR ST/ATM OCN 171 — GLOBAL CHANGE: ATMOSPHERIC ISSUES AND PROBLEMS
2-3 credits.

Atmospheric problems of global significance. Greenhouse warming, ozone layer, acid rain, climate change. Study based on elementary principles of atmospheric science. Systems approach applied to changing atmospheric composition. Interactions among geochemical cycles, anthropogenic inputs and other parts of the environment. Enroll Info: None

Requisites: None
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST 199 — DIRECTED STUDY
1-3 credits.

Independent work in environmental studies overseen by a qualified instructor. Enroll Info: None

Requisites: Consent of instructor
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2019

ENVIR ST/ENTOM 201 — INSECTS AND HUMAN CULTURE-A SURVEY COURSE IN ENTOMOLOGY
3 credits.

Importance of insects in man’s environment, emphasizing beneficial insects, disease carriers, and agricultural pests that interfere with man’s food supply. Environmental problems due to insect control agents. Enroll Info: None

Requisites: None
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021
ENVIR ST/ENTOM 205 — OUR PLANET, OUR HEALTH
3 credits.

An introduction to the multiple determinants of health, global disease burden and disparities, foundational global health principles, and the overlap between ecosystem stability, planetary boundaries, and human health. Explore the core fundamentals of global health scholarship, including but not limited to infectious disease, sanitation, and mental health, and also consider ecological perspectives on these issues through the lens of planetary boundaries. Attention is placed on how human-mediated global change (e.g. climate change, biodiversity loss, land-use patterns, geochemical cycling, agricultural practice) impacts human health and the ecosystem services we depend on. An overview of pertinent issues in sustainability science and planetary health discourse, including the 'Anthropocene' and resilience to understand and critically assess global trends. Enroll Info: None

Requisites: None

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/GNS 210 — CULTURES OF SUSTAINABILITY: CENTRAL, EASTERN, AND NORTHERN EUROPE
3 credits.

Exploration of the ideals and realities of sustainability in Central, Northern and East European contexts. Cultural, historical, environmental and other perspectives on sustainability on a local and global scale. Enroll Info: None

Requisites: None

Course Designation: Breadth - Humanities
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2019

ENVIR ST/MED HIST 213 — GLOBAL ENVIRONMENTAL HEALTH: AN INTERDISCIPLINARY INTRODUCTION
3 credits.

The course provides an introduction to the intersections of health and environment on a global scale. Exposes students to a range of problems in global environmental health, including climate change, disease ecology, and the globalization of disease. Enroll Info: None

Requisites: None

Course Designation: Breadth - Either Humanities or Social Science
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/GEOG/SOIL SCI 230 — SOIL: ECOSYSTEM AND RESOURCE
3 credits.

Soils are fundamental to ecosystem science. A systems approach is used to investigate how soils look and function. Topics investigated include soil structure, biology, water, fertility, and taxonomy as well as the human impact on the soil environment. Enroll Info: None

Requisites: Not open to students with credit for SOIL SCI 301

Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/A A E 244 — THE ENVIRONMENT AND THE GLOBAL ECONOMY
4 credits.

The "economic way of thinking" about global and regional environmental issues. Topics include climate change, biodiversity preservation, ocean fisheries, environmental impacts of international trade, poverty and the environment, and sustainability. Enroll Info: None

Requisites: None

Course Designation: Breadth - Social Science
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST 250 — INTRODUCTION TO SUSTAINABILITY SCIENCE
3 credits.

Course introduces issues connected with "Sustainability Science," the study of coupled human-natural systems with implications for resource use, human well-being, and the environment. Methods include risk assessment, life-cycle assessment, and conceptual modeling, as well as basic background on natural systems such as climate, water, and land use, and engineered systems including energy, transportation, land use, and materials. Enroll Info: A sem of calculus or concurrent enrollment in MATH 136, 171, 211, 221 or equiv

Requisites: None

Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2015
ENVIR ST 251 — ECOLOGY AND THE GLOBAL ENVIRONMENT
3 credits.

Ecology is the study of relationships in the natural world, many of which are increasingly being altered by human activities. These disruptions modify the environment on a global scale, affecting populations and communities of plants, animals, and other organisms, and making Earth increasingly inhospitable for life, including for humans. Explore the natural world and humans' role within it, as both instigators and managers of global environmental change. Content includes lectures as well as readings from the scientific literature, lay audience books, and current environmental news. Enroll Info: None
Requisites: None
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/BOTANY/ZOOLOGY 260 — INTRODUCTORY ECOLOGY
3 credits.

For nonbiology students: the relationships of organisms and the environment. Population dynamics and community organization, human-environment relationships, action programs. Enroll Info: Open to Freshmen. Does not count toward Botany or Zoology major
Requisites: None
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/RELIG ST 270 — THE ENVIRONMENT: RELIGION & ETHICS
3-4 credits.

What are sources on which members of religious communities draw in order to understand and address environmental change? This course explores how religious persons and communities confront global environmental questions and challenges today, with case studies drawn from culturally and religiously plural societies such as India and Indonesia. Introducing diverse varieties of Christianity, Islam, and Hindu and Buddhist systems, course gives overview of some approaches in the environmental humanities related to philosophy, history, sociology and anthropology, and ethics. Fulfills requirement for Environmental Studies and Religious Studies degree programs. Enroll Info: None
Requisites: Sophomore standing
Course Designation: Breadth - Humanities
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/ENGL 305 — RHETORIC, SCIENCE, AND PUBLIC ENGAGEMENT
3 credits.

Focuses on theoretical and practical aspects of public engagement with scientific research, policy, and management, with an emphasis on writing, rhetoric, and scientific discourse. Enroll Info: None
Requisites: Sophomore standing
Course Designation: Breadth - Humanities
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2020

ENVIR ST/AMER IND 306 — INDIGENOUS PEOPLES AND THE ENVIRONMENT
3 credits.

Indigenous peoples often have very close relationships to ancestral homelands, species and natural resources. However, definitions of "indigenous" can be controversial and highly politicized. Diverse outlooks on identities, worldviews and environmental governance clarify the complex meanings of indigeneity in the US. This course highlights American Indian perspectives, conservation practices, and policy environments through consideration of US and international case studies. American Indian experiences shed light on pressing issues of resource sustainability and sovereignty, and demonstrate linkages to global Indigenous environmental issues and strategies. Enroll Info: None
Requisites: Sophomore standing
Course Designation: Ethnic St - Counts toward Ethnic Studies requirement
Breadth - Either Humanities or Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST 307 — LITERATURE OF THE ENVIRONMENT: SPEAKING FOR NATURE
3 credits.

19th and 20th century British and American literature. Enroll Info: Sophomore, junior or senior standing only
Requisites: Sophomore, junior, or senior standing only
Course Designation: Breadth - Literature. Counts toward the Humanities req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Summer 2021
ENVIR ST 308 — OUTDOORS FOR ALL: INEQUITIES IN ENVIRONMENTALISM
3 credits.

National parks, wilderness, and monuments that are set aside for recreational enjoyment are disproportionately underutilized by African Americans, Hispanics, Asians and Native Americans for reasons that are inextricably linked to past and present racial discrimination. Broadening access and participation in outdoor recreation requires a clear understanding of this history, as well as an appreciation of the continuing efforts by people of color to reassert their right to the outdoors. Gain a clear understanding of the sociocultural circumstances that have created disparities among the U.S. population in citizens’ ability to access and enjoy public land and the efforts that aim to address them. Enroll Info: None

Requisites: Sophomore standing

Course Designation: Ethnic St - Counts toward Ethnic Studies requirement

Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Summer 2021

ENVIR ST/GEOG 309 — PEOPLE, LAND AND FOOD: COMPARATIVE STUDY OF AGRICULTURE SYSTEMS
3 credits.

Introduction to how and why humans have transformed natural landscapes around the world, including tropical deforestation. Exploration of different agricultural systems, and topics such as food security, land scarcity, bioenergy and the impacts of food production on the environment. Enroll Info: Sophomore standing

Requisites: None

Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S

Sustain - Sustainability

Repeatable for Credit: No

Last Taught: Summer 2021

ENVIR ST/MHR 310 — CHALLENGES & SOLUTIONS IN BUSINESS SUSTAINABILITY
3 credits.

Provides central knowledge and skills to tackle challenges at the intersection of business and sustainability. Study of the failures in market and decision making systems that lead to sustainability challenges, and learn to address these challenges on the policy, organizational, and individual level. Enroll Info: None

Requisites: Sophomore standing, not open to graduate students

Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S

Sustain - Sustainability

Repeatable for Credit: No

Last Taught: Spring 2021

ENVIR ST/ZOOL 315 — LIMNOLOGY-CONSERVATION OF AQUATIC RESOURCES
2 credits.

General limnology. Physical, chemical and biological characteristics and processes of lakes. Environmental problems and rehabilitation of lakes. Enroll Info: Intro course in biol; intro course in chem recommended

Requisites: None

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Fall 2020

ENVIR ST 317 — COMMUNITY ENVIRONMENTAL SCHOLARS PROGRAM SEMINAR
1 credit.

Provides opportunities to analyze the connections among environmental issues and community engagement. Requires work with community-based environmental and/or sustainability-related organizations, with opportunities to design and lead projects as well as to interact with leaders in these organizations. Emphasizes the professional skills needed to work effectively individually, in teams, in internships, and in professional positions. Enroll Info: None

Requisites: Member of Community Environmental Scholars Program

Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Spring 2021

ENVIR ST/ATM OCN/GEOL 322 — POLAR REGIONS AND THEIR IMPORTANCE IN THE GLOBAL ENVIRONMENT
3 credits.

Reviews the past, present, and future of the Arctic and Antarctic regions. Covers the history, geography, atmospheric and ocean circulations, permafrost, ice sheets, glaciers, and future state of the Arctic and Antarctica as projected by earth system models. Also explores the role of the polar regions in the earth’s system and associated global climatic feedbacks. Enroll Info: None

Requisites: Sophomore standing

Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2021
ENVIR ST/SOIL SCI 324 — SOILS AND ENVIRONMENTAL QUALITY
3 credits.

Interaction of soils with environmental contaminants and the role of soils in pollution control. Enroll Info: None

Requisites: CHEM 104, 109, or 116, or graduate/professional standing

Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Grad 50% - Counts toward 50% graduate coursework requirement

Sustain - Sustainability

Repeatable for Credit: No

Last Taught: Summer 2021

ENVIR ST 326 — SUSTAINABILITY TOOLS: SYSTEMS THINKING & LIFE CYCLE ASSESSMENT
3 credits.

Explores fundamentals of systems thinking and how to apply a systems-based approach to understanding and addressing sustainability issues ranging from climate change to environmental racism. Systems content is complemented with foundational skills in life cycle assessment (LCA), an inherently systems-based application of sustainability science that considers the full measure of resources used and waste created throughout the cradle-to-grave supply chain of a product or process. Life cycle and systems-based approaches are used to characterize both human and natural systems in local and global contexts. These approaches also will be integrated with sustainability concepts including the triple bottom line, industrial ecology, and the circular economy. Concepts include: life cycle stages, supply chains, stocks, flows, feedback loops, and unintended consequences. Enroll Info: None

Requisites: Sophomore standing

Course Designation: Breadth - Natural Science

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Sustain - Sustainability

Repeatable for Credit: No

ENVIR ST/HISTORY 328 — ENVIRONMENTAL HISTORY OF EUROPE
3 credits.

This class explores a new approach to a part of the world with a very old history, but one that is now as 'modern' as any. The changing, complex relations between Europeans and their environments from antiquity to the twenty-first century offer instructive comparison with American and current global environmental concerns. Approaching Mediterranean and Western civilizations from an environmental viewpoint also offers fresh perspective on these enduring cultures. Enroll Info: Sophomore Standing

Requisites: None

Course Designation: Breadth - Either Humanities or Social Science

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Sustain - Sustainability

Repeatable for Credit: No

Last Taught: Fall 2020

ENVIR ST/ATM OCN/GEOG/GEOSCI 332 — GLOBAL WARMING: SCIENCE AND IMPACTS
3 credits.

Climate change is underway and will continue into the foreseeable future. This course offers a fundamental understanding of how and why global warming is happening, and what to expect in the future. Together, we will investigate and discuss the evidence for change, the science that explains these observations, predicted impacts on humans and ecosystems, and the societal debate over proposed solutions. Enroll Info: Geog/IES 120 or 127 or ATM OCN 100 or equivalent recommended. Freshmen permitted only with consent of instructor

Requisites: None

Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Sustain - Sustainability

Repeatable for Credit: No

Last Taught: Spring 2021

ENVIR ST/ATM OCN/GEOG/GEOSCI 335 — CLIMATIC ENVIRONMENTS OF THE PAST
3 credits.

Climate change at timescales from the last several million years to the last 100 years, with emphasis on more recent timescales. Examines how climate variability arises from interplay between external forcings, feedbacks within the earth system, and (more recently) human activity. Enroll Info: None

Requisites: Sophomore standing

Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Fall 2020

ENVIR ST/GEOG 337 — NATURE, POWER AND SOCIETY
3 credits.

Explores the links between nature, power and society in today's world. The course considers the complex relationships between humans and the earth’s resources, including food, energy, physical materials, water, biota, and landscapes; it considers issues linked to population and scarcity, resource tenure, green consumerism, political economy, environmental ethics, risks and hazards, political ecology, and environmental justice. Enroll Info: Sophomore standing. Not open to students who took Geog/Env 139 in 2010-11, 2011-12 or 2012-13.

Requisites: None

Course Designation: Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Sustain - Sustainability

Repeatable for Credit: No

Last Taught: Fall 2020
ENVIR ST/GEOG 339 — ENVIRONMENTAL CONSERVATION
4 credits.

Examines major environmental conservation approaches in the U.S. and developing countries and how they are influenced by sociopolitical factors, cultural values and scientific understandings of nature. Historical and contemporary cases are explored with emphasis on biodiversity and climate change issues. Enroll Info: Sr st
Requisites: None
Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/A AE/ECON 343 — ENVIRONMENTAL ECONOMICS
3-4 credits.

Microeconomic principles underlying the use of natural resources such as air, water, forests, fisheries, minerals and energy. These principles are applied in the examination of pollution control, preservation vs. development, deforestation, and other environmental issues. Enroll Info: None
Requisites: A AE 215, ECON 101, or 111
Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/AMER IND/GEOG 345 — MANAGING NATURE IN NATIVE NORTH AMERICA
3 credits.

Surveys the concepts, practices, and issues associated with natural resource management in American Indian communities. Enroll Info: None
Requisites: Sophomore standing
Course Designation: Ethnic St - Counts toward Ethnic Studies requirement
Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST 349 — CLIMATE CHANGE GOVERNANCE
3 credits.

Climate change is being felt, and addressed, at every level of society, from the individual to the global scale. This course examines efforts to mitigate climate change. We will learn about initiatives that are being implemented through international treaties; national, state, and municipal government policies; corporate programs; and individual behavior. We will examine the advantages and disadvantages of each approach, their successes, and the obstacles they have faced. We will also evaluate various forms of climate activism as a means of pushing for meaningful action on climate change. Enroll Info: None
Requisites: Sophomore standing
Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/HIST SCI 353 — HISTORY OF ECOLOGY
3 credits.

The development of the science of ecology and related scientific issues and social attitudes, with a primary emphasis on developments from the late nineteenth century to the present. Enroll Info: Jr st or cons inst
Requisites: None
Course Designation: Breadth - Humanities
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Spring 2015

ENVIR ST/ATM OCN 355 — INTRODUCTION TO AIR QUALITY
3 credits.

Air pollution is a complex environmental challenge, because it links chemistry and meteorology to engineering, law, policy, and public health. This class presents key ideas in air quality, with the goal of providing students from a range of backgrounds with a solid foundation in air quality to support a range of educational and career goals. This class will focus on reactive pollutants in the outdoor environment, especially gas and particle phase chemicals that react with human tissue to cause sickness and death. We will discuss the environmental impacts of these pollutants and regulatory approaches for their control in the U.S. and around the world. Indoor air quality will be included for completeness. Non-reactive pollutants, especially carbon dioxide, will be discussed throughout the class to compare and contrast with reactive air pollutants. Students will complete a research-based project to develop skills relevant to air quality analysis. Enroll Info: None
Requisites: Sophomore standing
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020
ENVIR ST/HIST SCI/RELIG ST 356 — ISLAM, SCIENCE & TECHNOLOGY, AND THE ENVIRONMENT
3-4 credits.

Survey of Muslim religious understandings of science, technology, nature and environment. Lectures and readings present a global perspective through case studies, covering sources such as the Qur’an, theology and law, and traditions of esoteric piety (mysticism), and historical and contemporary issues like medical ethics, virtual realities, and environmental change, challenge and crisis. Enroll Info: Sophomore standing
Requisites: None
Course Designation: Breadth - Humanities
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2015

ENVIR ST/F&W ECOL/ZOOLOGY 360 — EXTINCTION OF SPECIES
3 credits.

Requisites: Sophomore standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/LAND ARC 361 — WETLANDS ECOLOGY
3 credits.

Types, origins, settings, and structure of wetlands. Physical, biological, and cultural values, uses and assessments. Physical and biological characteristics and dynamics. Protection, management and restoration. Field trips, literature review, term paper, and personal observations required. Enroll Info: Upper class st; basic college-level biology or equiv (such as relevant physical sciences)
Requisites: None
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/BSE 367 — RENEWABLE ENERGY SYSTEMS
3 credits.

Students will learn about the state-of-the-art in renewable energy applications including biomass for heat, electric power and liquid fuels as well as geo-energy sources such as wind, solar, and hydro power. Students will do engineering calculations of power and energy availability of renewable energy sources and learn about requirements for integrating renewable energy sources into production, distribution and end-use systems. Enroll Info: None
Requisites: MATH 112 or 114 or graduate/professional standing
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/PL PATH 368 — ENVIRONMENTAL LAW, TOXIC SUBSTANCES, AND CONSERVATION
2 credits.

Development of and need for "environmental law"; an introduction to the legal system; public and private rights in the environment; regulation of pesticides and toxic substances; environmental legislation and rulemaking; environmental impact statements; professionals as expert witnesses. No prior knowledge of law assumed. For scientists and others dealing with environmental issues in academia, industry and government. Enroll Info: So st
Requisites: None
Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2013

ENVIR ST/HISTORY 369 — THINKING THROUGH HISTORY WITH ANIMALS
3-4 credits.

Explores the history of human relationships with animals around the world with focus on agriculture and hunting, political economic development, human identity, and biological science and conservation. Enroll Info: None
Requisites: Sophomore standing or one course in HISTORY, GEOG or ENVIR ST
Course Designation: Breadth - Either Humanities or Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2019
ENVIR ST/F&W ECOL/G EOL/GEOG/GEOSCI/LAND ARC 371 — INTRODUCTION TO ENVIRONMENTAL REMOTE SENSING
3 credits.

Introduction to the Earth as viewed from above, focusing on use of aerial photography and satellite imagery to study the environment. Includes physical processes of electromagnetic radiation, data types and sensing capabilities, methods for interpretation, analysis and mapping, and applications. Enroll Info: MATH 114 Sophomore standing

Requisites: None
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/F&W ECOL/G EOL/GEOG/GEOSCI/LAND ARC 372 — INTERMEDIATE ENVIRONMENTAL REMOTE SENSING
3 credits.

Examines intermediate-level concepts in information extraction, data processing and radiative transfer relevant to remote sensing of the environment. Includes transforms, image correction, classification algorithms and change detection, with emphasis on applications for land use planning and natural resource management. Enroll Info: Envir St 301 or consent of instructor, sophomore standing

Requisites: None
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2015

ENVIR ST 375 — FIELD ECOLOGY WORKSHOP
3 credits.

Lecture labs wholly in field for intensive study of behavior of plants and animals and their relationship to environments and human impacts. Individual and group observations, measurements, interpretation, reports, typing personal experience with specifics to basic principles. Enroll Info: Some basic biology ecology recommended; cons inst

Requisites: None
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/CIV ENGR/GEOG 377 — AN INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS
4 credits.

Design, implementation and use of automated procedures for storage, analysis and display of spatial information. Covers data bases, information manipulation and display techniques, software systems and management issues. Case studies. Meets with Civil Environmental Engineering 357. Enroll Info: None

Requisites: Sophomore standing
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST 399 — DIRECTED STUDY
1-3 credits.

Independent work in environmental studies overseen by a qualified instructor. Enroll Info: None

Requisites: Consent of instructor
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Summer 2020

ENVIR ST 400 — SPECIAL TOPICS IN THE ENVIRONMENT: BIOLOGICAL ASPECTS OF ENVIR ST
1-4 credits.

Topics vary each term, within the scope of the environmental biological sciences. These may encompass areas such as conservation biology, environmental ecology, issues in ethnobotany and tropical ecology, environmental health, ecotoxicology, biodiversity, endangered resources, biological systems analysis, and field studies. Enroll Info: So st. Authorization may be required

Requisites: None
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2020
ENVIR ST 401 — SPECIAL TOPICS: ENVIRONMENTAL PERSPECTIVES IN THE PHYSICAL SCIENCES
1-4 credits.
Topics vary each term, within the scope of the physical environmental sciences. These may encompass issues in energy resources, environmental measurement and analysis, modeling, remote sensing and GIS, environmental engineering and transportation, air and water resources, and global climate change. Enroll Info: So st. Authorization may be required
Requisites: None
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2021

ENVIR ST 402 — SPECIAL TOPICS: SOCIAL PERSPECTIVES IN ENVIRONMENTAL STUDIES
1-4 credits.
Topics vary each term, within the scope of the environmental social sciences. These may include issues in environmental policy, law, economics, land use, sustainability, food systems, energy policy, conflict resolution, environmental justice, and international development. Enroll Info: None
Requisites: None
Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2021

ENVIR ST 404 — SPECIAL TOPICS IN ENVIRONMENTAL HUMANITIES
1-3 credits.
Specific topics will vary, within the scope of the environmental humanities. These may encompass themes in environmental ethics, literature, art, film, aesthetics and design, history, and indigenous knowledge. Enroll Info: None
Requisites: Sophomore standing
Course Designation: Breadth - Humanities
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2021

ENVIR ST/C&E SOC/CURRIC 405 — EDUCATION FOR SUSTAINABLE COMMUNITIES
3 credits.
How can education - for children and adults, in school and out - help to address crucial environmental and social sustainability challenges? What ideas and strategies have guided environmental and sustainability education over the years? What can individual people do to address environmental challenges, and what can only be accomplished by people working together? What does sustainability have to do with justice - and vice versa? Examine the principles behind behavior change and empowerment, community action and whole-scale social reform. Drawing on research and theory from across the social sciences, we will explore the uncertain relationship between education and advocacy, seeking the means by which education can have the greatest impact without compromising the core ideals of a democratic society. Enroll Info: None
Requisites: Sophomore standing
Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/GEOSCI 411 — ENERGY RESOURCES
3 credits.
Requisites: None
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST 413 — PRESERVING NATURE
3 credits.
Understand the theory and practice the skills of effective, scientific, ethical, and legitimate preservation of nature (biodiversity, the atmosphere, water, etc.). Learn from global lessons in how to intervene against threats to nature, and the roles of ethics, law, and research in preserving nature. Gain mastery of terminology and usage so as to communicate professionally about nature preservation. Enroll Info: None
Requisites: Sophomore standing or ZOOLOGY/BOTANY/ENVIR ST 260
Course Designation: Breadth - Either Biological Science or Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021
ENVIR ST 417 — SUSTAINABILITY SCIENCE, TECHNOLOGY AND POLICY
1 credit.

Analyze the concept of sustainability through current trends, including energy, air and water resources, agriculture, environmental measurement and analysis, modeling, remote sensing, Geographic Information Systems, the built environment, transportation, ecology, conservation and global climate change. Enroll Info: None
Requisites: Sophomore standing
Course Designation: Breadth - Natural Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/HISTORY/LEGAL ST 430 — LAW AND ENVIRONMENT: HISTORICAL AND CONTEMPORARY PERSPECTIVES
3 credits.

Explores environmental studies through a focus on law and legal history. Although its main concentration is on U.S. environmental law, the course will begin and end with broader historical and global perspectives. Topics include a survey of English, European, and early American legal approaches to land use, natural resources, and pollution through World War II as well as an examination of the development and practice of contemporary U.S. environmental law and consideration of the recent emergence of international environmental law. Enroll Info: None
Requisites: Sophomore standing
Course Designation: Breadth - Either Humanities or Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/C&EE 434 — PEOPLE, WILDLIFE AND LANDSCAPES
3 credits.

This course explores the relationship between humans and wildlife amidst diverse landscapes, both historic and contemporary, tropical and temperate. We study how humans shape wild animal populations by modifying physical environments, and by hunting, domesticating and introducing species. Enroll Info: None
Requisites: None
Course Designation: Breadth - Social Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2019

ENVIR ST/GEOG 439 — US ENVIRONMENTAL POLICY AND REGULATION
3-4 credits.

This course covers a broad cross-section of American environmental policy by focusing on specific statutes and policy arenas. In this course we will survey the basic elements of American environmental policy and regulation with a particular focus on the specific people, sites and scales at which environmental decision-making happens through primary-source case material. Understanding environmental outcomes in a complex society depends on observing both the structure of regulations and the geographic and social context in which such regulations emerge. This course will maintain a dual focus on (a) the legal and regulatory aspects of environmental regulation and (b) the specific geographic and social features of actual cases in which regulations and policy are used. Enroll Info: None
Requisites: None
Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/PHILOS 441 — ENVIRONMENTAL ETHICS
3-4 credits.

Adequacy of ethical theories in handling such wrongs as harm to the land, to posterity, to endangered species, and to the ecosystem itself. Exploration of the view that not all moral wrongs involve harm to humans. Inquiry into the notion of the quality of life and the ethics of the "lifeboat" situation. Enroll Info: None
Requisites: Undergraduate students with 3 credits in Philosophy or Institute of Environmental Studies or graduate student in IES Program
Course Designation: Breadth - Either Humanities or Social Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/CIV ENG/GEOSCI 444 — PRACTICAL APPLICATIONS OF GPS SURVEYING
2 credits.

Requisites: None
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2021
ENVIR ST/SPANISH 445 — CULTURE AND THE ENVIRONMENT IN THE LUSO-HISPANIC WORLD
3 credits.
Investigates how economy and culture work together, consuming and/or restoring their environments in divergent scenarios of the Hispanic World. Enroll Info: None
Requisites: SPANISH 223 and 224
Course Designation: Breadth - Humanities
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/ECON/POLI SCI/URB R PL 449 — GOVERNMENT AND NATURAL RESOURCES
3-4 credits.
Problems of public policy and administration for development and use of natural resources. Enroll Info: None
Requisites: Junior standing
Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2019

ENVIR ST/GEOG/HISTORY 460 — AMERICAN ENVIRONMENTAL HISTORY
4 credits.
Survey of interactions among people and natural environments from before European colonization to present. Equal attention to problems of ecological change, human ideas, and uses of nature and history of conservation and environmental public policy. Enroll Info: So st
Requisites: None
Course Designation: Breadth - Either Humanities or Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2018

ENVIR ST/HISTORY 465 — GLOBAL ENVIRONMENTAL HISTORY
3-4 credits.
Explores the history of human relationships with the environment on a global scale through analysis of long-term changes, from early civilizations, to the beginnings of global trade, the Industrial Revolution, urbanization, and 20th century technological developments. Offers first-hand historiographical research experience and training in writing for public web audiences. Enroll Info: None
Requisites: Sophomore standing or one course in HISTORY, GEOG or ENVIR ST
Course Designation: Breadth - Either Humanities or Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/GEOG/HISTORY 469 — THE MAKING OF THE AMERICAN LANDSCAPE
4 credits.
Surveys the historical geography and environmental history of the United States by tracing the evolution of the American landscape from precolonial times to the present, with special emphasis on teaching students skills they can use to interpret landscape history themselves. Enroll Info: None
Requisites: Sophomore standing or one course in HISTORY, GEOG or ENVIR ST
Course Designation: Breadth - Either Humanities or Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2018

ENVIR ST/POP HLTH 471 — INTRODUCTION TO ENVIRONMENTAL HEALTH
3 credits.
Impact of environmental problems on human health; biological hazards to human health from air and water pollution; radiation; pesticides; noise; problems related to food, occupation and environment of the work place; accidents. Physical and chemical factors involved. Enroll Info: None
Requisites: Junior standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021
Environmental Studies - Gaylord Nelson Institute (ENVIR ST)

ENVIR ST/PHYSICS 472 — SCIENTIFIC BACKGROUND TO GLOBAL ENVIRONMENTAL PROBLEMS
3 credits.

Designed to provide those elements of physics, atmospheric sciences, chemistry, biology and geology which are essential to a scientific understanding of global environmental problems. Specific examples of such problems include global warming, stratospheric ozone depletion, acid rain and environmental toxins. Enroll Info: None

Requisites: PHYSICS 103, 201, 207, 247, CHEM 103, 108, 109, 115, 116, or graduate/professional standing
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2016

ENVIR ST/POP HLTH 502 — AIR POLLUTION AND HUMAN HEALTH
3 credits.

Toxicologic, controlled and epidemiologic studies on major air pollutants. Overview of study methods, lung physiology and pathology; air pollution sources, types, meteorology, sampling methods, controls and regulations. Enroll Info: None

Requisites: Junior standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST 506 — MODELING AND ANALYSIS OF ENVIRONMENTAL SYSTEMS
3 credits.

Systems modeling; applications to environmental problems; systems methods. Enroll Info: None

Requisites: None
Course Designation: Breadth - Natural Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2019

ENVIR ST/ZOOLOGY 510 — ECOLOGY OF FISHES
3 credits.

Interactions of fishes with their physical, chemical, and biotic environment; physiological ecology, community ecology and fisheries sciences. Lake Mendota perch fishery and Shedd Aquarium field trips. Enroll Info: None

Requisites: (ZOOLOGY/BIOLOGY 101 and 102) or ZOOLOGY/BIOLOGY/BOTANY 152 or BIOCORE 381
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/ZOOLOGY 511 — ECOLOGY OF FISHES LAB
2 credits.

Anatomy and taxonomy of Wisconsin fishes and projects in fish ecology. Enroll Info: None

Requisites: Zoo 511 - needs Zoo 510 or concurrent enrollment
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/HIST SCI/MED HIST 513 — ENVIRONMENT AND HEALTH IN GLOBAL PERSPECTIVE
3 credits.

Explores the historical relationships between environmental change and human health from the 17th through the 20th century. Topics include colonialism and disease, medical geography, urban pollution and reform, workplace hazards, environmental risk, and the anti-toxics and environmental justice movements. Enroll Info: Jr st

Requisites: Junior standing
Course Designation: Breadth - Either Humanities or Social Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2016
ENVIR ST/F&W ECOL 515 — NATURAL RESOURCES POLICY
3 credits.

This course examines natural resources policy and law in the United States relating to forests, wildlife, and other natural resources. The course investigates the policy-making process and the role of science, values, property, economics, and justice in the development of federal and state resources policy. Students are trained in professional written and oral communication and ethical engagement in resources policy and administration. Enroll Info: F&W ECOL 379, or 410, or consent of instructor
Requisites: None
Course Designation: Gen Ed - Communication Part B
Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/ATM OCN 520 — BIOCLIMATOLOGY
3 credits.

How climate systems and biological organisms operate and interact at the global scale and the implications of this for climate change, ecosystem ecology and human land use. Enroll Info: Junior standing and ATM OCN 101, ATM OCN 252 or ATM OCN/GEOG 323, and BIOLOGY/BOTANY/ZOOLOGY 152
Requisites: None
Course Designation: None
Breadth - Social Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/PHILOS 523 — PHILOSOPHICAL PROBLEMS OF THE BIOLOGICAL SCIENCES
3 credits.

Problems raised by genetics, evolutionary theory, and taxonomy: patterns of explanatory force and dispensability of teleology; objectivity of taxonomy. Enroll Info: 3 cr of philos or 3 cr in a biological science
Requisites: None
Course Designation: None
Breadth - Either Humanities or Social Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/ATM OCN/GEOG 528 — PAST CLIMATES AND CLIMATIC CHANGE
3 credits.

Climatic change throughout geologic time, especially in the last 10 millennia; mechanisms of change, evidence, and criteria, paleogeography and paleoclimatology, climate models. Enroll Info: Jr st or one year calculus-based college physics or introduction to weather and climate; or cons inst
Requisites: None
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2014

ENVIR ST/GEOG/LAND ARC/URB R PL 532 — APPLICATIONS OF GEOGRAPHIC INFORMATION SYSTEMS IN PLANNING
3 credits.

Explores planning-related GIS data, applications, analytical tools, and implementation issues. Enroll Info: None
Requisites: GEOG/CIV ENGR/ENVIR ST 377
Course Designation: Breadth - Social Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/ENGL 533 — TOPIC IN LITERATURE AND THE ENVIRONMENT
3 credits.

Explores the ways that literary texts represent, imagine, and re-imagine the environment. Enroll Info: None
Requisites: Sophomore standing
Course Designation: Breadth - Literature. Counts toward the Humanities req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2018
ENVIR ST/GEOG 534 — ENVIRONMENTAL GOVERNANCE: MARKETS, STATES AND NATURE
3 credits.

This class is designed to help students answer real-world questions of how the environment is managed and governed through state policy, economics, and social institutions. We will cover strategies within and outside of the formal institutions of government, and extend the discussion to the commodification of nature and the use of science to understand and govern the environment. The last third of the class will consist of students engaging with case studies of environmental governance in water, carbon, species, and urban sustainability. Enroll Info: None

Requisites: ENVIR ST/GEOG 339, ENVIR ST/GEOG 439, or ENVIR ST/F&W ECOL 515
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/ATM OCN 535 — ATMOSPHERIC DISPERSION AND AIR POLLUTION
3 credits.

Physical principles of atmospheric transport processes. Variation of transport in time and place. Local and regional concentrations of pollutants. Environmental implications of air pollution and control strategies. Enroll Info: Math 212, PHYSICS 202, or cons inst

Requisites: None
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2016

ENVIR ST/GEOG 537 — CULTURE AND ENVIRONMENT
4 credits.

Geographic approaches to culture-nature relationships, including human perception of, use of, and adaptation to the physical environment, with emphasis on traditional subsistence systems; selected topics from contemporary and historical sources. Enroll Info: Geog/IES 339 or equiv

Requisites: None
Course Designation: Breadth - Social Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/C&E SOC/SOC 540 — SOCIOLOGY OF INTERNATIONAL DEVELOPMENT, ENVIRONMENT, AND SUSTAINABILITY
3 credits.

Sociological analysis of relationships among economic growth, environmental sustainability and social justice in the developing world. Considers frameworks for understanding poverty, hunger, educational and technological inequality, and the impact of globalization on prospects for socially and ecologically sustainable development. Enroll Info: None

Requisites: Completion of introductory Sociology course (SOC/C&E SOC 140, SOC 181, SOC/C&E SOC 210, or SOC/C&E SOC 211)
Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/CIV ENGR/LAND ARC 556 — REMOTE SENSING DIGITAL IMAGE PROCESSING
3 credits.

Techniques of enhancement and quantification of remote sensing imagery. Emphasis on processing and analyzing data gathered by airborne and satellite sensors. Techniques to quantitatively analyze data from photography, electro-optical scanners, satellite systems, and radar and passive microwave systems. A 5-week practicum with applications to: agriculture and forestry, geology and soils, water quality, and urban and regional planning. Enroll Info: Civ Engr/Envir St/Forestry 303 or authorization

Requisites: None
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/GEOG 557 — DEVELOPMENT AND ENVIRONMENT IN SOUTHEAST ASIA
3 credits.

Examines the political, socio-cultural, economic and ecological aspects of contemporary development and human-environment relations in mainland Southeast Asia, applying a critical and theoretically informed perspective, and focusing largely on rural issues. Enroll Info: Sophomore standing

Requisites: None
Course Designation: Breadth - Social Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2020
ENVIR ST/POP HLTH 560 — HEALTH IMPACT ASSESSMENT OF GLOBAL ENVIRONMENTAL CHANGE
3 credits.
Covers contemporary methods of impact assessment in a framework to address global environmental health threats (e.g., global climate change, deforestation and biodiversity loss, and urban sprawl). Issues dovetail well (but do not overlap) with Introduction to Environmental Health. Enroll Info: None
Requisites: Junior standing
Course Designation: Breadth - Social Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2019

ENVIR ST/A AE/CIV ENGR/URB R PL 561 — ENERGY MARKETS
3 credits.
Energy resources are an essential element of the world’s business, political, technical and environmental landscape. Analytic tools provided by the discipline of economics expands our understanding of this critical issue. Energy supply markets reviewed include both fossil fuels and renewable resources. Energy demand sectors include residential, commercial, industrial and transportation. Electricity represents an intermediate energy market. The interactions among these markets participants indicate how scarce resources are allocated among competing needs in the world economy. Enroll Info: None
Requisites: A AE 215, ECON 101, or 111, or graduate/professional standing
Course Designation: Breadth - Social Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017

ENVIR ST/SOIL SCI 575 — ASSESSMENT OF ENVIRONMENTAL IMPACT
3 credits.
Overview of methods for collecting and analyzing information about environmental impacts on agricultural and natural resources, including monitoring the physical environment and relating impacts to people and society. Enroll Info: None
Requisites: Junior standing
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2020

ENVIR ST 600 — ENVIRONMENTAL STUDIES MAJOR CAPSTONE
3 credits.
Investigation of a selected complex interdisciplinary environmental problem, e.g., desertification; energy in an age of scarcity; world hunger. Readings, papers, individual and team research, intensive discussions. Enroll Info: Senior standing enrollment in the Envir Studies Certificate Program; authorization required
Requisites: None
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST 602 — SUSTAINABILITY IN PRACTICE: CAPSTONE
3 credits.
An integrative capstone experience involving interdisciplinary teams applying the triple bottom line principals of sustainability to local, regional and global challenges. Enroll Info: Junior or Senior standing seeking Sustainability Certificate, or consent of instructor
Requisites: None
Course Designation: Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2015

ENVIR ST/BOTANY/F&W ECOL/ZOOLOGY 651 — CONSERVATION BIOLOGY
3 credits.
Application of ecological principles and human dimensions to the conservation of biological diversity. Topics: biodiversity science; conservation planning; population ecology; habitat loss, species exploitation, invasive species, pollution; human attitudes and activities as they affect the biosphere; approaches to monitoring interventions. Enroll Info: An ecology crse (eg, Botany/ZOOLOGY/BOTANY/F&W ECOL 460)
Requisites: None
Course Designation: Gen Ed - Quantitative Reasoning Part B
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/A AE/F&W ECOL 652 — DECISION METHODS FOR NATURAL RESOURCE MANAGERS
3-4 credits.
Applications of quantitative methods, including optimization and simulation, to the management of natural resources, especially forests. Enroll Info: None
Requisites: A AE 215, ECON 101, or 111
Course Designation: Gen Ed - Quantitative Reasoning Part B
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2019
ENVIR ST/URB R PL 668 — GREEN POLITICS: GLOBAL EXPERIENCE, AMERICAN PROSPECTS
3 credits.

An examination of the writings and activities of green parties and movements around the globe in order to assess the potential of an explicit, radical environmental politics for the United States. Enroll Info: Jr st or cons inst

Requisites: None
Course Designation: Breadth - Social Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2017

ENVIR ST/A A E/ECON/URB R PL 671 — ENERGY ECONOMICS
3 credits.

The method, application, and limitations of traditional economic approaches to the study of energy problems. Topics include microeconomic foundations of energy demand and supply; optimal pricing and allocation of energy resources; energy market structure, conduct, and performance; macro linkages of energy and the economy; and the economics of regulatory and other public policy approaches to the social control of energy. Enroll Info: None

Requisites: Graduate/professional standing or (senior standing and A A E 215, ECON 101, or 111)
Course Designation: Breadth - Social Science
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2020

ENVIR ST 681 — SENIOR HONORS THESIS
3 credits.

Enroll Info: None
Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Honors - Honors Only Courses (H)
Repeatable for Credit: No
Last Taught: Fall 2009

ENVIR ST 682 — SENIOR HONORS THESIS
3 credits.

Enroll Info: None
Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Honors - Honors Only Courses (H)
Repeatable for Credit: No
Last Taught: Spring 2010

ENVIR ST 691 — SENIOR THESIS
1-3 credits.

Enroll Info: None
Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2018

ENVIR ST 692 — SENIOR THESIS
1-3 credits.

Enroll Info: None
Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Spring 2019

ENVIR ST/LAND ARC/SOIL SCI 695 — APPLICATIONS OF GEOGRAPHIC INFORMATION SYSTEMS IN NATURAL RESOURCES
3 credits.

Course has four components: 1) Detailed review of GIS concepts; 2) Case studies; 3) GIS implementation methods; 4) Laboratory to provide "hands-on" GIS experience. Enroll Info: None

Requisites: LAND ARC 211 or ENVIR ST/CIV ENGR/GEOG 377 or graduate/professional standing
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST 699 — DIRECTED STUDY
1-3 credits.

Enroll Info: None
Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Summer 2021

ENVIR ST/M H R 710 — CHALLENGES & SOLUTIONS IN BUSINESS SUSTAINABILITY
3 credits.

Provides students with central knowledge and skills to tackle challenges at the intersection of business and sustainability. Students will study the failures in market and decision making systems that lead to sustainability challenges, and learn how to address these challenges on the policy, organizational, and individual level. Enroll Info: None

Requisites: Graduate/professional standing or member of Business Exchange program
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021
ENVIR ST/HIST SCI/MED HIST 713 — STUDIES IN ENVIRONMENT AND HEALTH
1 credit.
Advanced readings in primary and secondary literature of environment and health, with emphasis on current historiographic issues. Enroll Info: Grad st, or con reg in Hist Med 513 or cons inst
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2016

ENVIR ST/CIV ENGR/URB R PL 717 — WATER RESOURCES MANAGEMENT PRACTICUM PLANNING SEMINAR I
1 credit.
This is the first of two seminars used for planning the activities of the Summer Session Water Resources Management Practicum (ENVIR ST/CIV ENGR/URB R PL 719). Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/CIV ENGR/URB R PL 718 — WATER RESOURCES MANAGEMENT PRACTICUM PLANNING SEMINAR II
2 credits.
This seminar is used for planning the field work, analysis and reporting of the Summer Session Water Resources Management Practicum (ENVIR ST/CIV ENGR/URB R PL 719). Enroll Info: Adv Grad standing or consent of instructor
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/CIV ENGR/URB R PL 719 — WATER RESOURCES MANAGEMENT SUMMER PRACTICUM
4 credits.
Interdisciplinary team of students and staff working with agency personnel, citizen groups, and/or private sector representatives on the analysis of a contemporary, problem-oriented water resource issue. Physical, biological, economic and social aspects of the issue analyzed. Comprehensive written report results, practicum's findings and management recommendations. Enroll Info: Envir St/Civ Engr/URB R PL/CIV ENGR/ENVIR ST 718 or consent of instructor
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Summer 2021

ENVIR ST/AGROECOL/AGRONOMY 724 — AGROECOSYSTEMS AND GLOBAL CHANGE
3 credits.
Impacts of global change drivers (climate change, atmospheric chemistry, bioenergy, urbanization, policy) on agroecosystems and their associated goods and services; environmental impacts of agricultural land use and feedbacks to climate; modeling approaches; critical review of current scientific literature. Enroll Info: None
Requisites: (ZOOLOGY/BIOLOGY/BOTANY 152 or ZOOLOGY/BOTANY/ENVIR ST 260) and (PHYSICS 103 or CHEM 103, 109 or 115); or graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/POP HLTH 739 — CLIMATE CHANGE, HUMAN AND PLANETARY HEALTH
2 credits.
Provide tools to identify and address real-world global environmental health issues, stemming from climate change, habitat destruction leading to disease spillover events, food insecurity, and urban design. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/ATM OCN 745 — METEOROLOGICAL SATELLITE APPLICATIONS
2-3 credits.
Use of satellite imagery and measurements in meteorological research and operations; orbital characteristics; navigation; instrumentation. Enroll Info: ATM OCN 640 or 1 yr calc-based college physics MATH 234
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2021

ENVIR ST/ATM OCN/GEOSCI/ZOOLOGY 750 — PROBLEMS IN OCEANOGRAPHY
3 credits.
Introduction to techniques used in the study of the biology, chemistry, geology, and physics of the marine environment. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2018
ENVIR ST/CIV ENGR 772 — PRACTICUM IN TRANSPORTATION MANAGEMENT AND POLICY
3 credits.

Integrative capstone course in transportation management and policy. Interdisciplinary team experience in the application of theoretical knowledge and analytical tools for developing policy and making management decisions on "real-world" problems. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2016

ENVIR ST 808 — INTEGRATED RESEARCH METHODS & PROF SKILLS: HUMANS & THE GLOBAL ENV
4 credits.

Trains students to conduct research, review alternatives, and promote solutions to environmental problems through team-based projects. Teams integrate research across scales and disciplines and learn to present and publicize their ideas to peers, media, and the public. Enroll Info: ENVIR ST 506, Envir St 707, Envir St 806, Envir St 807 or cons inst
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2012

ENVIR ST/PUB AFFR/URB R PL 809 — INTRODUCTION TO ENERGY ANALYSIS AND POLICY
3 credits.

Interdisciplinary seminar for the Energy Analysis and Policy Curriculum. Strategy and policy problems in energy policy, both national and international. Enroll Info: Grad st admission to Energy Anal and Policy curric or cons inst
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2019

ENVIR ST/PUB AFFR/URB R PL 810 — ENERGY ANALYSIS SEMINAR
1-3 credits.

Interdisciplinary seminar for the Energy Analysis and Policy Curriculum. Quantitative energy content and energy flows as an aid to problem analysis and policy formulation. Enroll Info: Grad st admission to Energy Anal and Policy Curric or cons inst
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2020

ENVIR ST/URB R PL 821 — RESOURCES POLICY ISSUES: REGIONAL AND NATIONAL
2-3 credits.

Resource policy issues frequently faced by local and state governments and the federal government. Emphasis: (1) techniques for analysis of resource issues; (2) methods of collating knowledge from natural and social science disciplines which can make meaningful contributions to resolution of resource issues; (3) identification and analysis of strategic points of decision making in the legislative and executive branches of government; and (4) the application of planning techniques for accomplishing resource goals. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2015

ENVIR ST/JOURN/LSC 823 — SCIENCE AND ENVIRONMENT COMMUNICATION
3 credits.

Tracks the evolution of mass media coverage of science and the environment. Emphasis on how journalists utilize evidence, the influence of scientific and journalistic norms on stories, and the effects of mass media on science and environment messages to the public. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2019

ENVIR ST/URB R PL 843 — LAND USE POLICY AND PLANNING
3 credits.

Critical evaluation and analysis of land use policies and programs in relation to comprehensive planning and growth management issues in the U.S. The role of legislative and judicial processes and emerging public land use social values and philosophies in the development, regulation, and effectuation of innovative land use policies. Alternative land policy and growth guidance systems of select European countries. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021
ENVIR ST/URB R PL 865 — WATER RESOURCES INSTITUTIONS AND POLICIES
3 credits.

Governmental processes and policies for water resources management; major substantive problems and issues; political processes of decision making; problems of governmental organization and intergovernmental arrangements. Enroll Info: None

Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/POLI SCI/PUB AFFR 866 — GLOBAL ENVIRONMENTAL GOVERNANCE
3 credits.

In-depth examination of the political and policy challenges posed by global environmental degradation. Analysis of international institutions for managing the global environment. Enroll Info: None

Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/A A E/POP HLTH/PUB AFFR 881 — BENEFIT-COST ANALYSIS
3 credits.

Presents the welfare economics underpinnings for evaluating the social benefits and costs of government activities. Issues such as uncertainty, the social discount rate, and welfare weights will be discussed; case studies from the environmental, social policy, and agricultural areas will be studied. Enroll Info: None

Requisites: Graduate/professional standing and (PUB AFFR 818 and 880), or POP HLTH/I SY E 875, or A A E 635
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST 900 — SEMINAR
1-3 credits.

Special topics selected with each offering. Enroll Info: Grad st; authorization may be required

Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Summer 2021

ENVIR ST 901 — GRADUATE ORIENTATION SEMINAR
1 credit.

This course provides incoming graduate students with an introduction to the organizational structure, policies and practices of the Nelson Institute, with an emphasis on the opportunities and challenges of being a student in a cross-campus interdisciplinary program. Enroll Info: None

Requisites: Declared in the Environment Resources or Water Resources Management graduate program
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/ATM OCN/BOTANY/CIV ENGR/GEOSCI/ZOOLOGY 911 — LIMNOLOGY AND MARINE SCIENCE SEMINAR
1 credit.

Sections in various fields of zoological research. Enroll Info: Grad st in limnology marine sci grad prgm or cons inst

Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2021

ENVIR ST/URB R PL 917 — PUBLIC PARTICIPATION FOR PLANNING AND POLICY MAKING
3 credits.

Examines public participation for planning and policymaking in both urban and natural environments; considers different types of participation from agency consultation to negotiation; designing, conducting, and evaluating citizen participation are major features. Enroll Info: None

Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2018

ENVIR ST/ATM OCN/PUB AFFR 922 — HISTORICAL AND CULTURAL METHODS IN ENVIRONMENTAL RESEARCH
3 credits.

This course introduces graduate students from a wide array of departments and programs to different disciplinary and interdisciplinary methods for studying past environmental change and the human cultural contexts within which such change occurs. The course explores the disparate forms of evidence that can be used to reconstruct past environmental changes and their human meanings. The course also strives to build a strong sense of community among graduate students and faculty members at UW-Madison who share an interest in past environmental change by creating a context within which students from different departments and programs can work together while also getting to know faculty members associated with the Center for Culture, History, and Environment (CHE). Enroll Info: None

Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2021
ENVIR ST/URB R PL 923 — SEMINAR-LAND PROBLEMS: INSTITUTIONAL DEVELOPMENT
2-3 credits.

Land tenure and utilization research and policy problems. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2017

ENVIR ST/ATM OCN 925 — SEMINAR-CLIMATOLOGY
1-2 credits.

Historical climatology with emphasis on the last few centuries. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2018

ENVIR ST 931 — REMOTE SENSING FOR INTERNATIONAL DEVELOPMENT
3 credits.

The goal of this seminar-style class is to explore the ways remote sensing data are being used within an international development context, broadly defined. While the typical goal of seminar-style graduate-level courses is to understand the theory and underpinnings of a given literature, this course is unique in that we will focus on understanding how projects were completed with satellite data, what data sources were necessary, how expert local knowledge was incorporated, and how various challenges were faced and overcome. We will also pay particular attention to how the application of remote sensing data helped change policy in different countries across the globe. Students will be expected to read papers from the academic literature, synthesize this information by contributing to weekly discussion questions, participate actively in discussion, and complete one project paper. Enroll Info: None
Requisites: LAND ARC/ENVIR ST/F&W ECOL/G L E/GEOG/GEOSCI 371
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST/CURRIC 932 — FOUNDATIONS OF ENVIRONMENTAL AND SUSTAINABILITY EDUCATION
3 credits.

Education is often portrayed as a critical part of the solution to the intertwined problems of environment and society. This course examines environmental education and related traditions such as nature study, conservation education, and outdoor education, as well as more recent movements such as place-based education and education for sustainability. We will seek to ground our discussions in concrete examples of educational practice. We will also consider historical and contemporary critiques of environmental education. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST 950 — ENVIRONMENTAL MONITORING SEMINAR
2 credits.

A discussion and exploration of the social, economic and legal interactions of geospatial and environmental information technologies with society. Enroll Info: None
Requisites: Declared in the Environmental Observation and Informatics option of the Environmental Conservation graduate program
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST 951 — CONSERVATION OF BIODIVERSITY
3 credits.

Surveys the scientific knowledge, concepts, and models that are the basis for the applied practice for the conservation of biodiversity. The course includes attention to the interactions of humans with nature, and how conservation science is used to formulate policy and guide conservation actions. Enroll Info: None
Requisites: Declared in the Environmental Conservation professional master’s program
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST/AGRONOMY/ATM OCN/BOTANY/ENTOM/F&W ECOL/GEOG/ZOOLOGY 953 — INTRODUCTION TO ECOLOGY RESEARCH AT UW-MADISON
1-2 credits.

Introduces new graduate students to the diversity of ecologists across the UW-Madison campus. Includes discussions of key topics in professional development, research presentations by faculty members, and discussions of assigned papers with senior graduate students. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2020
ENVIR ST 956 — ADVANCED ENVIRONMENTAL REMOTE SENSING
3 credits.
Focuses on the fundamental physical principles of terrestrial remote sensing, followed by an examination of advanced topics in earth observation and digital image processing. Topics include radiation interaction with the atmosphere and the surface; radiative transfer theory; land surface characteristics including energy balance; thermal sensing; atmospheric and radiometric correction of image data; automated cloud detection and removal. Applications of remote sensing data for environmental problems will be explored in depth, including biophysical remote sensing with 3D modeling of vegetation canopies, dense time series analysis, data mining techniques, data fusion, as well as object vs. per-pixel approaches to pattern recognition. Explores all major data types, including optical, RADAR, LiDAR, and hyperspectral data, and provide instruction in hands-on image processing using open source software. Enroll Info: None
Requisites: LAND ARC/ENVIR ST/F&W ECOL/G L E/GEOG/GEOSCI 371 and graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST/CIV ENGR 970 — COLLOQUIUM IN TRANSPORTATION MANAGEMENT AND POLICY
1 credit.
Current issues, case studies, research, and literature dealing with transportation management and policy development. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2016

ENVIR ST 971 — ENVIRONMENTAL SENSING TECHNOLOGIES
3 credits.
Many diverse technologies for monitoring the environment have become available in recent years, including traditional remote sensing data sources: aerial photography and satellite imagery, hyper-spectral data, imagery on demand, RADAR and LiDAR. Other new data sources are quite unconventional, with many emerging recently: unmanned aerial vehicles (UAVs or drones), social media, smartphones as sources of crowd-sourced data, and more. Sophisticated data management, analytics, and presentation technology are required to effectively leverage both the spatial (including 3D) and temporal dimensions of these often untapped data sources. Intended to survey and explore these newly developing technologies, and provide direct experience to the student to understand and interact with the data and methods (geocomputing, coding, cloud-based platforms), and to learn to plan, manage, and utilize them effectively. Enroll Info: None
Requisites: LAND ARC/ENVIR ST/F&W ECOL/G L E/GEOG/GEOSCI 371 and graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST 972 — CONSERVATION PLANNING
4 credits.
Preparation of students to plan, monitor and evaluate the effectiveness of conservation projects and programs. Systematic and adaptive processes of conservation planning will be learned through lectures, readings, discussions, and work in small groups to prepare a conservation plan and/or review case study projects (e.g., a protected area, a landscape) with a conservation organization. Enroll Info: Students must be accepted into the Environmental Conservation professional master’s program
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST 974 — ENVIRONMENTAL CONSERVATION COHORT SEMINAR
1 credit.
Professional development course for incoming Environmental Conservation graduate students. Introduces students to important aspects of communication, collaboration, and professional practice as they relate to Environmental Conservation. Enroll Info: Students must be accepted into the Environmental Conservation professional master’s program
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Summer 2021

ENVIR ST 975 — ENVIRONMENTAL CONSERVATION LEADERSHIP SEMINAR
1 credit.
Professional development course for Environmental Conservation graduate students. Introduces students to important aspects of communication, negotiation, and cross-cultural professional practice as they relate to Environmental Conservation. Enroll Info: Students must be accepted into the Environmental Conservation professional master’s program and have completed ENVIR ST 974
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Summer 2021

ENVIR ST 976 — THE PRACTICE OF CONSERVATION BIOLOGY AND SUSTAINABLE DEVELOPMENT
1 credit.
A weekly series of presentations by persons who have direct experience in the practice of conservation biology and sustainable development. Presenters may be students, faculty staff or agency persons. Enroll Info: Grad st in IES program or cons inst
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2020
ENVIR ST 977 — SUSTAINABLE DEVELOPMENT - INTEGRAL PERSPECTIVE
3 credits.

This interdisciplinary graduate seminar has four main objectives: 1) review core concepts and history of sustainable development; 2) introduce students to innovative frameworks to sustainable development, including integral framework, institutional analysis, and the often overlooked cultural, philosophical and psychological underpinnings of environmental decision-making; 3) analyze case studies and examples through the lens of the frameworks presented; 4) provide a forum for graduate students to present their own research interests and examples regarding sustainable development. Some of the examples and case studies discussed are from Latin America, but will also include some from Wisconsin and the global level depending on the group's interests. Enroll Info: None

Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENVIR ST 978 — ENVIRONMENTAL CONSERVATION TOOLS MODULES
1 credit.

Tools modules for Environmental Conservation graduate students. Modules will provide training in specific tools and methods related to environmental conservation. Topics may include GIS, conservation finance, conservation governance institutions, biodiversity monitoring, and science communication environmental mediating. Enroll Info: Students must be accepted into the Environmental Conservation professional master's program

Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2021

ENVIR ST 979 — ENVIRONMENTAL CONSERVATION PROFESSIONAL PRACTICE
3 credits.

This course provides an online environment for the development and practice of the skills needed to be an environmental conservation professional and leader. It will help students analyze options and make good professional conservation judgments in complex and uncertain environmental, political, and economic settings. It will also give students the tools needed to assess and revise those judgments. The course will include exercises on the politics of environmental decisions, internal and external communication strategies, and program development and assessment strategies. The course builds on earlier classes' discussions of online communication and presentation skills. Enroll Info: Enrolled in Environmental Conservation professional master's program and ENVIR ST 975

Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021

ENVIR ST 980 — EARTH SYSTEM SCIENCE SEMINAR
1 credit.

Topics in earth system science. Emphasis on the coupling between atmospheric, oceanic and land surface systems, involving physical geochemical and biological processes, and including interactions with human systems. Enroll Info: None

Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2016

ENVIR ST 990 — RESEARCH
1-12 credits.

Enroll Info: None

Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Summer 2021

ENVIR ST 993 — APPROACHES TO INTERDISCIPLINARY ENVIRONMENTAL RESEARCH
2 credits.

A course to assist students undertaking interdisciplinary research. Preparation of a proposal or manuscript to professional standards. A review of other topics relevant to interdisciplinary work. Formal presentation of a research plan or other product to peers for review and evaluation. Enroll Info: Land resources major. Authorization may be required

Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2017

ENVIR ST 999 — ADVANCED INDEPENDENT STUDY
1-5 credits.

Independent work in environmental studies overseen by a qualified instructor. Enroll Info: None

Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Summer 2021