

Sustainability and Environmental Studies (SES)



New Minor starting Fall 2010



Every environmental issue has a tangible link to a multitude of academic disciplines; e.g. the natural sciences, the social sciences, the humanities, business, and economics. To deal with environmental issues effectively, individuals must be able to recognize and understand the technical (**scientific**) issues, obtain a historical perspective of the circumstances creating the issue (**history**), understand the dynamic cultural and environmental issues affecting different parts of the world (**geography**), examine the value judgments at stake in any proposed solution (**literature** and **philosophy**), understand the workings of the policy process to achieve a solution (**political science**), possess the savvy to develop economically sound (**business**), or technical (**engineering, chemical** or **biological**) solutions, have an awareness of the social ramifications of the solutions (**sociology**) and an appreciation of the difficulty of communicating a selected policy (**writing**), and have the ability and motivation to engage in the necessary behavioral changes (**psychology**).

The objectives of the minor are:

1. To develop in our students an understanding of basic biological, chemical, and physical processes that govern the natural world.
2. To show students how humans can impact these natural processes and demonstrate how humans can prevent or mitigate negative impacts on the environment.
3. To provide a basis for students to understand the many and difficult choices which society and individuals must make in dealing with environmental issues, including an understanding of the values we bring to our examinations in order to determine if our impacts are negative, positive, or neutral.
4. To provide settings in which environmental issues are treated in their political, social, economic, psychological, religious, ethical, geographical and historical contexts.
5. To develop the skills which are necessary for identifying, analyzing, and resolving environmental problems.

The minor consists of a total of **18** credits. Students should take the required course Science and Sustainability, one course from each of the two areas listed below (SES AREA A and SES AREA B), and then an additional 3 courses from either area.

The courses do not build upon one another, and may be taken in any order, although it is preferable to take Science and Sustainability as one of the first courses.

Courses in the minor

Course descriptions are at the end of this document.

Course Number	Course	Prerequisite	Satisfies General Education Area Distribution Requirement*	Semester offered	Professor and contact info
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REQUIRED COURSE

PSC 102 PSC 103 (lab)	Science and Sustainability	None	III	Fall	Keith Peterman peterman@ycp.edu
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SES AREA A

You must take at least one of these SES AREA A courses

CHM 102 CHM 203 (lab)	Chemistry and Society	IFL101	III	Spring	Keith Peterman peterman@ycp.edu
BIO 206 BIO 207 (lab)	Freshwater Ecology	None	III	Spring in odd # years	Jessica Nolan jnolan@ycp.edu
BIO 210 BIO 211 (lab)	Introduction to Marine Biology	None	III	Fall	Jessica Nolan jnolan@ycp.edu
BIO 212 BIO213 (lab)	Environmental Biology	BIO 110 or 150 recommended but not required	III	Fall	Karl Kleiner kkleiner@ycp.edu
BIO 300 BIO 301 (lab)	Ecology	BIO 150 and 152 required, BIO 200 recommended	III	varies	Karl Kleiner kkleiner@ycp.edu
G361	Introduction to Geographic Information Systems	None	N/A	Fall & Spring	David Fyfe dfyfe@ycp.edu

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Courses in the minor continued

Course descriptions are at the end of this document.

Course Number	Course	Prerequisite	Satisfies General Education Area Distribution Requirement*	Semester offered	Professor and contact info
SES AREA B					
You must take at least one of these SES AREA B courses					
PSY 215 (was previously PYS372)	Sustainability and Psychology	None	II (pending)	Spring	Perri Druen pdruen@ycp.edu
PHL 240	Environmental Ethics	None	I	Fall	Rory Kraft rkraft@ycp.edu
SOC 301	Environmental Sociology	SOC 100	N/A	Fall	varies
H 307	North American Environmental History	None	II	varies	Peter Levy plevy@ycp.edu
G 348	Cultures and Environments Field Series	Permission of instructor	V	Summer	David Fyfe dfyfe@ycp.edu
G 352	Geographic Perspectives on Sustainability	None	II	Fall	David Fyfe dfyfe@ycp.edu
WRT 361	Writing on Issues in the Environment	WRT102	N/A	Varies Next maybe S 2011	Madeline Yonker myonker@ycp.edu Amy Propen apropen@ycp.edu
LIT 379	Environmental Literature	WRT202	N/A	Varies, but S 2011 is next offering	Deborah Vause dvause@ycp.edu

***York College's General Education requirements include five categories of ADR's (Area Distribution Requirements). Typically two courses are required in each of the five areas (see the worksheet for your major to see if any particular ADR courses are required for your major).**

ADR I = Fine Arts and Humanities

ADR II = Social and Behavioral Sciences

ADRIII = Laboratory Sciences

ADRIV = American Civilization/Government; Western Civilization

ADRV = International Studies/Foreign Language

N/A indicates that the course does not satisfy any ADR

NOTE: The following courses are being developed (please note that these courses are not guaranteed—they must be developed, proposed, and approved through a lengthy process—please speak with a SES advisor for further information—they are listed at the end of this document)

Business and Sustainability,

Workplace Sustainability,

Special Topics in Sustainability and Environmental Studies,

Internship in Sustainability and Environmental Studies,

Independent Study in Sustainability and Environmental Studies

CATALOG DESCRIPTIONS FOR COURSES IN THE SUSTAINABILITY AND ENVIRONMENTAL STUDIES MINOR

REQUIRED COURSE FOR THE MINOR

(This course does not have to be taken before the others, but it is advisable to take it as early as possible)

PSC102 Science and Sustainability

This foundation sustainability course is designed for non-science majors. Topics from the natural sciences are discussed within a contextual framework of social issues and ecosystems. Sustainability is a global issue that requires a global analysis. Specific locations around planet Earth are explored in order to connect science with significant social, political, ethical, and economic issues in the region. Students assess the momentous challenge and urgency of addressing sustainability in order to provide a habitable world for future generations. The laboratory includes field trips and experiments. **2 hours lecture. 1 three-hour laboratory period (PSC 103). 3 credit hours. Satisfies ADR III.**

AREA A (must take at least one)

CHM102 Chemistry and Society

Fall or Spring Semesters

This course is designed to be an issues-oriented chemistry literacy course for non-science majors. Basic science and chemistry concepts are broadly applied to the study of topics that may include the atmosphere, global warming, energy, water, acid rain, nanotechnology, nuclear energy, polymers, and nutrition. An underlying theme is the evaluation of information and risk/benefit choices. The laboratory includes field trips, field studies, and in-lab experiments.

Prerequisite: IFL101. 2 class periods. 1 three-hour laboratory period (CHM203). 3 credit hours. Satisfies ADR III.

BIO206 Freshwater Ecology

Spring Semesters, odd-numbered years

This course focuses on freshwater habitats, such as rivers and lakes. In this class, students will explore how rivers and lakes form, what animals live within them, and how these animals interact with each other and their environment. There will also be special emphasis on how human activities are impacting freshwater environments and the steps necessary to help restore these habitats. Concepts learned in class will be applied to York County rivers and lakes. Laboratory activities will include an introduction to the scientific method, overview of local species, and field-based experiments. **2 hours lecture. 1 three-hour laboratory (BIO207). 3 credit hours. Satisfies ADR III.**

BIO210 Introduction to Marine Biology

Fall Semesters

This course takes an ecological approach to studying marine biology by focusing on the environmental characteristics, adaptations of organisms, and the communities found in the major marine ecosystems such as rocky shore, estuary, salt marsh, sandy beach, and coral reef. The course places more emphasis on the biotic communities found in each of these environments rather than the chemical and physical aspects of those environments. The impact of humans' influence on these environments is also studied. Not open to high school students. **2 hours lecture. Lab consists of field trips/TBA (BIO211). 3 credit hours. Satisfies ADR III.**

BIO212 Environmental Biology

Fall Semesters

This course is an introduction to applied ecology for non-majors. Class meetings review basic biological and ecological principles, including ecological efficiency, nutrient cycling, biological diversity, and population growth. Past and current environmental issues, such as resource use and pollution, are examined in light of ecological principles. Laboratory sessions are field-oriented and examine natural and human-impacted aquatic and terrestrial ecosystems.

This class will be of interest to Education and Recreation majors. **BIO150 or BIO110 recommended, but not required.**

Dissection is not a part of this course. 2 hours lecture. 1 three-hour laboratory (BIO213). 3 credit hours. Satisfies ADR III.

BIO300 Ecology

Fall-Spring Semesters

This course provides an introduction to the study of the relationships of organisms to their environment and each other as a means for understanding their distribution and abundance. Topics of study include: autecology (dispersal, habitat selection, abiotic tolerances), population dynamics (structure, growth, life history variation), community ecology (species diversity, equilibrium, succession) and species interactions (competition, predation). Both field-based laboratories and lecture material focus on developing skills in observation, logical scientific inquiry, and written reports.

Prerequisites: BIO150, BIO152.

Recommended: BIO200. **3 hours lecture. 1 three-hour laboratory (BIO301). 4 credit hours.**

G361 Introduction to Geographic Information Systems

Introduces students to the process of using geographically registered data to analyze patterns and processes on the earth's surface. The analysis integrates database operations and computer generated maps so as to provide information for the explanation of events, the prediction of outcomes, and strategic planning with application in a wide variety of disciplines such as business, history, government, biology, criminal justice, and public health. Fulfills an elective requirement for Information Systems majors.

3 credit hours.

AREA B (must take at least one)

PSY215 Sustainability and Psychology (was previously numbered PSY372)

This course will explore the contributions that psychology has made and can make to the creation of a sustainable world. Whereas technology and policy can address problems of sustainability, our focus will be primarily upon human causes and consequences of environmental problems, and individual and community solutions. We will examine the primary areas of psychology, including cognitive, social, developmental, and personality for their applications to sustainability. Assignments allow student to explore their own attitudes and values regarding sustainability and to enact behavior change experiments to experience and reflect upon factors involved in behavior change. **3 credit hours. Satisfies ADR II.**

PHL240 Environmental Ethics

Environmental Ethics is the study of our relationship with the various systems of Earth and our obligations to take actions which sustain those systems. By its nature the course draws on philosophical, literary, and scientific literature in order to understand what we ought to do. Possible topics include the examination of foundational texts of environmentalism, energy and resource usage, animal rights, vegetarianism, and eco-terrorism. **3 credit hours. Satisfies ADR I.**

SOC301 Environmental Sociology

Fall Semesters

This course will explore a variety of sociological approaches to the study of society and its physical environment. Major topics to be investigated include the history of the environmental movement, world population growth, energy and environmental policy, the Earth's natural resources, prospects of sustainability, and globalization. **Prerequisite: SOC100. 3 credit hours.**

H307 North American Environmental History

Environmental history studies the changing relationship between human beings and the natural world through time. Through readings and discussions we will examine a variety of influential issues and themes, from the pre-colonial period to the present, including the impact of settlement on the land and the rise of the modern environmental movement. Our central premise throughout will be that much of the familiar terrain of American history looks very different when seen in its environmental context, and that one can learn a great deal about both history and the environment by studying the two together. **3 credit hours. Satisfies ADR II.**

G348 Cultures and Environments Field Series

Summer Semesters

This course is a field study of the human and physical geographies of a particular international destination (a specific destination will be chosen each year). Topics to be covered include: globalization, sustainable tourism, cultural, political and historical geographies, architecture, economic development, climate, landforms, topography, and environmental conservation. **Permission of the instructor is required. 3 credit hours. Satisfies ADR V.**

G352 Geographical Perspectives on Sustainability

Fall Semesters

This course will examine issues of sustainability at a variety of scales (from local to global) relating to the geographies of resources and resource extraction, production, distribution, consumption, and the disposal of commodities. The class will focus on the relationships between humans and their environments and approach environmental problems by examining the demographic, cultural, and economic processes which have increased resource consumption and waste. **3 credit hours.**
Satisfies ADR II.

NOT IN COLLEGE CATALOG (because they are special topics courses)

LIT 379 Environmental Literature (Special Topics Course)

In this course, you will examine how literature both reflects and shapes the attitudes of its surrounding community as we study portrayals of the relationship between the natural environment and human beings. Why have American authors been so consistently concerned with and inspired by the idea of wilderness? How did our culture move from the Puritan notion of howling wilderness to the Transcendentalist vision of divine nature to contemporary nature writers' concern with imperiled ecosystems? As we answer these questions we will also examine the power and influence of environmental literature in our culture today. **3 credit hours. Prerequisite: WRT202**

WRT 361 Writing about Issues in the Environment (Special Topics Course)

This course is designed to explore issues of environmental writing and communication in various contexts and for different audiences. We will explore the ethical, social, and political challenges that environmental issues create as well as strategies for communicating about these issues through writing. We will gain familiarity with current environmental issues; practice in the strategies of critical analysis; and basic fluency in the genres and stylistic conventions of environmental discourse across audiences and stakeholders. We will practice writing formally and informally about these issues. To this end, assignments will involve shorter response papers; longer article analyses and argument papers; explorations of the genres of environmental discourse; and a final research project and presentation. **3 credit hours. Prerequisite: WRT102**

For more information:

Please contact the SES minor Coordinator:

Keith Peterman Physical Sciences (Chemistry) peterman@ycp.edu

Or any faculty member of the SES advisory committee:

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