

BA Environmental Studies

10/08

Curriculum

The interdepartmental and interdisciplinary Bachelor of Arts in Environmental Studies at Rowan University achieves both breadth and focus in its curriculum in order to respond to the growing need for well-rounded, well-trained environmental experts in industry, government, and education. Environmental problems are priority issues of national and global concern. Basic coursework in biology, chemistry, ethics, geology and social sciences, as well as the application of basic science and research methodology to environmental issues are the strengths of the program. The program emphasizes the interdisciplinary aspects of the environment, providing graduates with the necessary background for environmental positions in industry, government, and education, as well as placement as strong candidates for graduate programs in environmental sciences.

The program draws primarily on the resources of the Departments of Biological Sciences, Civil and Environmental Engineering, Chemistry and Biochemistry, Geography and Anthropology, Philosophy and Religion, Psychology and Sociology. The major has a core requirement of courses that includes a scientific and a social sciences background. The capstone experience includes including a one-year Senior Seminar project. The 120 credits can be completed in four years. The free electives can be used to earn a minor in a related field.

Program Specifics

The Program

a. Goals

The Bachelor of Arts in Environmental Studies provides a broad, interdisciplinary education with specialization tracks in either the Natural Sciences or the Social Sciences. Grounded in specially-designed courses that link the biological, chemical, physical, and social aspects of the environment, this degree provides students the flexibility to focus their work in any of these areas while obtaining some exposure to each field of knowledge. The program highlights the main concerns regarding our environment, and it is especially useful for individuals seeking a broader knowledge base and a deeper understanding of the environment. The program will be useful for a career in many environmental fields, as well as those in the field of education and law and policy making.

Upon completion of the program, students will:

1. take a more perceptive view of the environment around them by learning ideas, principles and relationships within and between the different environmental components.
2. be able to apply analytical, quantitative and problem-solving skills in environmental related issues.
3. be able to identify and apply fundamental concepts and theories in environmental related issues.
4. be able to analyze data and draw reasonable and valid inferences.

5. be able to communicate about environmental related issues.
6. be able to apply techniques, methods and tools used in the environmental field.
7. have an appreciation for the role and impact of ethics in environmental decisions.

b. Specific Objectives

Environmental problems are priority issues of national and global concern. Understanding of such issues (i.e. global warming, acid deposition, loss of biodiversity, etc.) has become mandatory among individuals in government, industry, and the scientific community. New technologies must be developed along with the necessary education and implementation procedures.

Solutions for complex environmental problems are best found through interdisciplinary interaction. Approaches that integrate all the relevant sciences and that fully consider the human and social dimensions will probably enjoy political and financial support for implementation. Students in the Bachelor in Environmental Studies will develop competency in an understanding of different approaches and perspectives to environmental issues. One of the most important reasons for proposing an interdisciplinary environmental studies program is that any environmental problem involves more than one discipline.

This interdisciplinary program brings together knowledge, processes, and perspectives of various related disciplines dealing with the environment. After completion of the program, graduates will have the necessary background to deal with environmental problems in educational, governmental, business, legal and scientific settings.

In order to be able to truly understand how organisms interact with their environment, we must know about chemical and biological aspects of the environment. Equally important, workers in the field must be able to deal with the social ramifications and community effects in any given environmental study. Environmentalists have the added burden of dealing with moral or ethical issues. Every environmentalist must have the basic understanding of the interrelationship of these fields in order to be able to understand the whole picture. Another important aspect of any environmental study is the collection and analysis of data. Accurate data gathering and experimental design are critical in order to formulate theory and applications.

To accomplish these objectives we have designed a series of core courses. The purpose of our core requirement is to give all students enrolled in the program common training that will permit a broad view of all aspects of environmental problems. Students will prove that they have mastered these concepts with successful completion of their senior year project in which they will each select a project, gather data, and reach a conclusion that is scientifically sound.

Hands-On Experience, Internships

The courses entitled Field Methods and Research Design in Environmental Studies and Seminar in Environmental Studies I & II are required opportunities for all students in this major. The latter experiences can be taken off campus at an internship site.

Career Flexibility

Because Environmental Studies is an interdisciplinary major, you'll have a wider range of job opportunities. Some of the industries, corporations and organizations that look for environmental studies expertise include:

Colleges and Universities
Federal, state and local government agencies
Land trust organizations
Law firms
Market research companies
Media outlets
Non-profit organizations
Political action committees
Private and public schools (K-12)
Real estate development companies
Utility companies
Zoological & national parks

Degree requirements

GENERAL EDUCATION: All students must complete the University General Education Requirements as described in the Catalog.

ROWAN EXPERIENCE: All students must complete the Rowan Experience Requirements as described in the Catalog.

PROGRAM REQUIREMENTS

STAT02.260 Statistics I ‡
PHYS20.150 Physics of Everyday Life ‡
ANTH02.202 Cultural Anthropology ‡ OR ANTH02.221 Human Variation ‡
ECON04.101 Macroeconomics ‡
GEOG06.102 Cultural Geography (MG) ‡
PHIL09.369 Philosophy of Science (WI) ‡
Foreign Language Course § ‡
Foreign Language Course § ‡

Scientific Foundations 8SH

CHEM05.102 Chemistry of Everyday Life
BIOL01.112 General Biology Environmental Focus

Social Science Foundations 6SH

GEOG06.193 Introduction to the Mapping and Geographic Information Science
SOC08.120 Intro to Sociology OR SOC08.221 Social Problems

Common Core 28 SH

ENST94.101 Environmental Studies - Physical Perspectives
ENST94.102 Environmental Studies - Social Perspectives
ENST94.301 Environmental Ethics
ENST94.121 Field Methods and Research Design for Environmental Studies

SOC08.400 Environment Policy and Society
ENST94.400 Environmental Impact Assessment
GEOG06.360 Geographic Information Systems (GIS) I
ENST94.401 Senior Seminar in Environmental Studies I †
ENST94.402 Senior Seminar in Environmental Studies II †
Environmental Studies Electives (At least one course from each bank) 18 SH (Courses not on these lists may also be counted. See the Program Director)

Natural Science Bank

CHEM05.301 Chemistry in the Environment
BIOL20.330 Environmental Science *
GEOG06.305 Climatology
GEOG06.325 Geomorphology
GEOG06.103 Geology I
GEOG06.104 Geology II
BIOL11.405 Environmental Microbiology *
BIOL20.425 Environmental Toxicology *
BIOL20.321 Physiological Ecology *
BIOL01.405 Conservation Ecology *
BIOL18.400 Limnology *
BIOL02.410 Stream Ecology *
BIOL20.310 Marine Biology *
BIOL20.310 Ecology *

Social Science Bank

ECON04.210 Environmental Economics
PSY05.205 Environmental Psychology
GEOG06.415 Geographic Information Systems (GIS) II
GEOG06.304 Population Geography
ANTH02.321 Cultural Ecology
SOC15.322 Sociology of Populations
SOC08.320 Urban Sociology
GEOG06.310 Land Use & Resource Development
GEOG06.302 Urban Geography
GEOG06.355 Metropolitan and Regional Planning

Free Electives 17 SH

Chosen with the help of advisor and with consideration for future educational and career plans.

Total 120 SH

‡ Can be counted towards General Education requirements.

§ Both courses must be in the same language.

¢ An internship may also fulfill this requirement

* The Prerequisite for these courses is Biology 4

For More Info

See the web page at www.rowan.edu/environmentalstudies

A possible four-year plan

Freshman year

College Composition I	3	College Composition II	3
Chem. of Everyday Life	4	General Biology – Env Focus	4
Foreign Language	3	Foreign Language	3
Macroeconomics	3	Anthropology	3
<i>Env. Studies – Physical Perspectives</i>	3	<i>Env. Studies – Social Perspectives</i>	3
Total	16		16

Sophomore year

Public Speaking	3	Free Elective	3
Statistics I	3	Philosophy of Science (WI)	3
Intro Sociology	3	Non-Program Elective (LIT)	3
Intro to Mapping and GIS	3	GIS I	3
Physics of Everyday Life	4	Env. Studies Elective	3
Total	16		15

Junior year

Non-Program Elective	3	Free Elective	3
<i>Field Methods</i>	4	Art/Music	3
Cultural Geo (MG)	3	Env. Studies Elective	4
Env. Studies Elective	3	Environmental Policy and Society	3
<i>Free Elective</i>	3	<i>Environmental Ethics</i>	3
Total	16		16

Senior year

Impact Assessment	3	Free Elective	3
Free Elective	3	Free Elective	3
Env. Studies Elective	4	Env. Studies Elective	4
<i>Senior Seminar I</i>	3	<i>Senior Seminar II</i>	3
Total	13		13

4-Year Total: 121 credits

(Italicized courses should be taken in the indicated semesters.)

Faculty

BAES Program

Patrick Crumrine

Department of Biological Sciences

Luke Holbrook (Chair)

Michael Grove

Courtney Richmond

Department of Chemistry & Biochemistry

Catherine Yang (Chair)

Robert Newland

Department of Geography and Anthropology

Richard Scott (Chair)

Denyse Lemaire

Diane Markowitz

Maria Rosado

Department of Sociology

Mary Gallant (Chair)

Demond Miller

Civil & Environmental Engineering

Kauser Jahan (Chair)

Beena Sukumaran

Department of Psychology

Janet Cahill (Chair)

Department of Philosophy and Religion

David Clowney

Current Program Director

Robert Newland

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