

# ENVIRONMENTAL STUDIES

*Faculty: Gowan, Director; Fenster.*

It is the mission of the environmental studies program to equip students with the knowledge and skills needed to sustain the earth and its resources. The program is interdisciplinary, giving students a grounding in the traditional disciplines which relate to environmental issues, and experience making connections among disciplines in order to solve complex environmental problems. The Environmental Studies (EVST) major rests on a course framework rooted in teaching foundational content and career skills for environmental professionals as well as real-life problem-solving. After completing the environmental studies major, students will be able to work in interdisciplinary teams to analyze environmental problems and offer realistic solutions in full knowledge of the constraints imposed by natural, economic, ethical, political, and social forces.

The EVST program prepares students for a variety of careers after graduation, including employment in local, state, or federal agencies; consulting firms; private industry; and non-profit organizations. With proper selection of courses in an area of expertise, students will also be prepared to enter graduate study in various discipline-specific or interdisciplinary fields.

Randolph-Macon students have opportunities to study abroad at numerous universities with strong environmental studies curricula in the UK and Australia, as well as Costa Rica, Fiji, Ghana, Sweden, and other countries. Additionally, EVST majors can study abroad to acquire area of expertise course work. Students interested both in environmental studies as a major and in study abroad are strongly encouraged to investigate their options with their advisor, the director of the environmental studies program and the study abroad advisor.

The EVST major consists of the Core which is focused on foundational content, interdisciplinary problem-solving and teamwork, and the Area of Expertise which is designed to provide technical expertise in a discipline chosen by the student.

- Environmental Studies Major (<https://rnc.courseleaf.com/programs/environmental-studies/environmental-studies-major/>)

## **EVST 105 - Environmental Problem Solving I (4 Hours)**

Interdisciplinary problem solving is the central skill needed by environmental professionals, and examining real-world issues best develops this skill. This course will focus on a local or regional environmental issue, and we will work with government, business, and/or community leaders in order to analyze the issue from the varying perspectives of these stakeholders. At the end of the course we will provide the stakeholders with a detailed analysis that draws on information from the natural sciences, social sciences, and the humanities. Partially fulfills the collegiate requirements in the Natural Science Area of Knowledge. Intended primarily for students seriously considering EVST as their major. C21:NS,SP,WA

**Curriculum:** NS,SP,WA

## **EVST 106 - EVST Success Strategies (1 Hour)**

This course is for freshman or sophomores considering EVST as a major. Because EVST is a broad topic, you have to decide which area of specialty most interests you. You might choose some aspect of biology, political science, geology, sociology, chemistry, physics, or any of a number of other disciplines. You will explore career options in environmental studies with the help of outside guests from government, private industry, and non-profit environmental organizations, and will plan your EVST area of expertise to prepare you for the upper-level EVST core courses and your chosen area of specialty. The Environmental Studies major rests on a course framework rooted in teaching foundational content and career skills for environmental professionals as well as real-life problem-solving.

## **EVST 200 - Geographic Information Systems with Environmental Applications (3 Hours)**

This course covers the fundamentals of geographic information systems (GIS) to display and analyze spatial data with emphasis on environmental applications and the use of Global Positioning System (GPS) to collect spatial data in the field. Students will use ESRI's ArcMap software to learn basic mapping theory (e.g., coordinate systems), edit geographic and tabular data, analyze spatial data, create databases, and produce maps that display and analyze spatial data. Students will also learn how to collect spatial field data using state-of-the-art, survey-grade GPS units and software and import those data into GIS. The course is taught in an integrated lecture-field (laboratory) approach.

**Prerequisite(s):** EVST 105

## **EVST 205 - Environmental Communication (3 Hours)**

Environmental professionals must be effective communicators to a variety of audiences including disciplinary specialists, regulators, clients, and the general public. Modes of communication include written reports and oral presentations each tailored to the needs of the audience. There are professional norms for each type of audience and medium. The overall goal of this course is to provide the practice and feedback needed for students to be competent communicators in each context. C21:CC.

**Prerequisite(s):** ENGL185 and EVST105

**Curriculum:** CC

## **EVST 213 - Environmental Ethics (3 Hours)**

This course addresses basic issues of environmental ethics: the value of ecosystems (both inherent and instrumental), human beings' treatment of animals and non-animal nature, the meaning and justification of moral obligations to species and to the environment, and the complex and profound ways in which our actions with regard to the environment affect our fellow human beings. We will apply moral theory to environmental problems in the enterprise of formulating an adequate ethical approach to our environment. Recommended: PHIL 212 and EVST 105. Offered every two or three years. C21:CL,HU.

**Cross-list:** PHIL 213

**Curriculum:** CL,HU

**EVST 225 - Environmental Law (3 Hours)**

Students will gain an overview of the essential concepts of environmental law that shape the practice of environmental and political science, and learn how to analyze issues in their legal contexts with regard to the environment. The course provides a historical survey of the field from its common law roots to its current applications dealing legislatively with a variety of complex environmental issues, such as air and water pollution, loss of species diversity, and global climate change. It is taught as a seminar in which the historical development of common law concepts and the evolution of the present complex of statutory laws are highlighted through study of the major court cases that have guided environmental legislation and policies.

**Cross-list:** PSCI 225

**EVST 226 - Environmental Policy (3 Hours)**

This course will provide the student with a foundation in current U.S. environmental policy. Students will examine the issues associated with specific areas such as air pollution, waste management, and endangered species and will develop an understanding of analytical approaches to environmental policymaking including risk assessment and cost/benefit analysis. The course will focus on the modern environmental policy period which began in the 1970s, primarily through case studies which illustrate problems of pollution control, natural resource conservation and ecosystem protection. Students will have an opportunity to work with primary source documents, and to discuss significant environmental issues such as climate change and biodiversity loss. The course will also examine environmental policies of the current federal administration.

**Cross-list:** PSCI 226

**EVST 245 - Water Resources and Politics in the Middle East (4 Hours)**

Water scarcity poses one of the most immediate and serious threats to the international community. One problem specific to Middle East water resource management is that major watershed (and groundwater) divides rarely coincide with political boundaries. In some cases, such as the Nile River, the Tigris River and the Euphrates River, a single water source passes through several nations, and disputes arise between upstream and downstream users. In other cases, rivers form national borders, such as the Jordan River, which is lodged between Israel and Syria, Jordan and the West Bank. The control of this resource has become the primary national security issue for many Middle East nations. In an active-learning format using a series of Middle East case studies, this class will enable students to determine both the historical and modern, natural and human-induced factors that lead to water crises (i.e. shortages) in any part of the world; to predict the socioeconomic and political implications of water crises; and to formulate workable solutions to a water crisis. Students conduct multi- and interdisciplinary analyses of at least five Middle East water crises in an integrated laboratory and class format. This course may be offered as an interdisciplinary laboratory science course on the collegiate laboratory science requirement. C21:NW.

**Cross-list:** INST 245

**Curriculum:** NW

**EVST 305 - Environmental Problem Solving II (4 Hours)**

This course is the second in a three-course sequence devoted to environmental problem solving using real-world issues. Building on the skills and knowledge introduced in EVST 105, this course will focus on a more complex local or regional environmental issue than the one analyzed in EVST 105, and you will be expected to use information from your area of expertise courses when analyzing the issue. Like EVST 105, students will work with government, business, and community leaders in order to analyze the issue from the varying perspectives of these stakeholders. At the end of the course we will provide the stakeholders with a detailed analysis that draws on information from the natural sciences, social sciences, and the humanities. Partially fulfills the collegiate requirements in the Natural Science Area of Knowledge. Recommended for those with junior standing in the EVST major.

**Prerequisite(s):** EVST 105

**EVST 380 - Topics in Environmental Research (3 Hours)**

Students may select a laboratory or field research project covering any area of contemporary environmental investigation. Projects are selected in consultation with a faculty member. A seminar and a final written research paper must be presented to the environmental studies program prior to the end of classes in the term in which the research is done. C21:EL.

**Prerequisite(s):** EVST 105 and program approval

**Curriculum:** EL

**EVST 381 - Special Topics (3 Hours)**

These courses are designed to treat advanced topics not otherwise dealt with in the rest of the environmental studies curriculum.

**EVST 382 - Special Topics (3 Hours)**

These courses are designed to treat advanced topics not otherwise dealt with in the rest of the environmental studies curriculum.

**EVST 405 - Environmental Problem Solving III (4 Hours)**

This course is the third in a three-course sequence devoted to environmental problem solving using real-world issues, and it is the capstone to the environmental studies major. Building on the skills and knowledge introduced in EVST 105, deepened in the area of expertise, and practiced in EVST 305, this course will focus on a different local or regional environmental issue than was analyzed in EVST 105 and EVST 305. Like EVST 105 and EVST 305, we will work with government, business, and community leaders, but students will be in charge of all aspects of the analysis. At the end of the course we will provide the stakeholders with a detailed analysis drawing on information from the natural sciences, social sciences, and the humanities. Partially fulfills the collegiate requirements in the Natural Science Area of Knowledge.

Recommended for those with senior standing in the EVST major. C21:CS.

**Prerequisite(s):** EVST 105 and EVST 305

**Curriculum:** CS

**EVST 450 - Field Studies in Environmental Studies (3 Hours)**

Field studies is intended to provide environmental studies majors with an opportunity to gain first-hand experience in the environmental workplace. Placements are possible with private, state, or federal agencies, committees of the U.S. Congress, or with environmental advocacy groups. Open only to environmental studies majors or by permission of the environmental studies director. Junior standing required. Offered as needed. C21:EL.

**Curriculum:** EL

**EVST 451 - Internship in Environmental Studies (3 Hours)**

The internship in environmental studies is intended to provide qualified environmental studies majors with an opportunity to gain first-hand experience in the environmental workplace. Internship placements are possible with private, state, or federal agencies, committees of the U.S. Congress, or with environmental advocacy groups. Open only to environmental studies majors or by permission of the environmental studies director. Junior standing required. Offered as needed. C21:EL.

**Curriculum:** EL

**EVST 452 - Internship in Environmental Studies (3 Hours)**

The internship in environmental studies is intended to provide qualified environmental studies majors with an opportunity to gain first-hand experience in the environmental workplace. Internship placements are possible with private, state, or federal agencies, committees of the U.S. Congress, or with environmental advocacy groups. Open only to environmental studies majors or by permission of the environmental studies director. Junior standing required. Offered as needed. C21:EL.

**Curriculum:** EL

**EVST 457 - Internship in Envriion Study (Paid) \$200 fee (3 Hours)**

With prior approval students may earn Experiential Cross Area Requirement (CAR) credit and transcript notation for one credit hour for a paid internship. To qualify for experiential credit a student must have completed 48 semester hours of work prior to the beginning of the internship and be in good academic standing (not on academic probation) at the time of application and at the start of the internship. Registration and application procedures are similar to those for academic internship courses. Satisfactory completion of a paid internship requires at a minimum 130 hours (160 recommended) working at the host site, a reflective daily journal, final written report, and satisfactory evaluation from the site supervisor. C21:EL

**Curriculum:** EL

**EVST 496 - Senior Project (3 Hours)**

The senior project in environmental studies provides majors an opportunity to carry out original research on an environmental topic under the supervision of a member of the Environmental Studies Council. Student earns a total of six hours for the full senior project experience (496, 497, and 498). C21:EL.

**Prerequisite(s):** permission of the proposed faculty research supervisor, combined with senior status and required approval of the Environmental Studies Council

**Curriculum:** EL

**EVST 497 - Senior Project (3 Hours)**

The senior project in environmental studies provides majors an opportunity to carry out original research on an environmental topic under the supervision of a member of the Environmental Studies Council. Student earns a total of six hours for the full senior project experience (496, 497, and 498). C21:EL.

**Prerequisite(s):** permission of the proposed faculty research supervisor, combined with senior status and required approval of the Environmental Studies Council

**Curriculum:** EL

**EVST 498 - Senior Project (3 Hours)**

The senior project in environmental studies provides majors an opportunity to carry out original research on an environmental topic under the supervision of a member of the Environmental Studies Council. Student earns a total of six hours for the full senior project experience (496, 497, and 498). C21:EL.

**Prerequisite(s):** permission of the proposed faculty research supervisor, combined with senior status and required approval of the Environmental Studies Council

**Curriculum:** EL