

# Environmental Science Courses

---

## Courses

### **ESCI 1101. Environmental Sci. Lab.**

Environmental Science Laboratory: [TCCN ENVR 1101] Concurrent enrollment in ESCI 1301 suggested. Enrollment in ESCI 1101 required for environmental science majors.

**Department:** Environmental Science

**1 Credit Hour**

**3 Total Contact Hours**

3 Lab Hours

0 Lecture Hours

0 Other Hours

**Corequisite(s):**

### **ESCI 1102. Non-major Lab for ESCI 1301.**

Non-major Lab for ESCI 1301 (0-3). Equivalent Course: ESCI 1101.

**Department:** Environmental Science

**1 Credit Hour**

**3 Total Contact Hours**

3 Lab Hours

0 Lecture Hours

0 Other Hours

### **ESCI 1202. Intro to Environment Science 2.**

Introduction to Environmental Science 2: [TCCN ENVR 1302] This course expands upon topics introduced in ESCI 1301 including water and energy resources, climate change, biogeochemical cycles and waste management. Material of regional and current interest is incorporated.

**Department:** Environmental Science

**2 Credit Hours**

**2 Total Contact Hours**

0 Lab Hours

2 Lecture Hours

0 Other Hours

### **ESCI 1301. Intro to Environmental Sci.**

Introduction to Environmental Science: [TCCN ENVR 1301] An introduction to environmental science, emphasizing the multi-disciplinary approach required to document, understand and solve environmental problems. Topics include such large scale challenges as global warming, deforestation, and energy consumption, as well as more local problems such as water and air quality, organic and inorganic toxins, and human health. Material of regional and current interest is incorporated.

**Department:** Environmental Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

### **ESCI 1310. Field Methods in Env Science.**

Field Methods in Environmental Science Project based course that focuses on solving local environmental problems. Students will carry out fieldwork and sampling campaigns, collect and analyze field and laboratory data, and learn to communicate their results and conclusions effectively.

**Department:** Environmental Science

**3 Credit Hours**

**NaN Total Contact Hours**

0-3 Lab Hours

0-2 Lecture Hours

0 Other Hours

**Prerequisite(s):** (ESCI 1101 w/C or better AND ESCI 1301 w/C or better)

**ESCI 3105. Research Exp in Envi Science 2.**

Environmental Science Research 2 Student will continue a mentored research project with the goal of preparing and presenting a scientific poster at a local, regional or national meeting.

**Department:** Environmental Science

**1 Credit Hour**

**4 Total Contact Hours**

3 Lab Hours

1 Lecture Hour

0 Other Hours

**Major Restrictions:**

Restricted to majors of ESCI

**Prerequisite(s):** (ESCI 3204 w/C or better)

**ESCI 3106. Principles of Hydrology Lab.**

Principles of Hydrology Lab: This laboratory-based course takes information from ESCI 3306 and allows for implementation and exploration of concepts. Topics covered include aspects of the hydrologic cycle, stream and flooding, groundwater and aquifers, water quality, and water distribution and use. Materials from local and current interests are incorporated.

**Department:** Environmental Science

**1 Credit Hour**

**3 Total Contact Hours**

3 Lab Hours

0 Lecture Hours

0 Other Hours

**Prerequisite(s):** (ESCI 1301 w/C or better ) OR (GEOL 1313 w/C or better ) OR (GEOL 1211 w/C or better)

**Corequisite(s):** ESCI 3306

**ESCI 3192. Prof. Development in ESCI.**

Professional Development in ESCI Professional development preparation for postgraduate study of careers for major in Environmental Sciences.

Prerequisites: Completion of all lower-division coursework in math and sciences required for B.S. in Environmental Science. Completion of at least six credit hours of upper division coursework in the major strongly recommended.

**Department:** Environmental Science

**1 Credit Hour**

**1 Total Contact Hour**

0 Lab Hours

1 Lecture Hour

0 Other Hours

**Prerequisite(s):** (ESCI 1301 w/C or better AND ESCI 1310 w/C or better)

**ESCI 3201. Environmental Policy & Law.**

Environmental Policy & Law: A survey of the practical knowledge required to begin a career in the environmental arena. Topics include an overview of environmental agencies, laws, and regulations; quality control/quality assurance (QA/QC) procedures; environmental sampling, including field work; sample custody, analysis and record-keeping; ethics; the roles of the public and private sector in environmental management.

**Department:** Environmental Science

**2 Credit Hours**

**4 Total Contact Hours**

2 Lab Hours

2 Lecture Hours

0 Other Hours

**Major Restrictions:**

Restricted to majors of ESCI

**Prerequisite(s):** (ESCI 1101 w/C or better AND ESCI 1301 w/C or better)

**Corequisite(s):** ESCI 3105

**ESCI 3204. Research Exp in Envi Science 1.**

Introduction to Environmental Science Research: Students will work under the supervision of a faculty mentor on a selected research project in the environmental sciences. Seminars associated with this course will emphasize professional developmental activities including experimental design, ethics, applying for internships, and science communication.

**Department:** Environmental Science

**2 Credit Hours**

**4 Total Contact Hours**

3 Lab Hours

1 Lecture Hour

0 Other Hours

**Major Restrictions:**

Restricted to majors of ESCI

**Prerequisite(s):** (ESCI 1310 w/C or better)

**ESCI 3306. Principles of Hydrology.**

Principles of Hydrology: Fundamental principles of hydrologic sciences and water as a natural resource. Topics covered include aspects of the hydrologic cycle, streams and flooding, groundwater and aquifers, water quality, and water distribution and use. Materials from local and current interests are incorporated.

**Department:** Environmental Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Prerequisite(s):** (ESCI 1301 w/C or better ) OR (GEOL 1211 w/C or better ) OR (GEOL 1313 w/C or better)

**Corequisite(s):** ESCI 3106

**ESCI 3308. Climate Science.**

A descriptive synthesis of Earth's climate system. Areas of emphasis include: (1) scientific foundations of the study of Earth's climate system, climate dynamics and climate change, (2) basic understandings of Earth's climate system as a part of the overall Earth system and Earth's place in the solar system, (3) geological and instrumental record of climate, and (4) human impacts on the climate system, including human vulnerability and response to climate change. Prerequisite: GEOG 1306 or GEOL 1311 or GEOL 1313 recommended (not required).

**Department:** Environmental Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Prerequisite(s):** (GEOG 1306 w/C or better ) OR (GEOL 1211 w/C or better ) OR (GEOL 1313 w/C or better)

**ESCI 4166. Directed Study, Env. Sci..**

Directed Study, Environmental Science (0-0-1) Directed study problems in environmental science; hours and subjects to be arranged with each student; for undergraduates who wish to do special work on a special problem. No student may receive credit for more than six hours of directed study work. Application of a directed study towards required upper division elective hours in the major is subject to prior approval by the departmental undergraduate studies committee. Prerequisite: Department approval.

**Department:** Environmental Science

**1 Credit Hour**

**1 Total Contact Hour**

0 Lab Hours

0 Lecture Hours

1 Other Hour

**ESCI 4266. Directed Study, Env. Sci..**

Directed Study, Environmental Science (0-0-2) Directed study problems in environmental science; hours and subjects to be arranged with each student; for undergraduate students who wish to do special work on a special problem. No student may receive credit for more than six hours of directed study work. Application of a directed study towards required upper division elective hours in the major is subject to prior approval by the departmental undergraduate studies committee. Prerequisite: Department approval.

**Department:** Environmental Science

**2 Credit Hours**

**2 Total Contact Hours**

0 Lab Hours

0 Lecture Hours

2 Other Hours

**ESCI 4301. Senior Project.**

Senior Project: Examination of case studies of the application, successful and unsuccessful, of environmental science at the local, regional, national, and international levels. Includes a class project on a locally relevant environmental issue. A research plan will be developed, data will be collected, analyzed, and presented.

**Department:** Environmental Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Prerequisite(s):** (ESCI 3105 w/C or better AND ESCI 3201 w/C or better)

**ESCI 4315. Topics in Environmental Sci..**

Topics in Environmental Science (3-0) Study of topics in fields such as environmental geology, environmental chemistry, environmental biology, environmental justice, environmental health, physics, hydrogology and environmental law. May be repeated when topics vary. Prerequisite: Instructor approval.

**Department:** Environmental Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**ESCI 4320. Monitoring Regional Sust.**

Monitoring Regional Sustainability Multiple projects are designed to understand and solve local and regional environmental problems. Through hands-on experiences, field trips and guest lecture, students will be trained to collect data using state-of-the-art instruments and techniques, analyze their own data as well a larger, more complex datasets, and understand the importance of environmental resources in societal stability.

**Department:** Environmental Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**ESCI 4398. Environmental Sci. Internship.**

Environmental Science Internship (0-0-6) Practical on-the-job experience in federal, state, city-county governmental, and/or private agencies or industries. Prerequisites: ESCI 2201 with a grade of "C" or better and department approval.

**Department:** Environmental Science

**3 Credit Hours**

**6 Total Contact Hours**

0 Lab Hours

0 Lecture Hours

6 Other Hours

**Prerequisite(s):** (ESCI 3201 w/C or better)

**ESCI 4399. Senior Thesis.**

Senior Thesis (0-0-3) Guided program of research culminating in the writing of a senior thesis. Prerequisite: Instructor approval.

**Department:** Environmental Science

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

0 Lecture Hours

3 Other Hours