

# ENVIRONMENTAL SCIENCE (ENV)

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## ENV 152 Oceanography

This course provides a study of the physical processes that affect the oceans of the earth. Emphasis will be on tides, currents, waves, chemistry of the sea, and geology of ocean basins. Three hours lecture.

## ENV 153 Introduction to Environmental Science

This course is an introduction to the field of environmental science. Topics covered include climate change, the human impacts on water quality, the role of soil and agriculture on our food resource, the impacts of air pollution on human health, and the impact of humans on biodiversity. For Environmental Science majors and minors, ENV 153 Introduction to Environmental Science Lab should be taken as a co-requisite.

## ENV 155 Earth Science

This course covers various topics pertaining to the earth and its place in the universe. Major aspects of geology, oceanography, meteorology, and astronomy are studied. Emphasis is placed on the interactions of earth systems, and the evolution of our planet.

## ENV 202 Earth Materials

This course is an introduction to the materials that make up the earth and their composition, structure, classification and formation. Students will study earth resources and the environmental impact of resource usage. Topics include mineralogy, petrology (the study of rocks), energy, metals, fertilizers, construction/building materials, water and soil. Three hours lecture and three hours lab.

## ENV 305 Environmental Chemistry

This course focuses on geochemical processes that occur at or near the surface of the earth which are of particular importance to environmental quality and therefore to humans and ecological systems. Students will explore the foundational concepts required to understand water and soil chemistry. Other topics include the study and use of analytical tools used to determine contamination in sediments, soils and water and the remediation techniques available to cleanup such pollution. Three hours of lecture and three lab hours. Prerequisite(s): CHM 111, CHM 112, ENV 153

## ENV 306 Hydrology

Hydrology deals with the physical principles governing the flow of groundwater and surface water. Emphasis will be on well hydraulics and flow system analysis. Topics include water budgets, floods and flood frequency analysis, groundwater supply, steady state and non-steady state flow, hydro-geologic regimes, and introductory groundwater chemistry. Three hours of lecture per week.

## ENV 310 Introduction to Geographic Information Systems

Provides an overview of the basic concepts and uses of Geographic Information System (GIS) technology. ArcGIS provides a means to explore data on a spatial level and communicate this information. Students explore GIS tools and learn to manipulate, analyze, visualize, and illustrate geographic data. Students examine relationships, trends and patterns using GIS technology. This course is structured to be a hands-on laboratory that covers both conceptual and technical topics.

## ENV 401 Fundamentals of Soil Science

An overview of soil science, covering the physical, chemical and biological properties of soils. Students will gain an understanding of soil formation, the classification of soils, and the chemical/biological reactions that occur in soils. In the laboratory, students will learn methods of soil analysis, including chemical and mineralogical analyses. Three hours of lecture and three hours of laboratory per week. Prerequisite(s): CHM 111, ENV 153, MTH 113 or MTH 120

## ENV 402 Environmental Air Quality

This course introduces the causes and effects of air pollutants on humans. The source of pollutants, their physical and chemical behavior in the atmosphere, and strategies to mitigate air pollution will be discussed. Students will also be introduced to systems modeling to understand the flow of sources and sinks of atmospheric pollutants. Three hours of lecture per week. Prerequisite(s): CHM 111, ENV 153, MTH 113 or MTH 120 or permission of instructor

## ENV 444 Research in ENV I

This course provides the student with an opportunity to do research with a faculty member. The student and the faculty member agree on the research project before the student registers for the course.

## ENV 445 Research in ENV II

This course is a continuation of the 444 research course. It provides the student with an opportunity to continue to conduct research with a faculty member.

## ENV 450 Capstone

To be determined. Restriction(s): Senior Level Status

## ENV 455 Cooperative Education

## ENV 460 Cooperative Education/Internship

This is normally a full-time, paid employment at a cooperating institution/company to provide on-the-job training (part-time positions may qualify). It involves appropriate job-related learning assignments under faculty supervision. Position must be approved by the Program Director. Consult the Associate Director for Experiential Education in the La Salle University Career Center before registering for the course.

## ENV 470 Special Topics