

Environmental Science

Course Description:

ENV 120 Intros/Occupational Safety / Health

An introduction to the principles of occupational safety and health. A survey course covering the basic principles and techniques of accident investigation and prevention. Includes field trips.

ENV 221 Safety/Health Standards

Prerequisite: ENV 120 or permission of instructor. A review of the important occupational safety and health standards and codes with particular emphasis on application of these codes to typical work situations. Includes field trips.

ENV 280 Intro/Environmental Science

An introductory course to the study of environmental issues. A general understanding of application of science to solution of contemporary environmental problems. (Equivalent to AGRI 280, CHEM 280, GEOG 280, AND PH 280).

ENV 321 Fundamentals of Industrial Hygiene

Prerequisites: MATH 117 or higher and CHEM 105 and CHEM 106 or higher or permission of instructor. A basic introduction to the field of industrial hygiene. A survey of the effects of toxic agents on the body and general methods of control. Includes field trips.

ENV 322 Phy Hazards Control 1

Prerequisite: ENV 221 or permission of instructor. An examination of physical hazards in the work environment and methods of recognition and control. Includes field trips.

ENV 323 Fundamentals of Indus Hygiene Lab

Co requisite: ENV 321 Examines basic industrial hygiene sampling, measurement and analytical techniques. Laboratory exercises will include airflow calibration standards, procedures for calibration of personal sampling pumps, instrumentation and indoor air quality monitoring methodology. (Course Fee)

ENV 360 Air Pollution Control

Prerequisite: CHEM 107 and CHEM 108 and MATH 118 Examines air pollution sources, nature and behavior of air pollutants, air sampling and analysis, dispersion and diffusion in the atmosphere, air pollution meteorology, and methods and equipment for community air pollution control. Topics in indoor air quality (IAQ), modeling, and prediction, air quality control regulations, control strategies for stationary and mobile sources.

ENV 365 Lab Air Pollution Control

Co-requisite: ENV 360. Lab two hours per week. Provides hands-on experience with field instrumentation and equipment, calibration methods and quantitative determination of different physical and chemical air pollutants. Examines air sampling, measurement and analytical methodologies and basic scientific and analytical techniques used in air pollution control. (Course Fee)

ENV 375 Intro to Water Resources

Recent advances and the present state of water resources; water resources planning and development; management and administration. Priorities in water resources research. Selected case histories.

ENV 380 Principles of Environment Toxic

Prerequisite: CHEM 105 and CHEM 106 and MATH 118 or higher and ENV 280 An overview of the principles of environmental toxicology. Reviews the effects of environmental toxicants in relation to ecosystems and human health, and provides an overview of techniques used in assessing the presence and distribution environmental toxicants.

ENV 410 Water Treatment Processes

Prerequisite: CHEM 107 and CHEM 108 and MATH 118 Determination of water quality characteristics pertinent to water and waste-water treatment.

ENV 411 Water Treatment Processes Lab

Co-requisite: ENV 410 **Prerequisite:** ENV 375 Application of water treatment processes in a laboratory. Topics will include water quality measurements, water treatment methods and monitoring. (Course Fee)

ENV 423 Safety Program Management

Prerequisites: ENV 321 and ENV 322 or Permission of Instructor. Designed to acquaint the student with the common elements of the modern safety program.

ENV 460 Environmental Management

Prerequisites or Co requisites: ENV 360, 410, 480. Provides students with a working knowledge of environmental management techniques, standards, permitting, and programs that used to protect our air, water, and land resources. Off-campus travel is required. Students are responsible for arranging their own transportation to designated sites.

ENV 474 Environmental Risk Assessment

Prerequisites: ENV 369, 440, 441, 442, 443. Develops both qualitative and quantitative skills in assessing the risk borne by workers as a result of exposure to occupational environmental agents. Topics include risk prioritization approaches and exposure monitoring strategies. Laboratory sessions discuss risk assessment software tools and include a major field project in a local industry. (Spring)

ENV 480 Hazardous and Solid Wastes

Prerequisite: CHEM 107 and CHEM 108 and MATH 118 Includes the physical, chemical, and biological stressors associated with both hazardous and solid waste. Emphasis on characterization and remediation efforts.

ENV 486 Senior Environmental Sem

Prerequisite: Senior standing. Current environmental issues discussed by invited lecturers, including identification of possible careers in environmental fields.

ENV 490 Food Safety

Prerequisite: 6 hours of Biology Principles of food safety in the processing and distribution of milk and milk products, meat, shellfish, and other foods; food borne illnesses; and standards, surveillance and evaluation. Students must arrange own transportation for required field trips.

ENV 491 Int in Environmental /Health & Safety

Prerequisites: ENV 423 and permission of instructor. Supervised experience in an organization, facility, industry, or business with ENV responsibilities. Assignments individually arranged. Off campus travel required. (Grading: Pass/Fail)

ENV 495 Hon: Environmental Measurement

Prerequisites: ENV 280, 360, 410, 480. Includes environmental measurement methods for air, soils, and water analysis. Devices covered include: AA, GC/MS, XRF, PID, SEM, colorimetric tubes, and water quality instruments.