

DEPARTMENT OF OCCUPATIONAL AND ENVIRONMENTAL SAFETY AND HEALTH

The Department of Occupational & Environmental Safety & Health (OESH) prepares students for rewarding careers protecting America's work force, the public and the natural environment from harm in today's age of rapid technological and scientific development. The Occupational & Environmental Safety & Health professional is concerned with the interaction between people and the physical, chemical, biological, and psychological factors which affect their safety, health and productivity. Coursework covers a wide range of subjects including accident prevention, ergonomics, construction safety, environmental protection, and regulatory compliance. The students are provided with essential skills that enable them to evaluate, devise, and implement methods to control hazards. OESH majors are provided with a number of practical worksite activities, culminating in a full semester internship with a practicing OESH professional. In addition to a general track, majors can select from three different emphases: Construction Safety, Occupational Ergonomics, and Environmental Management. The Department also offers two minor programs which provide a basic foundation in Occupational Safety or in Environmental Management for students majoring in other fields.

Majors/Emphases

To obtain an internship and graduate the OESH student must have a minimum 2.50 GPA in the major and as an overall college average.

Construction Safety Emphasis

The construction safety emphasis provides students with a comprehensive background in worksite hazard assessment, safety and health program development, and risk management as it applies to the construction industry.

Occupational Ergonomics Emphasis

The occupational ergonomics emphasis prepares students to meet the growing demand for safety professionals capable of dealing with work-related musculoskeletal disorders (WMSDs). This emphasis provides students with a comprehensive background in ergonomic work analysis, hazard assessment, and program development in a variety of essential industries.

Environmental Management Emphasis

OESH professionals are often expected to manage environmental hazards created by operational and procedural processes at industrial and manufacturing facilities. This emphasis introduces environmental management concepts to students and prepares them to address environmental concerns at their job sites.

Writing Proficiency Requirement

BEINDP 290 or ENGLISH 372

Majors in Occupational and Environmental Safety and Health

- General Business - Safety on Risk Management BBA (<http://uww-public.courseleaf.com/undergraduate/business-economics/occupational-environmental-safety-health/general-business-emphasis-safety-and-risk-management>)
- Occupational Safety BS (<http://uww-public.courseleaf.com/undergraduate/business-economics/occupational-environmental-safety-health/occupational-safety-bs>)
- Occupational Safety - Construction Safety Emphasis BS (<http://uww-public.courseleaf.com/undergraduate/business-economics/occupational-environmental-safety-health/occupational-safety-major-construction-safety-emphasis-bs>)
- Occupational Safety - Occupational Ergonomics Emphasis BS (<http://uww-public.courseleaf.com/undergraduate/business-economics/occupational-environmental-safety-health/occupational-safety-occupational-ergonomics-emphasis-bs>)
- Occupational Safety - Environmental Management Emphasis BS (<http://uww-public.courseleaf.com/undergraduate/business-economics/occupational-environmental-safety-health/occupational-safety-environmental-management-emphasis-bs>)

Minors in Occupational and Environmental Safety and Health

- Occupational Safety (<http://uww-public.courseleaf.com/undergraduate/business-economics/occupational-environmental-safety-health/occupational-safety-minor>)
- Environmental Management (<http://uww-public.courseleaf.com/undergraduate/business-economics/occupational-environmental-safety-health/environmental-management-minor>)

Courses

SAFETY 201 PERSONAL AND PUBLIC SAFETY 3 Units

Presents a systematic account of the foundations of safety to students with little previous knowledge of the subject. It presents the accident problem, philosophical implications, concepts of accident causation and countermeasures, and an overview of specific areas of safety concern: fire, water safety, traffic, disasters, etc.

SAFETY 255 ALCOHOL AND OTHER DRUGS 3 Units

An investigation into the physiological, psychological and sociological problems presented by the use of alcohol and other drugs. Prevention and treatment programs will be examined. Other areas of study will include alcohol and traffic safety, alcohol and other drugs education and employee assistance programs.

SAFETY 375 QUALITY IMPROVEMENT AND PATIENT SAFETY 3 Units

This course is an introduction to quality improvement theories and patient safety principles in the current health care environment. Topics addressed include leadership, organizational change, management and process improvement. Specifically, strategies for creating a high performance culture and infrastructure needed to support patient safety and quality improvement initiatives will be emphasized.

SAFETY 380 INTRODUCTION TO OCCUPATIONAL SAFETY & HEALTH 3 Units

Students will review case studies of historical events, investigate professional OSH organizations, and learn to utilize OSH regulatory and consensus standards websites as an introduction to the basic practice of hazard identification and assessment, control strategies, and basic safety program development.

SAFETY 381 MOTOR FLEET SAFETY 3 Units

An analysis of fleet safety problems and programs. Detailed study of the truck transportation industry, motor carrier responsibilities, federal regulations and safety supervision programs.

PREREQ: SAFETY 380 OR CONSENT OF INSTRUCTOR

SAFETY 382 SAFETY IN THE CONSTRUCTION INDUSTRY 3 Units

This course examines the practices and safety-related problems found in the construction industry. Administrative and organizational issues that impact construction safety programs are examined. Students will be introduced to specific problems and countermeasures for correction through lectures and field experiences. The course provides an overview of applicable OSHA and MSHA standards.

PREREQ: SAFETY 380 OR CONSENT OF INSTRUCTOR

SAFETY 383 INTRODUCTION TO SECURITY 3 Units

A study of the physical, personnel, and informational aspects of the security field. Concepts of these areas will be integrated with safety management concepts and will be discussed in relationship to industrial and business environments.

SAFETY 384 CONSTRUCTION ACCIDENT PREVENTION 3 Units

A combination of principles and practices designed to provide a basis for understanding the nature of accident prevention, health preservation and loss reduction in construction operations. The topics to be examined include federal safety and health regulations, techniques of hazard control, strategies for minimizing injuries and losses, and sources of assistance in resolving safety and health problems.

PREREQ: SAFETY 382 OR SAFETY 582 OR CONSENT OF INSTRUCTOR

SAFETY 388 OCCUPATIONAL SAFETY & HEALTH STANDARDS AND APPLICATIONS 3 Units

This course is designed to provide the student with a comprehensive understanding of occupational safety and health standards and their application for the management of workplace injury prevention and health promotion. Topics to be examined include federal regulations and their interpretations and accident investigation methodologies.

PREREQ: SAFETY 380

SAFETY 420 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT 3 Units

This course addresses the U.S. Environmental Protection Agency regulations and the related responsibilities of the safety professional to insure compliance. Areas to be covered are: Safe Drinking Water Act, Storm Water Discharges, Hazardous Waste Disposal, Environmental Audits, Clean Air Act, etc.

PREREQ: CHEM 102 AND COREQ: SAFETY 453

SAFETY 450 BEHAVIORAL ASPECTS OF ACCIDENT PREVENTION 3 Units

Selected theories of accident causation and countermeasures are studied. Examination of physiological, medical, psychological, and sociological factors which influence behavior, and methods for modifying unsafe behavior.

PREREQ: SOPH ST OR CONS INSTR.

SAFETY 453 FUNDAMENTALS OF ENVIRONMENTAL LAW 3 Units

An examination of federal and state laws with judicial and regulatory interpretations having application to the management of the occupational and environmental safety & health responsibilities of private sector firms in the United States.

SAFETY 468 ERGONOMICS 3 Units

Study of human capabilities and limitations (physical, perceptual and cognitive) as the basis for improving human interactions with products, workstations and jobs. Review of human anatomical, physiological, perceptual and psychomotor characteristics applied to human-machine systems to enhance worker comfort, safety, health and productivity.

SAFETY 471 APPLIED METHODS IN ERGONOMICS 3 Units

Students will study methods and techniques for job and workstation evaluation to identify potential ergonomic hazards that contribute to work-related musculoskeletal disorders. At the conclusion of the course students will be able to select and apply appropriate ergonomics methods and techniques to industry-specific problems.

PREREQ: SAFETY 488/SAFETY 688 OR CONSENT OF INSTRUCTOR

SAFETY 472 ADVANCED INDUSTRIAL ERGONOMICS 3 Units

This course focuses on the specific needs of key industries that present high incidence of work-related musculoskeletal disorders. These industries display specific working conditions with large and diverse workforces. In addition, ergonomic issues of work populations with special needs are also reviewed. The course will involve applied problem solving projects in different work settings.

PREREQ: SAFETY 471/SAFETY 671 OR CONSENT OF INSTRUCTOR

SAFETY 474 FACILITY WATER MANAGEMENT 3 Units

This course will cover water related topics from a facility point of view. Topics to be covered are basic water ecology, drinking water sources, water quality monitoring, facility level water management, facility and municipal level wastewater treatment, basic water related public health issues, stormwater management, and water related regulatory compliance.

PREREQ: CHEM 102

SAFETY 479 PRINCIPLES AND METHODS OF INDUSTRIAL HYGIENE 5 Units

An introduction to the science and art of anticipating, recognizing, evaluating, and controlling the chemical, physical, and biological agents that affect the health and safety of workers. The laboratory provides working knowledge and hands-on experience with equipment for recognizing, analyzing, and evaluating occupational health hazards in industry. One 2.5 hour lecture and one 2.5 hour lab per week.

PREREQ: CHEM 102, (CHEM 104 OR CHEM 112), PHYSCS 130 AND MAJOR GPA OF 2.50

SAFETY 481 ANALYSIS AND DESIGN FOR SAFETY IN INDUSTRIAL OPERATIONS 3 Units

The course reviews interpretations and applications of occupational safety and health standards. Emphasis is placed on local, state, federal and trade standards to numerous applications including materials handling, machine guarding, metalworking, electrical hazards, and flammable liquids. Class visitations to selected industries will be scheduled to assist students in understanding industrial and plant processes and to recognize potential hazards.

PREREQ: SAFETY 388, SAFETY 488, AND MAJOR GPA OF 2.5 FOR SAFETY MAJORS COREQ: SAFETY 479

SAFETY 482 CONSTRUCTION SAFETY MANAGEMENT 3 Units

An examination of the practices of managing occupational safety and health programs in the construction field. The course is designed to provide the student with an understanding of how the regulatory and financial responsibilities of accident prevention, health preservation and loss reduction in construction operations are met.

PREREQ: SAFETY 384 OR SAFETY 584

SAFETY 483 OCCUPATIONAL SAFETY MANAGEMENT 3 Units

Emphasis will be on the organizational and administrative problems that relate to risk assessments, occupational accidents, worker compensation management, safety committees and employee safety training programs. The course is designed for students majoring in the business related areas and future safety professionals who desire to develop an understanding of these management problems as well as applicable solutions.

PREREQ: SAFETY 388 OR CONSENT OF INSTRUCTOR, ONE SEMESTER OF COLLEGE STATISTICS, AND MAJOR GPA OF 2.50

SAFETY 485 FIRE PROTECTION/PREVENTION 3 Units

Control of fire through study of building construction to prevent fire spread, occupancy-hazard relationships, exposure to and from adjacent occupancies, lifesaving aspects, and the development of professional knowledge of flammable gases, liquids, combustible solids, dusts, chemicals, and explosives. Interpretation of appropriate codes will be covered.

PREREQ: CHEM 102 OR ONE SEMESTER OF GENERAL COLLEGE CHEMISTRY OR CONSENT OF INSTRUCTOR

SAFETY 487 PRODUCT SAFETY 3 Units

An analysis of the trends of the product liability problem and the agencies regulating products. Special emphasis will be given to legal theories related to product liability and landmark litigation providing the basis for case law. A substantial portion of the course will be devoted to examining the elements of product safety programming.

PREREQ: SAFETY 380 OR CONSENT OF INSTRUCTOR

SAFETY 489 HAZARDOUS MATERIALS MANAGEMENT 3 Units

This course provides a framework for understanding the nature of hazardous materials and how the risks from such materials may be reduced. The focus is on the properties and characteristics of hazardous materials and the life cycle of hazardous materials (manufacturing/importing, use, storage, transportation, disposal and remediation); emphasizing hazardous material minimization and the best practices of using and handling hazardous materials based on their properties and characteristics.

PREREQ: CHEM 102, AND CHEM 112 OR CHEM 104; OR ONE YEAR OF GENERAL COLLEGE CHEMISTRY; OR CONSENT OF INSTRUCTOR

SAFETY 490 WORKSHOP Repeatable 1-6 Units

Variable topics. Group activity oriented presentations emphasizing 'hands on' and participatory instructional techniques.

SAFETY 491 TRAVEL STUDY Repeatable 3 Units

Variable topics. Faculty-led courses abroad.

SAFETY 492 FIELDWORK INTERNSHIP IN SAFETY 12 Units

Offered on a satisfactory/no credit grade basis only. Students are required to secure their own internships. Hosting organizations must have a safety supervisor on-site, and the majority of internship activities be safety-related. Internships need to be pre-approved by the OESH coordinator. Students will be supervised by the organization's safety manager and an OESH instructor. Interns will document their field experiences.

PREREQ: CONSENT OF COORDINATOR OF FIELD EXPERIENCES, SUCCESSFUL COMPLETION OF ALL DEGREE COURSEWORK WITH A MAJOR GPA OF 2.50 OR HIGHER, AND COMPLETION OF THE COMMUNITY SERVICE REQUIREMENT.

SAFETY 493 AIR POLLUTION EVALUATION AND CONTROL 3 Units

This entry-level course presents a broad overview of the major aspects of air pollution evaluation and control. The course includes information about pollutants, pollutant sources, and effects of pollution on human health and the environment, dispersion of pollutants, measurement and control of emissions, and laws and regulations pertaining to air pollution control.

PREREQ: CHEM 102 AND PHYSICS 130 OR CONSENT OF INSTRUCTOR

SAFETY 496 SPECIAL STUDIES Repeatable 1-3 Units

A course which offers study in special topics in safety which are not regularly included in the curriculum.

SAFETY 497 EXCHANGE STUDY Repeatable 1-12 Units

Variable topics

SAFETY 498 INDEPENDENT STUDY Repeatable 1-3 Units

Study of a selected topic or topics under the direction of a faculty member. May be taken for a maximum of 3 units in major/degree.

PREREQ: CONSENT OF INSTRUCTOR AND JUNIOR STATUS AND OCCUPATIONAL SAFETY MAJOR OR MINOR