# Occupational and Environmental Safety & Health (SAFETY)

## Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
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<tbody>
<tr>
<td>SAFETY 581</td>
<td>Motor Fleet Safety</td>
<td>3</td>
<td>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</td>
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<tr>
<td>SAFETY 582</td>
<td>Safety in the Construction Industry</td>
<td>3</td>
<td>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</td>
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<tr>
<td>SAFETY 583</td>
<td>Introduction to Security</td>
<td>3</td>
<td>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.</td>
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<tr>
<td>SAFETY 584</td>
<td>Construction Accident Prevention</td>
<td>3</td>
<td>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</td>
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<tr>
<td>SAFETY 671</td>
<td>Applied Methods in Ergonomics</td>
<td>3</td>
<td>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</td>
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<tr>
<td>SAFETY 672</td>
<td>Advanced Industrial Ergonomics</td>
<td>3</td>
<td>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</td>
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<td>SAFETY 679</td>
<td>Principles and Methods of Industrial Hygiene</td>
<td>5</td>
<td>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: MUST BE ADMITTED TO THE MS ESH PROGRAM; OR MUST BE ADMITTED TO A COBE GRADUATE PROGRAM AND COMPLETED CHEM 102 OR EQUIVALENT</td>
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<tr>
<td>SAFETY 682</td>
<td>Construction Safety Management</td>
<td>3</td>
<td>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</td>
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<tr>
<td>SAFETY 683</td>
<td>Occupational Safety Management</td>
<td>3</td>
<td>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</td>
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<tr>
<td>SAFETY 685</td>
<td>Fire Protection/Prevention</td>
<td>3</td>
<td>Control of fires 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</td>
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<tr>
<td>SAFETY 687</td>
<td>Product Safety</td>
<td>3</td>
<td>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: MUST BE ADMITTED TO A COBE GRADUATE DEGREE PROGRAM</td>
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<tr>
<td>SAFETY 690</td>
<td>Workshop</td>
<td>Repeatable 1-6</td>
<td>Variable topics. See Schedule of Classes.</td>
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<tr>
<td>SAFETY 691</td>
<td>Travel Study</td>
<td>Repeatable 3</td>
<td>Variable topics. Faculty-led courses abroad.</td>
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<tr>
<td>SAFETY 696</td>
<td>Special Studies</td>
<td>Repeatable 1-3</td>
<td>Variable topics. Group activity. Not offered regularly in the curriculum but offered on topics selected on the basis of timeliness, need, and interest, and generally in the format of regularly scheduled Catalog offerings. Repeatable to 6 credits in degree. A course which offers special topics in safety which are not regularly included in the curriculum.</td>
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SAFETY 701  RESEARCH METHODS IN ESH  3 Units
This course introduces key concepts and skill development in scientific inquiry in Environmental Safety & Health. The course covers: foundations for scientific inquiry, types of research methodology, validity and reliability (biases & error), how to search for and review research literature, basic understanding of statistical significance, and how to develop research question/hypotheses.
PREREQ: MUST BE ADMITTED TO THE MS ESH PROGRAM; OR MUST BE ADMITTED TO A COBE GRADUATE PROGRAM AND COMPLETED CHEM 102 AND ECON 703 OR THEIR EQUIVALENTS

SAFETY 710  HEALTHCARE SAFETY  3 Units
Review the unique risks presented within healthcare safety environment of care to the patients served, the employees and medical staff who use and manage it, and others who enter the environment. Discuss a proactive risk assessment approach to identifying and maintaining an environmental safety program based on applicable laws, regulations, and accreditation standards designed to manage the specific identified risks.

SAFETY 712  DISASTER PLANNING AND RESPONSE  3 Units
This course provides an overview of the organizational processes of preparing for and responding to disasters, both natural and technological. The course will begin with emergency response planning and preparation, then move into emergency operations and incident management, and conclude with a module on incident investigation and root cause analysis.
PREREQ: MUST BE ADMITTED TO A COBE GRADUATE DEGREE PROGRAM

SAFETY 737  ERGONOMICS IN CONSTRUCTION  3 Units
This course is intended to examine the ergonomic problems, such as work related musculoskeletal disorders and injuries, in the construction industry. The course provides recognized ergonomic strategies in order to apply ergonomic hazards risk assessment for effective ergonomic solutions and interventions in different construction operations.
PREREQ: MUST BE ADMITTED TO A COBE GRADUATE DEGREE OR CERTIFICATE PROGRAM

SAFETY 753  ENVIRONMENTAL LAW  3 Units
This course addresses current environmental issues of importance to ESH professionals and their associated regulations. Federal and State regulations having application to the current environmental issues will be emphasized.
PREREQ: MUST BE ADMITTED TO A COBE GRADUATE DEGREE PROGRAM

SAFETY 757  PRINCIPLES OF OCCUPATIONAL EPIDEMIOLOGY  3 Units
This course will introduce the principles of occupational epidemiology and discuss the application of these principles in the recognition, control and prevention of disease and injury. The course will review the etiology of various acute, chronic, infectious, occupational and environmental diseases.
PREREQ: MUST BE ADMITTED TO THE MS ESH PROGRAM; OR MUST BE ADMITTED TO A COBE GRADUATE PROGRAM AND COMPLETED ECON 703 OR ECON 245 OR EQUIVALENT WITH A GRADE OF C OR BETTER

SAFETY 779  ADVANCED TOPICS IN INDUSTRIAL HYGIENE  3 Units
The course will address industrial hygiene topics from the perspective of an EHS manager. Topics include adjustment of occupational exposure limits for various working conditions, alternative methods of assessment, emergency response, and comprehensive health and safety program management. Professional issues including leadership, risk communication, and ethics will also be discussed.
PREREQ: MUST BE ADMITTED TO THE MS ESH PROGRAM; OR MUST BE ADMITTED TO A COBE GRADUATE PROGRAM AND COMPLETED CHEM 102 AND ECON 703 OR THEIR EQUIVALENTS

SAFETY 780  PREVENTION AND CONTROL OF AIRBORNE HAZARDS IN THE WORKPLACE  3 Units
This course provides a discussion of the principles of preventing and controlling airborne contaminants in working and living environments. It deals with preventing occupational exposures to airborne contaminants, basic and advanced topics related to industrial ventilation for indoor workplaces, and personal respiratory protection. Topics include: behavior of airborne contaminants, exposure monitoring, ventilation, indoor air quality, respirator selection, and current topics.
PREREQ: MUST BE ADMITTED TO THE MS ESH PROGRAM; OR MUST BE ADMITTED TO A COBE GRADUATE PROGRAM AND COMPLETED CHEM 102 OR EQUIVALENT

SAFETY 783  ENVIRONMENTAL AND SAFETY MANAGEMENT  3 Units
Review foundational research literature on systems and risk-based approaches to ESH program design and management. Discuss national and international ESH management standards. Emphasis is given to data-driven efforts to improve EHS performance.
PREREQ: MUST BE ADMITTED TO THE MS ESH PROGRAM; OR MUST BE ADMITTED TO A COBE GRADUATE PROGRAM AND COMPLETED ECON 703 OR ECON 245 OR EQUIVALENT WITH A GRADE OF C OR BETTER

SAFETY 784  ADVANCED ERGONOMICS  3 Units
Study of methods for job and workstation analysis aiming at the identification, characterization and mitigation of ergonomic hazards. Review of common musculoskeletal disorders, their etiology, epidemiology and prevention. Examination of high-risk industries and their specific needs. Selection and application of appropriate methods to different settings and industries.
PREREQ: MUST BE ADMITTED TO A COBE GRADUATE DEGREE OR CERTIFICATE PROGRAM

SAFETY 787  SYSTEM SAFETY ANALYSIS  3 Units
Introduction to the system technique as applied to the recognition of potential accident situations in occupational environments. Concentration will be on the qualitative aspects of safety, utilizing numerous examples and problems.
PREREQ: MUST BE ADMITTED TO A COBE GRADUATE DEGREE OR CERTIFICATE PROGRAM

SAFETY 789  READINGS AND RESEARCH IN SAFETY  3 Units
Under the direction of a faculty member the student will examine current research and professional practices and apply that knowledge to an ESH problem. The course serves as the capstone experience and requires the successful completion of a research paper.
PREREQ: SAFETY 701; AND AT LEAST 18 UNITS MUST BE COMPLETED IN 700-LEVEL COURSES IN MS ESH PROGRAM; AND HAVE DEPARTMENT CONSENT

SAFETY 790  WORKSHOP  1-6 Units
Variable topics. Group activity oriented presentations emphasizing ‘hands on’ and participatory instructional techniques.

SAFETY 793  PRACTICUM  Repeatable  1-6 Units
Safety Studies Practicum.
SAFETY 794  SEMINAR  1-3 Units
Variable topics. Group activity. An advanced course of study in a defined subject matter area emphasizing a small group in intense study with a faculty member.

SAFETY 796  SPECIAL STUDIES  1-3 Units
Variable topics. Group activity. Not offered regularly in the curriculum but offered on topics selected on the basis of timeliness, need, and interest, and generally in the format of regularly scheduled Catalog offerings.

SAFETY 798  INDIVIDUAL STUDIES  1-3 Units
Study of a selected topic or topics under the direction of a faculty member.
PREREQ: CONSENT OF INSTRUCTOR

SAFETY 799  THESIS RESEARCH  Repeatable  1-6 Units
Students must complete a Thesis Proposal Form in the Graduate Studies Office before registering for this course.