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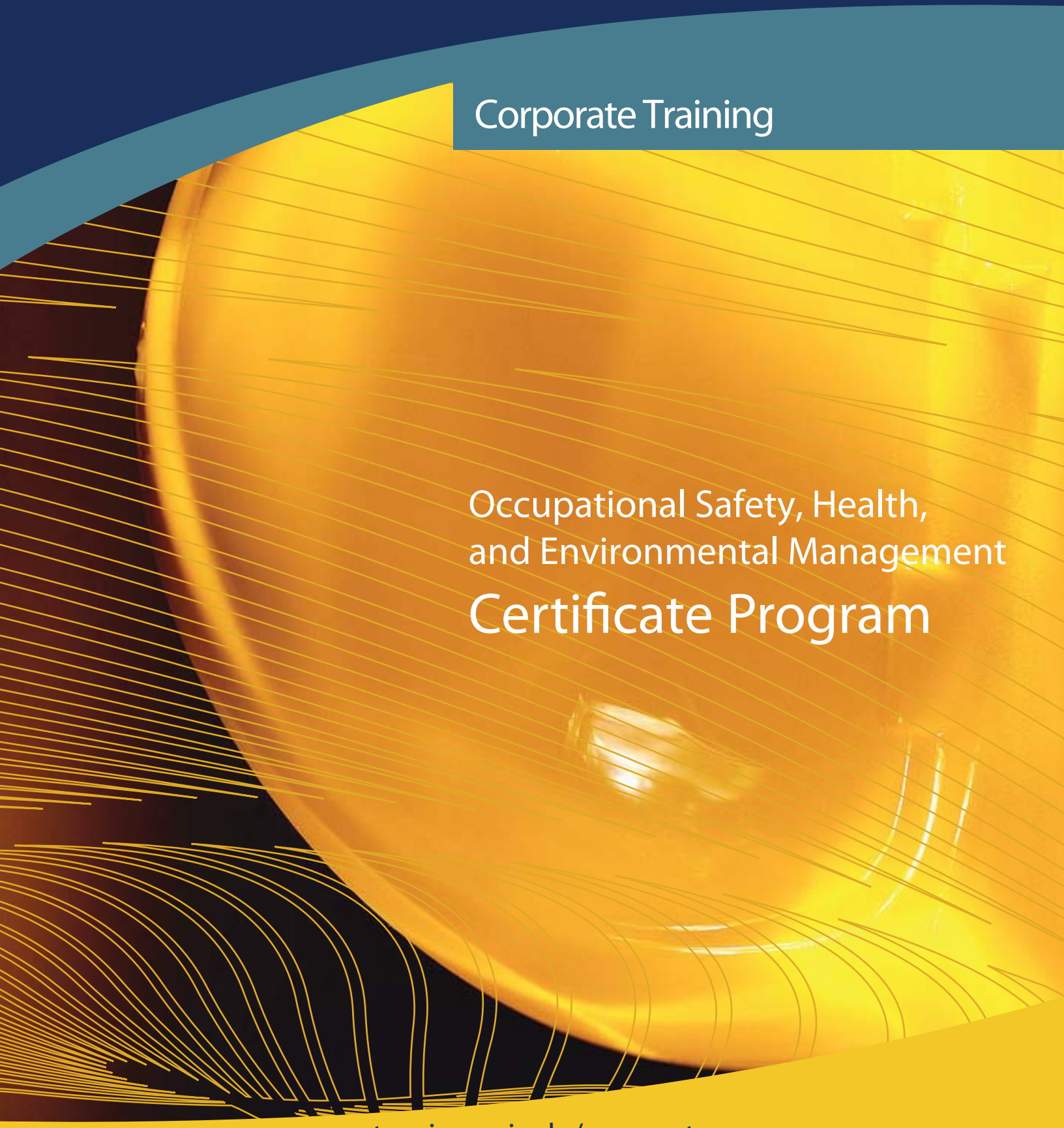
Corporate Training



Occupational Safety, Health, and Environmental Management

Certificate Program

extension.uci.edu/corporate

Safety and health professionals play an important role in maintaining the quality of the work environment.

Corporate Training Contact
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Who Should Attend
Individuals transitioning into the occupational safety field; safety professionals who would like to add to their credentials and/or advance in their careers; those who wish to increase their knowledge in specific areas in preparation for both the Certified Safety Professional (CSP) core examination and the Occupational Health and Safety Technologist examination; other professionals in the industry who are involved in the development or management of a safety program and want to ensure their company meets government regulations and industry standards in the area of safety. Most courses offer Board of Certified Safety Professionals (CSP) and American Board of Industrial Hygiene (ABIH) credit.

Certificate Requirements
UC Irvine Extension awards a certificate to candidates who complete 10 courses (2 pre-requisites and 8 required courses) in the program with a "C" or better.

Prerequisite Course Descriptions

Basic Math and Science Review

Physical Sciences X420.71 (1.5 units)

This course serves as a prerequisite for participants in the Occupational Safety and Health Certificate Program who are in need of instruction that provides fundamental information necessary to succeed in this and other technical fields. The review is formatted in a practical application format. Topics include: materials handling problem-solving using basic trigonometry and algebra; understanding corrosives; gas law applications; metric conversion; balancing chemistry and algebra equations; and identification of anatomical functions. The course also helps to prepare participants for the Certified Safety Professional (CSP) and the Occupational Health and Safety Technologist examinations. A scientific calculator is required for this course.

Introductory Chemistry of Hazardous Materials

Chemistry X470.1 (1.5 units)

This course covers concepts used in the Environmental Management courses. The course emphasizes the practical aspects of hazardous materials chemistry, including chemical and physical properties, chemical usage in society, and familiarization with common chemical hazards. Explore topics that include terminology, periodic table, states of matters, acids and bases, solubility, bonds, compounds, equations, water cycle, movement of hazardous materials, common toxic gases, and modes of entry and action of chemicals.

Required Course Descriptions

Fundamentals of Safety and Health in the Workplace

Engineering X469.61 (2.5 units)

Gain an understanding of the safety engineering techniques and practical skills essential to safety professionals. Learn about topics including: biological stresses, hazard and exposure control, toxicology, property exposure and control, radiation, ventilation, life safety aspects of fire, hearing conservation, machine guarding, system safety, and environmental health. The workshop setting of this course features a combination of lectures and open discussion, giving you the opportunity to clearly understand all material. Reading assignments and testing in class will also help participants prepare for the Certified Safety Professional (CSP) and the Occupational Health and Safety Technologist examinations. A scientific calculator is required for this course.

Fundamentals of Industrial Hygiene

Social Ecology X496.23 (2.5 units)

Industrial hygiene as a profession requires the recognition, evaluating and control of health and safety hazards with the work environment. For the safety professional, the environmental manager, and others working in related areas, this course provides a basic understanding of these concepts. Learn about the occupational activities that produce workplace hazards, the types of hazards and their physiological impact upon the worker, and methods of hazard reduction. Explore topics including personnel monitoring, identification of chemical and physical hazards, exposure standards, the relationship between exposure and health effects, industrial hygiene surveys and sampling, Cal/ OSHA standards, and contemporary industrial hygiene issues.

Occupational Safety and Health Regulations and Laws

Social Ecology X492.21 (2.5 units)

The course is designed for the participant who has responsibility for the development and/or implementation of occupational safety and health programs. It provides an overview of related legal elements, laws, regulations and cases with specific emphasis on Cal/OSHA, and comparison, contrasting and integration with the Fed/OSHA system. Topics include historical development of the OSHA law; elements of civil, criminal and administrative law and the court system; overview of workers' compensation and E.E. O.C. - A.D.A.; the interface with related environmental laws and regulations; professional responsibility and OSHA regulations highlighting Cal/OSHA Title 8. Examples of selected cases related to the topic under discussion are emphasized.

Principles of Occupational Safety and Environmental Health Management

Management X494.21 (2.5 units)

This course provides the occupational safety and environmental health professional with skills to promote the integration of business strategies with sound environmental health and safety principles. Participants learn how to achieve business goals while preventing environmental health and safety risks. Topics include management systems for compliance; application of quality principles in safety and environmental health management; management accountability; measuring performance; training; education and communication; strategic planning; budgeting; and negotiation skills (influencing without authority).

Introduction to Environmental Assessment and Auditing

Social Ecology X498.40 (2.5 units)

This course provides the participant with an understanding of the basic principles of environmental assessment and auditing. The course begins with a description of the ASTM process for performing Phase I Site Assessments. Participants develop an understanding of the site inspection, environmental historical review process, governmental database review, and report preparation processing. Additionally, participants are exposed to the basics of planning and reporting results of soil and groundwater investigations. The ASTM risk based corrective actions (RBCA) process is explained and used as a tool to better understand and prioritize the results of Phase I and II analysis. The instructor then introduces compliance auditing and demystifies the audit process as it relates to regulatory compliance audits and EPA involvement. The basic components of a typical environmental, health and safety compliance audit are reviewed; such as protocol development, interviewing skills, conducting the field investigation, report preparation, and conflict resolution. Participants develop investigative skills for performing environmental compliance audits through the use of group and individual practices. Other topics covered include confidentiality and attorney/client privilege, and the application of auditing concepts to other kinds of audits such as the business acquisition and management systems audits.

Environment and Facilities

Environmental Sampling and Analysis

Civil Environmental Engineering X468.61 (2.5 units)

This course presents the important aspects of environmental sampling and analytical testing necessary to determine the contamination levels in environmental samples. Collecting adequate and representative samples poses a major technical problem in many environmental activities. Sampling and analysis also can be one of the most costly aspects of site investigation. This course is designed to acquaint participants with the full range of such sampling and analysis - for air, water and soil. Laboratory techniques for evaluating hazardous materials are discussed, as well as interpreting data from analytical processes. Emphasis is placed on the advantages, disadvantages and capabilities of various techniques and their application. Common soils and geological sampling equipment and procedures useful for site characterization and remediation project design are presented. Standard methods for occupational health/industrial hygiene, including indoor air quality, are reviewed. The course includes demonstrations of common soil and groundwater sampling equipment and procedures, and a visit to a certified laboratory where participants will observe the practices and instruments involved in performing tests and analyses. The course is designed for technical specialists who develop project plans involving sampling and analysis, for managers who wish to understand why such programs are costly and time-consuming, and for individuals unfamiliar with the sampling or analysis aspects of environmental projects.

Industrial Waste Management

Social Ecology X498.41 (2.5 units)

Enhance your knowledge of industrial processes and the generation of waste streams. Learn about the various raw materials and chemicals used in industry, and examine the changes that occur as they move through the industrial processes. Gain an understanding of the regulations related to waste stream management, and the EPA-recognized treatment technologies for specific industries. An in-depth review of waste minimization provides the foundation to implement an effective pollution prevention program. You will also learn about the life cycle design for general manufacturing.

Risk Assessment and Management

Social Ecology X 498.42 (2.5 units)

This course examines the increasing role of quantitative health risk assessment in the environmental management and regulatory decision-making process. Participants are introduced to the basic tools of risk assessment including the structuring of scenarios, event/fault tree analysis, Bayesian evaluation of evidence, Monte Carlo simulation, exposure assessment, dose/response assessment, risk characterization, and risk communication. The course discusses the applications of risk assessment including health risk assessment, risk management plans, Risk-Based Corrective Action (RBCA), Hazards and Operability (HAZOP) studies, and environmental cleanup levels. The hazards and risks of various industries and activities, such as nuclear power, chemical facilities and transportation are reviewed. Internet resources supplement and support the topics presented. Participants will conduct a scoping risk assessment on a topic of their choice. This course will also address how to assist those responsible for environmental, health or safety issues effectively communicate risk information to employees, community members and the media. You will gain an understanding of how risk is perceived and learn the best approaches to communicate risk.

Additional Certificate Programs:

Environmental Management Certificate Program
Facilities Management Certificate Program

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