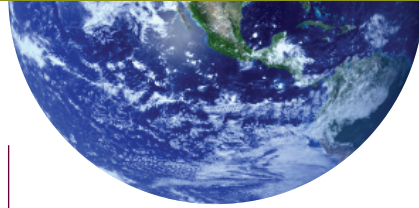


Environmental Health and Safety



Environmental Health and Safety Programs

UCSC Extension in Silicon Valley offers individual courses and three full certificate programs to meet the needs of Bay Area professionals currently working in or planning for a transition into the environmental health and safety field. Courses in environmental safety and health, hazardous materials, and occupational safety and health are designed to help EH&S professionals meet regulatory and certification requirements as well as advance their careers. We also regularly offer HAZWOPER and one-day updates. Taught by experienced professionals, our EH&S programs develop the hands-on skills as well as the advanced management techniques needed to elevate performance to the highest level.

Hazardous Materials Management Certificate

Gain a solid foundation in the principles, regulations, and technologies required to manage hazardous materials and hazardous waste.

Occupational Safety and Health Management Certificate

Learn the skills you need to develop and run proactive safety programs that address the increasingly important safety and health issues faced by businesses today.

Environmental Safety and Health Management Certificate

Known as the "dual" certificate, this program combines the Hazardous Materials Management and Occupational Safety and Health Management certificates to serve the training needs of safety engineers and managers with broad environmental and management responsibilities.

HAZWOPER Courses

These comprehensive sessions meet the stringent state and federal agency training requirements for hazardous materials management.

For More Information

Current and future course schedules can be found at ucsc-extension.edu/ehs. For more information on these programs or to be added to our mailing list, please call (408) 861-3860 or contact program@ucsc-extension.edu.



About UCSC Extension in Silicon Valley

The vital learning community at UCSC Extension in Silicon Valley is well known for its collegial atmosphere and rigorous preparation. Our faculty of expert practitioners teaches state-of-the-art solutions to the everyday problems confronting technology professionals working in Silicon Valley. The professional education programs we offer build expertise, open doors to new opportunity, and deliver tangible value. Our broad portfolio of open-enrollment courses and certificates, affordable pricing, experience-based instruction, and central location in Silicon Valley help turn jobs into careers.

Hazardous Materials Management Certificate

Program Overview

This program provides a solid foundation in the principles, regulations, and technologies required to manage hazardous materials and hazardous waste. Courses are designed for public and private-sector professionals and managers who have hazardous materials and hazardous waste regulatory compliance responsibilities and related duties.

Certificate Requirements

Candidates for the certificate must complete a total of 210 classroom hours (21 units) comprising **five required courses** and **6 units of elective courses**.

Courses may be taken individually or as part of the certificate program.

Prerequisites

Completion of at least one college-level chemistry course.

Recommended Course Sequence

Courses may be taken in any order.

Occupational Safety and Health Management Certificate

Program Overview

Businesses today face myriad safety and health issues, including worker safety, employee health liability, loss control, government regulations, program development, and extensive training requirements and techniques.

This certificate helps employers develop proactive safety programs that meet these increasingly important safety and health responsibilities. Courses are taught by expert consultants, academics, and trainers from environmental health and safety companies, ensuring that you receive the latest knowledge, theory, and skills in this important field. If you are responsible for, involved with, or interested in managing a proactive health and safety program, you will find this certificate extremely useful.

Certificate Requirements

Candidates for the certificate must complete a total of 220 classroom hours (22 units) comprising **five required courses** and **6 units of elective courses**.

Recommended Course Sequence

We recommend that you start with "Safety Management, Introduction."

Environmental Safety and Health Management Certificate

Program Overview

Environmental Safety and Health is a "dual" certificate that combines the Hazardous Materials Management and the Occupational Safety and Health Management certificates. It is beneficial for safety engineers and managers who have broad responsibilities that encompass hazardous materials, hazardous waste, and environmental, health and safety compliance.

Certificate Requirements

Candidates for the certificate must complete a total of **10 required courses** from the two basic certificates and **6 units of elective courses** for a **minimum of 37 units**.

Prerequisites

At least one college-level chemistry course.

Recommended Course Sequence

You can begin the dual certificate by taking courses from either the Hazardous Materials Management Certificate or the Occupational Safety and Health Management Certificate.

COURSES

	Units	Professional Credit	HM	OSHM	ES&H	Term
Applied Ergonomics: Human Factors of Safety and Health	3.0	ABIH, CSP	Elective	Elective	Elective	Spring
Biosafety	1.5	ABIH, CSP	Elective	Elective	Elective	Fall
Business Dynamics of Safety and Health Management	3.0	ABIH, CSP	Elective	Required	Required	Fall
Climate Change and AB 32: What It Means for You	0.5	CSP	Elective	Elective	Elective	Winter
Dimensions of Safety and Health Training	3.0	ABIH, CSP	Elective	Required	Required	Winter
Environmental Fate of Pollutants	3.0	CSP	Required	Elective	Required	Spring
Hazardous Materials Management, Principles	3.0	CSP	Required	Elective	Required	Winter
Industrial Hygiene and Health	4.0	ABIH, CSP	Elective	Required	Required	Spring
ISO 14001 and Environmental Management Systems: Introduction	1.5	CSP	Elective	Elective	Elective	Fall
Occupational Safety and Health Annual Regulatory Update	0.5	ABIH, CSP, MCLE	Elective	Elective	Elective	Spring
Regulatory Framework for Toxic and Hazardous Materials	3.0	CSP, MCLE	Required	Elective	Required	Fall
Safety and Health Program Development and Implementation	3.0	ABIH, CSP	Elective	Required	Required	Spring
Safety Management, Introduction	3.0	ABIH, CSP	Elective	Required	Required	Summer
Toxicology, Principles	3.0	CSP	Required	Elective	Required	Summer
Toxics Laws and Regulations, Update	0.5	CSP, MCLE	Elective	Elective	Elective	Winter
Waste Stream Management	3.0	CSP	Required	Elective	Required	Fall
40-Hour HAZWOPER*	3.0	ABIH, CSP	Elective	Elective	Elective	Spring/Fall

* May be used as a 3-unit elective only if taken at UCSC Extension

Schedule subject to change without notice. Visit ucsc-extension.edu/ehs for the most up-to-date information.

CERTIFICATES

HM = Hazardous Materials Management, OSHM = Occupational Safety and Health Management, ES&H = Environmental Safety and Health Management

Course Descriptions

Continuing Professional Development

Selected EH&S Associations and Course Credit

- ABIH:** American Board of Industrial Hygiene. The indicated courses qualify for ABIH certification maintenance points (www.abih.org).
- AIHA:** American Industrial Hygiene Association, Northern California Section (www.aiha-ncs.org).
- ASSE:** American Society of Safety Engineers, local chapter (www.assesj.org).
- BAESG:** Bay Area Environmental Safety Group (www.baesg.org).
- CSP:** Board of Certified Safety Professionals. Many required and elective courses qualify for Certified Safety Professional (CSP) certification maintenance points (www.besp.org).
- CHMM:** Most courses in environmental safety and management qualify for ceus needed for recertification of Certified Hazardous Materials Managers (www.ihmm.org).
- PIBA:** Pacific Industrial and Business Association (www.piba.org).
- SESHA:** Semiconductor Environmental Safety and Health Association (www.seshaonline.org).

- **Early Enrollment Discount:** Save 10 percent when you enroll more than 14 days before the first day of class.
- Courses may be taken individually or as part of the certificate program.

Students pursuing both the Occupational Safety and Health Management certificate and Hazardous Materials Management certificate may not use required courses from one program as electives for the other. **A minimum of 37 units is required to obtain two certificates.** GPA requirements and program time limits apply.

Courses

Applied Ergonomics: Human Factors of Safety and Health

Ergonomics is the rapidly expanding science that explores the interaction between workers and the elements of their work environment. While most people identify ergonomics with prevention of cumulative trauma disorders, its application also involves issues of product design, tool and equipment selection, user training, method improvement and organizational characteristics that affect humans at work. This course stresses first-hand learning of ergonomic principles through group exercises, lectures, and discussions of biomechanics, work capacity, information processing, job and workplace design, and organizational factors.

Course 2223

Biosafety

This course introduces key concepts, guidelines and regulations used by health and safety professionals to create and maintain a safe work environment. After a brief review of microbiology and recombinant DNA technology, discussion turns to regulatory requirements and international guidelines for the safe handling of biohazardous materials and strategies for managing and implementing biosafety and biosecurity programs. Emphasis is placed on the importance of risk assessment to evaluate hazards and security vulnerabilities associated with biological materials in the workplace.

Course 4189

Business Dynamics of Safety and Health Management

The business aspects of managing environmental, safety and health programs in industry are the focus of this course. Case studies and assignments are used to illustrate challenges in applying EH&S professional knowledge in a dynamic business environment. Participants quantify environmental, safety and health program indicators to help determine future direction and resource needs. Public relations, current market trends and business climates for EH&S professionals are also covered.

Course 1660

Climate Change and AB 32: What It Means for You

After decades as a scientific and political issue, climate change is now emerging as the basis for statutory compliance requirements and market-driven economic activities. California has been a leader in this transition for a number of years, and has enacted AB 32, the California Global Warming Solutions Act of 2006, to

establish statewide greenhouse gas emission (GHG) limits and standards to enforce those limits. This evolving program will profoundly affect some California industries and will likely create both costs and opportunities for many more. Discussions also cover other international, federal, and state initiatives.

Course 20758

Dimensions of Safety and Health Training

There is a critical need for training to meet the regulatory requirements, and occupational safety and health management systems objectives. The most frequently cited deficiency of safety audits is the "training program." This course provides a comprehensive assessment of required safety and health training programs, a review of related training resources, a review of adult education techniques, an assessment of training needs, methods and technologies, and the opportunity to put the lessons into practice through a required classroom presentation.

Course 0419

Environmental Fate of Pollutants

This course is an overview of movements, dispositions and transformations of chemical pollutants within and between environmental compartments such as air, soil, water and biota. Topics include major sources of environmental pollution, distribution mechanisms between and within environmental compartments, and the physical and chemical properties that affect the movement of pollutants through the environment. Also covered are the chemical reactions that pollutants undergo in the environment and major factors that influence those reactions, as well as site characteristics and process technologies that may have significant effects on the environmental fate of pollutants.

Course 5475

Hazardous Materials Management, Principles

This course provides a comprehensive overview of the issues in hazardous materials management. Topics include definitions of hazardous substances and hazardous wastes; types of hazardous materials; storage and transportation issues; waste management, including "minimization"; recycling, treatment and disposal methods and alternatives; water and air quality issues; industrial hygiene and public health; emergency response planning; regulatory jurisdictions and interactions; and basic management practices. It is recommended that this course be completed first because it provides a broad foundation of understanding for the other HazMat courses.

Course 3020

Industrial Hygiene and Health

This course examines occupational health hazards, their recognition, evaluation, and management. The instructor describes how toxicological data and risk assessment are used and how standards and regulations are developed. He explores methods for evaluating exposure to hazardous materials; available alternatives for control of exposure; monitoring and sampling strategies; and guidelines for implementing an effective hazard control program. Case studies and classroom exercises are used to demonstrate actual workplace applications. A unit on occupational health addresses ADA, worker's compensation, blood-borne pathogens, and ergonomics.

Course 4678

ISO 14001 and Environmental Management Systems: Introduction

This course provides a comprehensive overview of the ISO 14000 series of standards, including ISO 14001, and also covers other environmental management systems. This course is designed for environmental and business professionals, managers from companies of all sizes, consultants and others who need up-to-date information on the ISO 14000 process and its standards and environmental management systems.

Course 5870

Occupational Health and Safety Annual Regulatory Update

This one-day seminar will update attendees on newly adopted and Fed-OSHA regulations. Topics include changes to the following state and federal regulations: electrical safety and NFPA 70E, Title 8 reform, carcinogen report of use requirements, electrical safety, elevator safety, process safety management, dust collection systems, respiratory protective equipment, railing and stairways, excavation safety, laser safety, fall protection, machine guarding, crane safety and a review of the most common OSHA citations.

Course 3809

Regulatory Framework for Toxic and Hazardous Materials

Designed to be taken early in the HazMat program, this course examines the complex and dynamic regulatory system that drives hazardous materials management. Participants explore federal, state and local regulations and the specific requirements for hazardous materials and waste. Discussion topics include legislative histories and trends; regulatory agencies and their interactions; industry involvement in and perspective on regulatory development; RCRA and HWCL; state and federal superfunds; Proposition 65; clean air and water quality; and worker safety and training.

Course 3314

Safety and Health Program Development and Implementation

This course provides the framework to plan, maintain and administer safety management elements as part of a proactive safety and health program. Topics include ergonomics, radiation and laser safety, process safety, fall protection, OSHA inspections, indoor air quality, machine guarding, electrical safety, contractor safety, selling safety, and asbestos management.

Course 1424

Safety Management, Introduction

This course provides the basic elements for planning, implementing and maintaining the core elements of safety and health programs, with an emphasis on practical and effective safety management principles. Topics include an overview of health safety management, safety regulations, injury and illness prevention programs and compliance with SB 198, hazard communication, personal protective equipment, respiratory protection, lock-out/tag-out, confined space safety, emergency action plans, bloodborne pathogens, forklift safety, hearing protection and fire prevention.

Course 2083

Toxicology, Principles

This course details the adverse effects resulting from the interaction of chemical agents with living systems. Lectures integrate theoretical and practical aspects of toxicology as they address topics including criteria and mechanisms of toxicity; dose-response relationships; factors influencing toxic action; acute and chronic effects; kinetics; metabolism; toxicity testing; epidemiology and predictive toxicology; local and systemic toxicity; reproductive toxicity; and teratogenesis, mutagenesis and carcinogenesis. Applications of toxicology in both environmental and occupational settings are also discussed.

Course 6330

Toxics Laws and Regulations, Update

This one-day workshop covers new and pending developments in environmental legislation and regulations. A number of environmental policy initiatives emerged from the last California legislative session, and regulatory initiatives continue to implement and expand upon earlier legislation. Many of these changes become effective on January 1, 2010. Notable developments include bills that impact air quality, hazardous materials and hazardous waste, water quality, solid waste, cleanup, and brownfields. Participants learn about these and other new environmental laws and regulations, as well as their compliance implications. This workshop is intended for environmental professionals and managers in government and industry, and lawyers, elected officials, and policy makers.

Course 0486

Waste Stream Management

This course provides detailed coverage of the current practices and future trends with regard to minimization, treatment, recycling and disposal of hazardous wastes. Topics include chemical manufacturing processes and hazardous wastes; waste minimization; waste reclamation (recycling); existing and emerging technologies for waste treatment—physical, chemical, biological, thermal processes and fixation/encapsulation. Discussion covers management strategies to avoid or minimize wastes, treatment and recycling options for various hazardous wastes, and concludes with disposal technologies appropriate for various types of waste streams. Field trips are planned to working sites to observe and discuss how various technologies are selected and integrated.

Course 5633

HAZWOPER

8-Hour Annual HAZWOPER Refresher

All persons who have completed the "40-Hour Hazardous Waste Operations and Emergency Response Training" course are required to have an annual eight-hour refresher course. This course is designed to meet the Cal-OSHA GISO 5192 and 29 CFR 1910.120 requirements. Students are required to bring to the class their valid certificate for the "40-Hour Hazardous Waste Operations and Emergency Response Training" or "8-Hour Annual Refresher for Hazardous Waste Operations and Emergency Response Personnel."

Course 5363

40-Hour Hazardous Waste Operations and Emergency Response Training (Federal OSHA, 29 CFR 1910.120 Training)

This 40-hour course meets the OSHA training standard for professionals involved in hazardous waste site operations, including remediation workers, first responders, environmental health and safety specialists, and investigators. The instructor discusses local, state, and federal regulations; chemical and fire safety; site safety plans; protective equipment; monitoring and sampling equipment; emergency response; incident command systems; and decontamination procedures. Case studies, simulated field situations, and hands-on demonstrations of protective equipment and field instruments are used to illustrate important topics.

Course 6457

Hazardous Waste Handling and Awareness Training

Businesses that store or use hazardous materials must provide annual training for all employees in the safe and proper handling of hazardous waste under Title 22, Section 66265.16, California Code of Regulations. This training program was designed to meet the personnel training in hazardous waste management requirement in the California Code of Regulations. Topics include federal and state regulatory structure; steps for identifying a hazardous waste; documentation, manifesting and labeling; on-site handling requirements for hazardous wastes; contingency plan, emergency response, and spill reporting and recording procedures; and liabilities for improperly handling hazardous waste.

Course 1993

Enrollment Information

Visit ucsc-extension.edu/ehs, for the most up-to-date information about all our courses and programs, including textbooks, instructors, schedules and locations.

Enroll online at ucsc-extension.edu.