



# Course Catalog

Partnering for safer, healthier workplaces.





## **Holli Singleton**

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NC State University Industry Expansion Solutions  
*(Lead Organization)*

# Welcome

The Southeastern OSHA Training Institute Education Center is a partnership between NC State University Industry Expansion Solutions (IES) and The University of Tennessee Center for Industrial Services. Together, we are committed to ensuring you have an outstanding workplace safety training experience! From the moment you select a class to take through course completion, our goals are to provide an efficient registration process, exceptional instruction and an enjoyable learning environment.

Thanks for choosing Southeastern OSHA Training Institute Education Center. We are honored to be your training provider!

A handwritten signature in black ink that reads "Holli Singleton". The signature is fluid and cursive.

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# Building Your Foundation in Safety and Health

Whether you are new or need a refresher in occupational safety and health, these courses offer a foundation on which you can build a solid safety program for your organization.

## Benefits of these Foundational Courses

- › Providing a solid foundation for understanding OSHA's safety requirements for construction and general industry
- › Introducing the fundamentals of safety and health program management and accident investigation
- › Serving as one of two prerequisites for becoming an Authorized OSHA Outreach Trainer
- › Satisfying the core course requirement for our MESH Certificate Program
- › Meeting the required course requirements for OSHA's Safety & Health Fundamentals Certificate Program

## Training Organization Partners

Industry Expansion Solutions (IES) is the engineering-based, solutions-driven, client-focused unit of NC State's College of Engineering. Its broad portfolio of solutions and deep industry expertise help organizations grow, innovate and prosper. Its extensive partnerships with business, industry, education and government generate a unique culture of collaboration that provides access to cutting-edge expertise, research and technology.

The Center for Industrial Services (CIS) is an agency of the Institute for Public Service at the University of Tennessee, the state's land grant college. The Center is part of the university's statewide system of higher education and provides services and resources to industries and businesses throughout the state to improve their economic competitiveness. CIS houses the state's Manufacturing Extension Partnership program, the University Economic Development Center and the Procurement Technical Assistance Center to deliver solutions that help businesses succeed, grow and create high-quality jobs.

## Host Sites

The Southeastern OTI Education Center also maintains relationships with the following training organizations to provide additional course offerings in OSHA Region IV.

- › Safety and Health Council of North Carolina
- › Southeastern Chapter National Safety Council

All OSHA courses hosted by these organizations are administered and instructed by the Southeastern OTI Education Center.





**OSHA 510****Occupational Safety and Health Standards for the Construction Industry**

4 days | MESH hours: 30

This course covers OSHA policies, procedures and standards, as well as construction industry safety and health principles. A copy of the 29 CFR 1926 Construction Industry Standards is included with the registration fee. Participants must successfully pass a written exam at the end of the course.

This course meets one of two prerequisites for the OSHA 500 Trainer Course for the Construction Industry. Please note, the 30-hour Construction Industry OSHA outreach class does not meet the OSHA 500 Trainer Course prerequisite.

**Participants will:**

- › Describe specific requirements in the OSHA 29 CFR 1926 standards that protect workers from common hazards associated with construction industry workplaces

**OSHA 511****Occupational Safety and Health Standards for General Industry**

4 day | MESH hours: 30

This course covers OSHA policies, procedures and standards, as well as general industry safety and health principles. A copy of the 29 CFR 1910 General Industry Standards is included with the registration fee. Participants must successfully pass a written exam at the end of the course.

This course meets one of two prerequisites for the OSHA 501 Trainer Course for General Industry. Please note, the 30-hour General Industry OSHA outreach class does not meet the OSHA 501 Trainer Course prerequisite.

**Participants will:**

- › Describe requirements in the OSHA 29 CFR 1910 standards that protect workers from common hazards in general industry workplaces

**OSHA 7500****Introduction to Safety and Health Management**

1 day | MESH hours: 7.5

This course features information on effective strategies for taking your existing safety program to a world-class level! A review of OSHA's recommendations for a safety and health management system in the workplace is supported by interactive assignments and group projects that will enable participants to gain an appreciation of how their organizations could benefit from implementing a safety and health management system for their company.

**Participants will:**

- › Explain the benefits of implementing a safety and health program
- › Identify the core elements of an effective program
- › Describe key processes in each program element

**OSHA 7505****Introduction to Incident [Accident] Investigation**

1 day | MESH hours: 7.5

This course provides an introduction to basic accident investigation procedures and describes accident analysis techniques. The goal of this course is to help participants gain the basic skills necessary to conduct an effective incident/accident investigation at their workplace. The course is a facilitated, interactive training session focusing on class discussion, a case study and group activities.

**Participants will:**

- › Recognize the benefits of an effective investigation for accidents and near misses in the workplace
- › Identify the six-step accident investigation procedure
- › Practice methods for accident investigation through case studies, group activities and discussion

# Becoming an OSHA Authorized Trainer

## OSHA 500

### Trainer Course in OSH Standards for Construction

4 days | MESH hours: 30

Successful completion of this course results in participants becoming Authorized OSHA Outreach Trainers in OSHA's Outreach Training Program for the Construction Industry. Authorized trainers can conduct both 10-hour and 30-hour construction industry classes that provide training to workers and employers on the recognition, avoidance, abatement and prevention of workplace safety and health hazards. OSHA-authorized trainers are able to issue 10-and 30-hour course completion cards to their class participants.

#### Prerequisites:

- › OSHA 510 Occupational Safety and Health Standards for the Construction Industry
- › Five (5) years of construction industry safety supervisory experience

## OSHA 501

### Trainer Course in OSH Standards for General Industry

4 days | MESH hours: 30

Successful completion of this course results in participants becoming Authorized OSHA Outreach Trainers in OSHA's Outreach Training Program for General Industry. Authorized trainers can conduct both 10-hour and 30-hour general industry classes that provide training to workers and employers on the recognition, avoidance, abatement and prevention of workplace safety and health hazards. OSHA-authorized trainers are able to issue 10 and 30-hour course completion cards to their class participants.

#### Prerequisites:

- › OSHA 511 Occupational Safety and Health Standards for General Industry
- › Five (5) years of general industry safety supervisory experience

## OSHA 502

### Update for Construction Industry Outreach Trainers

2.5 days | MESH hours: 18

Currently authorized OSHA Construction Industry Outreach Trainers are required to attend this course once every four years prior to their expiration to maintain trainer status.

#### Prerequisites:

- › Students must submit a copy of their current, unexpired trainer card at the time of registration

## OSHA 503

### Update for General Industry Outreach Trainers

2.5 days | MESH hours: 18

Currently authorized OSHA General Industry Outreach Trainers are required to attend this course once every four years prior to their expiration to maintain trainer status.

#### Prerequisites:

- › Students must submit a copy of their current, unexpired trainer card at the time of registration

## OSHA 5600

### Disaster Site Worker Trainer Course

3.5 days | MESH hours: 24

Successful completion of this course results in participants becoming trainers in OSHA's Disaster Site Worker Outreach Training program. Authorized trainers then teach the Disaster Site Worker Course to secondary responders who arrive at a disaster site hours or days after the event.

#### Prerequisites:

- › Current status as an Authorized Outreach Trainer in Construction or General Industry
- › Three (3) years of safety training experience
- › Completion of the 40-hour HAZWOPER course or equivalent



## OSHA 5602

### Update for Disaster Site Worker Trainer Course

1 day | MESH hours: 7.5

Currently authorized Disaster Site Worker Trainers are required to attend this course once every four years to maintain trainer status.

#### Prerequisites:

- › Students must submit a copy of their current, unexpired trainer card at the time of registration

## OSHA Outreach Training Program

The Southeastern OSHA Training Institute Education Center offers qualified individuals the opportunity to become Authorized OSHA Outreach Trainers who deliver 10-hour and 30-hour outreach classes to construction, general industry and disaster site workers. These Outreach classes teach workers and employers about OSHA, workers' rights and how to identify, avoid and prevent workplace hazards.

### Become an Authorized OSHA Outreach Trainer

For more information, visit [ies.ncsu.edu/otieducationcenter](http://ies.ncsu.edu/otieducationcenter), or contact us at [SoutheasternOTI@ncsu.edu](mailto:SoutheasternOTI@ncsu.edu).

# Advancing Your Knowledge in Safety and Health

## OSHA 521

### OSHA Guide to Industrial Hygiene

4 days | MESH hours: 30

This course addresses industrial hygiene practices and related OSHA regulations and procedures. Given the responsibility to provide a workplace that complies with OSHA's industrial hygiene standards, participants will be able to recognize potential health hazards in accordance with OSHA's occupational health standards and guidelines. The course features workshops in health hazard recognition, OSHA health standards and safety and health program development.

#### Participants will:

- › Recognize basic industrial hygiene principles
- › Identify methods to evaluate potential air contaminants
- › Identify other health hazards such as noise, biological agents and musculoskeletal disorders
- › Recognize methods to control health hazards

## OSHA 2015

### Hazardous Materials

4 days | MESH hours: 30

This course covers OSHA General Industry Standards and other consensus and proprietary standards that relate to the use of hazardous materials. Course topics include flammable and combustible liquids, compressed gases, LP gases and cryogenic liquids. Related processes such as spraying and dipping and the use of electrical equipment in hazardous locations are also discussed. Upon course completion, students will have the ability to assess compliance with OSHA hazardous materials standards, determine hazardous (classified) locations, and proper moving, storing and handling of hazardous materials.

## OSHA 2045

### Machinery & Machine Guarding Standards

4 days | 30 instructional hours

This course covers the various types of common machinery, machine safeguards, and related OSHA regulations and procedures. Guidance is provided on the hazards associated with various types of machinery and the determination of proper machine safeguards.

#### Participants will:

- › Describe common machine hazards and sources of energy
- › Identify resources for assisting with machine guarding issues
- › Determine methods of control and hazard abatement

## OSHA 2225

### Respiratory Protection

3.5 days | MESH hours: 26

This course covers the requirements for the establishment, maintenance, and monitoring of a respiratory protection program. Course topics include terminology, OSHA Respiratory Protection Standards, National Institute for Occupational Safety and Health (NIOSH) certification, respiratory protection programs and medical evaluation requirements. Program highlights include workshops on respirator selection, qualitative and quantitative fit testing and the use of respiratory protection and support equipment. Upon course completion, students will have the ability to identify and describe the elements of a respiratory protection program, the proper selection, use, and inspection of respiratory protection, protection factors, and evaluate compliance with OSHA Standards.



**OSHA 2255****Principles of Ergonomics**

4 days | MESH hours: 30

This course covers the use of ergonomic principles to recognize, evaluate and control workplace conditions that cause or contribute to musculoskeletal and nerve disorders. At the conclusion of this course, participants will be able to assess the work environment for the prevention of Work-Related Musculoskeletal Disorders (WMSD). This course emphasizes general industry case studies covering analysis and design of workstations and equipment, laboratory sessions in manual lifting and coverage of current OSHA compliance policies.

**Participants will:**

- › Identify work-related musculoskeletal and nerve disorders and describe associated risk factors
- › Apply basic principles of workstation design
- › Describe lifting and NIOSH measurement techniques
- › Recognize OSHA's policy on ergonomics
- › Describe the components of a successful ergonomics program

**OSHA 2264****Permit-Required Confined Space Entry**

3.5 days | MESH hours: 26

Many employers have confined spaces in their work environment that meet OSHA's definition of a permit space per 29 CFR 1910.146 and 29 CFR 1926 Subpart AA. This course is designed to enable participants to recognize, evaluate, prevent and abate safety and health hazards associated with permit-required confined space entry.

**Participants will:**

- › Learn and apply the requirements of OSHA's Permit-Required Confined Space Entry Standard for General Industry 29 CFR 1910.146 and 29CFR 1926 Subpart AA for the Construction Industry
- › Recognize, evaluate and control safety and health hazards associated with permit-required confined Space entry
- › Classify permit spaces and evaluate programs

**OSHA 2455****Safety and Health Management Program**

2.5 days | MESH hours: 18 | PDHs: 18

This course covers safety and health management responsibilities. Through discussions and small group exercises, participants will learn how to implement a Safety and Health Management Program (SHMP) based on OSHA's Recommended Practices for Safety and Health Programs. The fundamentals of occupational safety and health management programs and how to assess workplace safety and health will be examined. Recommended for experienced safety professionals interested in exploring world class safety design and implementation. This is not an introductory course..

**Participants will:**

- › Review occupational safety and health management program (SHMP) fundamentals
- › Assess workplace safety and health management programs
- › Have the ability to evaluate, develop, and implement an effective safety and health management system for their company
- › Identify system failures and corrective actions that produce long lasting results
- › Describe attributes of the 7 core elements of OSHA's Safety and Health Management System
- › Locate SHMP resources

**OSHA 3015****Excavation, Trenching and Soil Mechanics**

3 days | MESH hours: 20

This course focuses on the OSHA Excavation standard and the safety and health aspects of excavation and trenching. Participants are introduced to practical soil mechanics and its relationship to the stability of shored and un-shored slopes and walls of excavations. Various types of shoring (wood timbers and hydraulic) are covered and testing methods are demonstrated. At the conclusion of the course, participants will be able to identify compliance with OSHA standards 29 CFR 1926.650 through 29 CFR 1926.652.

**Participants will:**

- › Recognize general excavation hazards
- › Identify the different types of protective systems used at excavation sites
- › Choose and apply acceptable soil testing methods
- › Identify sloping system design requirements and support and shield systems
- › Apply principles of soil mechanics regarding factors affecting soil stability
- › Assess compliance of trench protective systems

**OSHA 3085****Principles of Scaffolding**

3 days | MESH hours: 22

This course covers the requirements for the safe construction and use of scaffolding using 29 CFR 1926.451 as a guide. Course topics include hazards associated with scaffold design, assembly, disassembly and use, types of scaffolds, determining scaffold capacity, employee qualifications and training, and maintenance, repair, and inspection requirements. Students will participate in workshops to reinforce concepts of safe scaffolding.

**Participants will:**

- › Identify types of scaffolds and their components
- › Determine safe assembly, use, and disassembly of scaffolding
- › Recognize common scaffold violations per OSHA Standards

**OSHA 3095****Electrical Standards**

4 days | MESH hours: 30

This course provides participants with the ability to conduct an electrical safety inspection according to OSHA and consensus standards in order to keep the workplace free of electrical hazards. During this four-day course, students receive a thorough overview of electrical installations and electrical testing equipment with emphasis on safety-related work practices, electrical hazard recognition, OSHA policies and procedures and the National Electrical Code.

**Participants will:**

- › Recognize the hazards of electricity
- › Apply fundamentals of electricity
- › Explain electrical equipment functionality
- › Assess electrical safety-related work practice conditions
- › Apply OSHA and consensus electrical standards
- › Recognize elements of power generation, transmission and distribution

**OSHA 3115****Fall Protection**

3 days | MESH hours: 22

This course provides an overview of state-of-the-art technology for fall protection and current OSHA requirements. Interactive classroom activities and equipment workshops provide a quality hands-on learning experience. While this course has a primary emphasis on the construction industry, the application of fall protection systems in a general industry environment is also addressed.

**Participants will:**

- › Recognize the employer's responsibility for providing fall protection and training
- › Distinguish between active and passive methods of fall protection
- › Identify fall arrest requirements and assess compliance with relevant subparts of 29 CFR 1926 and 1910.
- › Evaluate components of Fall Protection Plans
- › Assess compliance of residential construction fall protection and non-residential roof construction with OSHA and consensus standards

**OSHA 7005****Public Warehousing and Storage**

1 day | MESH hours: 7.5

This course covers the hazards and injuries likely to occur in public warehousing and storage operations, including encounters with powered industrial trucks, material handling, lifting and ergonomics, hazard communication, walking and working surfaces and life safety including fire protection and evacuation.

**Participants will:**

- › Discover hazards in warehousing and storage operations
- › Identify methods to control and abate these hazards

**OSHA 7105****Evacuation and Emergency Planning**

1 day | MESH hours: 7.5

This course covers OSHA requirements for emergency action and fire protection plans and uses case studies and a table-top exercise to provide an opportunity for participants to practice the action planning process. This class is designed for anyone with responsibility for developing a workplace emergency action plan.

**Participants will:**

- › Identify the need and process for developing an emergency action plan
- › Describe the elements of an effective emergency action plan
- › Recognize violations of OSHA's exit route requirements
- › Develop a response plan for example emergency scenarios

**OSHA 7115****Lockout/Tagout**

1 day | MESH hours: 7.5

This course covers the role and responsibility of the employer to develop and implement an energy control program or lockout/tagout (LOTO) for the protection of

workers while performing servicing and maintenance activities on machinery and equipment using the OSHA Control of Hazardous Energy Standard.

**Participants will:**

- › Learn the requirements for implementing energy control programs and procedures and conducting training and audits
- › Discover methods of detecting hazardous conditions and implementing control measures

**OSHA 7120**

**Introduction to Combustible Dust Hazards**

1 day | MESH hours: 7.5

This class provides businesses in general industry an opportunity to enhance their awareness of the hazards posed by combustible dust, consider strategies that can help keep employees safe while using or producing materials that generate combustible dust and develop controls and strategies to prevent or mitigate combustible dust fires and explosions.

**Participants will:**

- › Recognize the hazards and risks associated with combustible dust
- › Learn control methods to prevent or mitigate combustible dust fires and explosions
- › Develop a worksite dust control plan

**OSHA 7205**

**Health Hazard Awareness**

1 day | MESH hours: 7.5

This course covers common workplace chemical, biological, physical and ergonomic hazards. Participants will complete a variety of workshops on the identification, evaluation and abatement of health hazards.

**Participants will:**

- › Discuss techniques to recognize health hazards
- › Describe tools and methods to evaluate and control exposure to health hazards

**OSHA 7215**

**Silica in Construction, Maritime, and General Industries**

1 day | MESH hours 7.5

This course covers the development and implementation of controls and strategies to prevent or mitigate silica exposures in construction, maritime, and general industries.

**Participants Will:**

- › Describe the requirements of OSHA's respirable crystalline silica standards
- › Recognize the hazards and risks associated with silica
- › Identify assessment options and exposure control measures associated with silica exposure

**OSHA 7225**

**Transitioning to Safer Chemicals**

1 day | MESH hours: 7.5

This course provides participants with information about the process for transitioning to safer chemicals, as well as the key methods, tools and databases that can assist in this process. Using OSHA's seven-step substitution planning process, participants will be guided through evaluating chemical use, identifying and assessing alternatives and implementing those safer alternatives.

**Participants will:**

- › Identify methods to examine current chemical use and identify alternatives to hazardous chemicals and processes
- › Describe a strategy for selecting and implementing a safer alternative
- › Emergency Planning and Environmental Management

**OSHA 7300**

**Understanding OSHA's Permit-Required Confined Space Standard**

1 day | MESH hours: 7.5

This course covers the requirements of the OSHA Permit-Required Confined Space Standard. Course topics include safety and health hazards associated with confined space entry and the evaluation, prevention and abatement of these hazards. The course covers OSHA requirements. It does not feature workshops (instrumentation, control methods and testing) which are included in the OSHA 2264 Permit-Required Confined Space Entry.



**Participants will:**

- › Identify confined space hazards and the steps to conduct a permit space inspection to evaluate and abate those hazards
- › Describe the requirements for a permit space program and permit system

**OSHA 7400****Occupational Noise Exposure Hazards**

1 day | MESH hours: 7.5

This course focuses on describing noise hazards in the workplace and the impact noise can have on worker safety and health. Topics discussed include OSHA noise exposure standards, noise exposure control, selection and use of hearing protection, noise surveys and dosimetry, and worker training. Classroom demonstrations of noise instrumentation are featured.

**Participants will:**

- › Identify the properties of sound and its relationship to noise-induced hearing loss
- › Recognize how to conduct sound level surveys
- › Identify appropriate options for reducing exposure to noise
- › Locate and discuss the training requirements for workers

**OSHA 7405****Fall Hazard Awareness for the Construction Industry**

1 day | MESH hours: 7.5

This course covers the identification, evaluation, prevention and control of fall hazards in the construction industry. The course focuses on falls to a lower level, rather than falls to the same level resulting from slips and falls. Course topics include identifying, analyzing and preventing fall hazards utilizing OSHA Fall Protection Standards.

**Participants will:**

- › Identify fall hazards in the construction industry
- › Discuss methods to control and abate the hazards

**OSHA 7410****Managing Excavation Hazards**

1 day | MESH hours: 7.5

This course covers the roles and responsibilities of the

employer to educate and assign a competent person to excavation sites. Course topics include understanding and applying definitions relating to the OSHA Excavation Standard, excavation hazards and control measures, soil analysis techniques, protective system requirements and emergency response.

**Participants will:**

- › Recognize the duties of a competent person in excavation work
- › Gain the knowledge and skills required to perform these duties

**OSHA 7500****Introduction to Safety and Health Management**

1 day | MESH hours: 7.5

This course features information on effective strategies for taking your existing safety program to a world-class level! A review of OSHA's recommendations for a safety and health management system in the workplace is supported by interactive assignments and group projects that will enable participants to gain an appreciation of how their organizations could benefit from implementing a safety and health management system for their company.

**Participants will:**

- › Explain the benefits of implementing a safety and health program
- › Identify the core elements of an effective program
- › Describe key processes in each program element

**OSHA 7505****Introduction to Incident [Accident] Investigation**

1 day | MESH hours: 7.5

This course provides an introduction to basic accident investigation procedures and describes accident analysis techniques. The goal of this course is to help participants gain the basic skills necessary to conduct an effective incident/accident investigation at their workplace. The course is a facilitated, interactive training session focusing on class discussion, a case study and group activities.

**Participants will:**

- › Recognize the benefits of an effective investigation for accidents and near misses in the workplace

- › Identify the six-step accident investigation procedure
- › Practice methods for accident investigation through case studies, group activities and discussion

### **OSHA 7510**

#### **Introduction to OSHA for Small Businesses**

1 Day | MESH hours: 3.5

This course covers an introduction to the Occupational Safety and Health Administration (OSHA) and the OSH Act for owners and managers of small businesses. This course is designed for the owners and managers of small employers and businesses who are responsible for developing safety plans and procedures.

#### **Participants will:**

- › Understand OSHA operations and procedures
- › Understand how to work with OSHA to prevent or reduce injuries and illnesses in their workplace

### **OSHA 7515**

#### **Job Hazard Analysis**

1 Day | MESH hours: 7.5

This one-day course covers OSHA guidelines for developing a Job Hazard Analysis. Course topics include the purpose and requirements of a job hazard analysis, the relationship between worker tasks and tools in a work environment,

identifying job hazards before they occur, and techniques for completing a job hazard analysis. Recommended for Employers, business owners, line supervisors or site managers designated with the responsibility to plan for workplace safety and hazard prevention.

#### **Participants will:**

- › Understand the importance and value of conducting a Job Hazard Analysis (JHA)
- › Identify workplace hazards
- › Learn the process steps for completing a job hazard analysis

### **OSHA 7845**

#### **OSHA Recordkeeping Rule Seminar**

1 day | MESH hours: 7.5

This course is designed to assist employers in identifying and fulfilling their responsibilities under 29 CFR Part 1904 for recording, reporting, posting and maintaining records of work-related illnesses and injuries.

#### **Participants will:**

- › Identify OSHA recording and reporting requirements
- › Complete OSHA's Injury and Illness Recordkeeping forms 300, 300A and 301

# Emergency Planning and Environmental Management

### **DOT Hazardous Materials Transportation Training**

2 days | MESH hours: 14

This course covers the basic requirements for shipping hazardous materials using 49 CFR hazmat (DOT) regulations. Topics include the fundamentals of shipping hazardous materials and hazardous wastes, quantity exemptions and exceptions and recent changes in the regulations. A copy of 49 CFR Parts 100-185 are included in the registration fee.

### **DOT Hazardous Materials Transportation Refresher**

1 day | MESH hours: 7

This course reviews the requirements for shipping hazardous materials, using 49 CFR hazmat (DOT) regulations. It also discusses the fundamentals of shipping hazardous materials and hazardous wastes, quantity exemptions and exceptions and recent changes in the regulations. This course is required every three years to remain compliant.



### **Hazardous Waste Management for Generators**

1 day | MESH hours: 7

According to the Resource Conservation and Recovery Act (RCRA), generators of hazardous waste are required to properly classify, manage and ship their waste. Employee training is required for large quantity generators, and small quantity generators must be thoroughly familiar with waste handling and emergency techniques.

### **40-Hour HAZWOPER for Hazardous Waste Site Workers**

5 days | MESH hours: 40

Workers required to work on a hazardous waste site must be familiar with methods and procedures designed to protect themselves and others from the safety and health risks of hazardous materials. This course provides an opportunity for hands-on skills development that meets the requirements of 29 CFR 1910.120(e)(3)(i) and 29 CFR 1926.65(e)(3)(i).

#### **Participants will:**

- › Identify and practice methods and procedures for recognizing, evaluating and controlling hazardous substances
- › Select and use appropriate protective equipment including respirators, protective suits, boots and gloves

### **24-Hour HAZWOPER for Hazardous Waste Site Workers**

3 days | MESH hours: 24

This course meets the training requirements of OSHA's HAZWOPER standard 29 CFR 1910.120(e)(3)(ii) and (e)(3)(iii); and 29 CFR 1926.65(e)(3)(ii) and (e)(3)(iii). If workers perform activities that require them to enter hazardous waste sites, they need to be prepared to protect themselves. This course will increase understanding of health and safety plans, protective equipment and many other aspects of working around hazardous waste.

#### **Participants will:**

- › Recognize site work plans, safety and health plans, hazard recognition, personal protective equipment and monitoring on hazardous waste sites
- › Be able to work safely around hazardous materials and wastes

### **24-Hour Hazmat Technician for Emergency Response**

3 days | MESH hours: 24

Hazmat technicians are individuals who respond to and attempt to stop chemical releases. This course meets the OSHA training requirements of hazardous material technician level for emergency responders as outlined in the HAZWOPER standard, 29 CFR 1910.120(q)(6)(iii) and 29 CFR 1926.65(q)(6)(iii).



**Participants will:**

- › Learn methods and procedures for recognizing, evaluating and controlling hazardous substances
- › Identify guidelines to properly protect response personnel up to Level A protection
- › Discuss fundamentals of the Incident Command System (ICS)
- › Demonstrate the use and limitations of direct-reading air monitoring instruments

**8-Hour Hands-On HAZWOPER Refresher**

1 day | MESH hours: 8

This course meets the annual refresher requirements of 29 CFR 1910.120 and 29 CFR 1926.65 by presenting realistic hazmat issues for group discussion along with opportunities to plan and respond to mock hazmat spill/release scenarios. Participants should have previously completed a minimum of 24 hours of initial HAZWOPER training. This refresher is designed for Hazardous Waste Clean-Up Site Workers, Hazardous Waste Treatment, Storage, and Disposal Facility Employees, and Emergency Responders.

**Participants will:**

- › Identify common physical and chemical industrial hazards and review actual incidents involving these hazards
- › Review common usage problems with air-purifying and air-supplying respiratory protection
- › Discuss how to appropriately select air monitoring instrumentation and how to properly interpret results
- › Practice competencies

**8-Hour HAZWOPER Refresher for Environmental Professionals**

1 day | MESH hours: 8

Environmental professionals should be familiar with compliance guidelines for hazardous waste site cleanup and corrective action operations as outlined in 29 CFR 1910.120(e)(8), (p)(7)(i), and 29 CFR 1926.65(e)(8) and (p)(7)(1). This course meets the annual refresher requirements of 29 CFR 1910.120 and 29 CFR 1926.65 by presenting realistic Hazmat issues for group discussion. Participants should have completed a minimum of 24 hours of initial HAZWOPER training. This refresher is designed for Hazardous Waste Clean-Up Site Workers and Hazardous Waste Treatment, Storage, and Disposal Facility Employees.

**Participants will:**

- › Employ critical thinking and demonstrate practical skills for Hazmat incidents



### Arc Flash Awareness

1 day | 7.5 MESH

This course is designed to provide participants with the knowledge to understand the specific hazards associated with electrical energy, possible injuries from the exposure to those hazards, emphasis on safety-related work practices and procedures to provide them protection associated with their respective jobs and task assignments.

#### Participants will:

- › Discuss the hazards and injuries associated with electrical shock, arc flash and blast
- › Understand the relationship between OSHA and NFPA 70E
- › Understand arc ratings, NFPA 70E and OSHA requirements for electrical personal protective equipment (PPE)
- › Identify an electrically safe work condition and safety-related work practices
- › Describe safe practices for meter use

### Auditing Skills for Safety Professionals

1 day | 7.5 MESH Hours

One of the “root causes” of workplace injuries, illnesses, and incidents is the failure to recognize hazards that are present, or hazards that could have been anticipated. A critical element of any effective safety and health program is a proactive, ongoing process to identify and assess such hazards. This course is designed to provide participants with the knowledge and skills to conduct workplace safety audits for their organization.

#### Participants will:

- › Describe the 3 steps of an effective safety audit
- › Recognize the 4 categories of workplace hazards
- › Identify workplace hazards and assess their relative risk
- › Utilize a variety of methods and resources to assist with hazard identification and assessment
- › Document audit findings effectively
- › Use Risk-Based Hazard Ranking to prioritize mitigation efforts
- › Demonstrate the application of auditing skills in a practical exercise

### ISO 14001

#### Environmental Management Systems - Overview or Internal Auditor Training

1 day (Overview), 2 days (Auditor Training) |  
MESH hours: 7 (Overview), 14 (Auditor Training)

The ISO 14001 Overview course introduces the concepts of ISO 14001. The internal auditor course also introduces the concepts of ISO 14001 but, additionally, helps the participant acquire the skills needed to conduct a successful internal audit of an Environmental Management System (EMS). Exercises include practical case studies to follow along with as well as an optional, fully simulated audit under the guidance of a certified trainer.

### ISO 45001

#### Occupational Health and Safety - Overview or Internal Auditor Training

1 day (Overview), 2 days (Auditor Training) |  
MESH hours: 7 (Overview), 14 (Auditor Training)

ISO 45001 is an internationally recognized specification for Occupational Health and Safety Management Systems (OHSMS) published in 2018. This course describes the implementation and maintenance of an OHSMS and describes practical methods for ISO 45001 certification. The OHSMS can be adopted by any organization wishing to control and reduce occupational accidents, incidents and near misses. The Internal Auditor Course additionally helps the participant acquire the skills needed to conduct a successful internal audit of an Occupational Health and Safety Management System.



## Customized Training and Services at Your Site

### Safety and Health Audits

Southeastern OSHA Training Institute Education Center instructors are available to conduct comprehensive or area-focused safety audits. These audits identify safety and health hazards so that employers can reduce or eliminate them, creating a safer and healthier workplace. We provide consultative support to explain OSHA regulations, assistance to ensure compliance with these regulations, and produce confidential reports of observations and recommendations to help your company develop and implement an effective safety and health program.

### Customized Technical Assistance

Safety and health needs don't always fit neatly into boxes. Contact the Southeastern OTI Education Center if you have a need for specialized technical assistance. Whether you need to develop a confined space entry program, coordinate an emergency drill or establish a safety committee, our safety and health specialists can customize a solution to meet your specific challenges.

**Did you know?** Our mobile trailer can bring the classroom to you! We can provide HAZWOPER, emergency planning, and incident command instruction at locations throughout the region.

# Certificate Programs



The MESH Certificate Program demonstrates achievement through continuing education in occupational safety, health and the environment. Designed for environmental, safety and health professionals, the MESH Certificate Program enables participants to gain practical knowledge while earning a respected credential.

Participants earn the MESH Certificate when 100 hours of continuing education are completed with a minimum of 75 of those hours including a core course coming through the Safety and Health Council of North Carolina, NC Department of Labor and/or NC State University Industry Expansion Solutions.

All programs are designed for working professionals and require no prior experience or degree. Coursework is chosen by the student to best suit their individual needs with some minimum requirements depending on which type of MESH certificate they choose to pursue.

There are 7 MESH certificates for an individual to consider and earn:

## **MESH**

The original MESH certificate is a great choice for anyone responsible for workplace safety, health or environmental issues. This certificate requires completion of a 30-hour core course plus 70 elective hours.

## **Construction MESH (C-MESH)**

The C-MESH certificate is designed for individuals with construction responsibilities and requires that 60 of the 100 MESH credits be specific to construction topics.

## **Industrial Hygiene MESH (IH-MESH)**

The IH-MESH certificate is designed for individuals with industrial hygiene responsibilities and requires the completion of a core course specific to Industrial Hygiene and that 60 of the 100 MESH credits be specific to industrial hygiene topics.

## **Public Sector MESH (PS-MESH)**

The PS-MESH certificate is designed for individuals working in a government environment and requires the completion of a core course specific to the public sector and 70 hours of general topics.

## **Emergency Preparedness (EP-MESH)**

The EP-MESH certificate is designed for individuals working in an emergency preparedness environment and requires the completion of the completion of a core course specific to Emergency Preparedness and 60 of the 100 hours in emergency preparedness topics.

## **Environmental MESH (E-MESH)**

The E-MESH certificate is designed for individuals with environmental responsibilities, and requires the completion of a core course specific to Environmental safety and 60 of the 100 MESH credits be specific to environmental topics.

## **Advanced MESH**

Individuals who have completed at least one type of MESH Certificate may pursue the Advanced MESH Certificate, which includes the completion of two weeks of advanced environmental and safety training through the Safety and Health Council of NC.

## **OSHA's Safety & Health Fundamentals Certificate**

Earning OSHA's Safety & Health Fundamentals Certificate requires the completion of at least seven (7) OSHA Training Institute (OTI) Education Center courses, comprised of three (3) required courses and a minimum of 4 additional elective courses, for a minimum of 68 instructional hours. The certificate program is separated into tracks for Construction, Maritime and General Industry and participants choose from a variety of topics such including occupational safety and health standards, safety and health management, accident investigation, fall hazard awareness and recordkeeping, depending on the track chosen.

Pages 23–24 of this catalog includes a check list of the required courses for the general industry and construction tracks of this certificate program.

For more information visit [ies.ncsu.edu/osha-certificate](http://ies.ncsu.edu/osha-certificate)





# Certificate Program FAQs

## How do I get started on my MESH Certificate?

Complete the free online registration at [ies.ncsu.edu/mesh](http://ies.ncsu.edu/mesh).

## Which courses apply to the MESH certificate program?

MESH credits are earned by completing continuing education training. Classes taken for college credit or certification programs (i.e. CSP) are not counted as MESH credit. All environmental, safety and health courses offered by the MESH program sponsors at the NC State University Industry Expansion Solutions, the Safety and Health Council of NC, and the NC Department of Labor are eligible for MESH credit.

## What is a core course for the MESH Certificate?

All MESH certificates require a course approximately 30 hours in length offered by one of the MESH program sponsors.

Below are some CORE course options:

- › OSHA 511–Standards for General Industry
- › OSHA 510–Standards for Construction Industry
- › OSHA 501–Outreach Trainer Course for General Industry
- › OSHA 500–Outreach Trainer Course for Construction
- › OSHA 30-Hour or NC 30-Hour for General Industry or Construction
- › OSHA 521 Guide to Industrial Hygiene (for IH-MESH only)
- › 40-hour HAZWOPER (for IH-MESH, EP-MESH, or E-MESH)

## What is the time frame for MESH credit hours to be considered?

Training taken within the last five years can count towards MESH credit.

## What is the cost of the MESH Certificate?

Though some courses are offered at no cost, most courses charge a registration fee. Aside from registration and other course expenses, the only cost of the MESH Certificate Program is a \$99 fee paid when you complete the required credit hours. This fee covers administrative costs and delivery of your framed MESH certificate.

## What happens when I have completed my 100 hours toward my MESH Certificate?

Once we have received and verified documentation of your 100 hours of MESH credit, we will send instructions on how to submit the \$99 MESH Certificate fee. No re-certification is required.

## What are the required and elective courses to achieve the OSHA Safety & Health Fundamentals Certificate?

The three (3) required courses specific to each track include:

- › OSHA Standards course (OSHA 510 Standards for Construction Industry; OSHA 511 Standards for General Industry; OSHA 5410 Standards for Maritime Industry)
- › OSHA 7500 Introduction to Safety and Health Management
- › OSHA 7505 Introduction to Incident Investigation

The minimum four (4) elective courses can be selected from a list of OTI Education Center courses relevant to the industry track. To review the list of elective courses see pages 26–27 of this catalog or visit [ies.ncsu.edu/osa-certificate](http://ies.ncsu.edu/osa-certificate).

## How do I apply for the OSHA Safety & Health Fundamentals Certificate?

Upon completion of the last course toward earning the certificate, request an application verification form from the Southeastern OSHA Training Institute Education Center. You must have completed at least one of the required or elective courses from the SE OTIEC to apply for the certificate through our education center. Complete the application verification form, submit proof of successful completion of each course, and remit the processing fee.

**What is the appropriate proof of successful course completion?**

Appropriate proof of successful course completion is a course completion certificate or official transcript from the respective OTI Education Center.

**What is the cost of earning the OSHA Safety & Health Fundamentals Certificate?**

The registration fees for the OTI Education Center courses vary depending on the length of the class. Once you complete all of the course work, there is an administrative fee of \$95 to submit your application for the Safety & Health Fundamentals Certificate.

**How does the OSHA Certificate program differ from the MESH Certificate program?**

The Safety & Health Fundamentals Certificate program supports federal OSHA's mission by training employees in occupational safety and health to reduce incident rates for workers in state and local governments.

All of the courses included in this program must be taken at an authorized OSHA Training Institute (OTI) Education Center, such as the Southeastern OSHA Training Institute Education Center at NC State University or the University of Tennessee.

# OSHA's Safety & Health Fundamentals Certificate Requirements



## GENERAL INDUSTRY

### Required (3)

- |                          |           |  |
|--------------------------|-----------|--|
| <input type="checkbox"/> | OSHA 511  | OSHA Standards for General Industry        |
| <input type="checkbox"/> | OSHA 7500 | Intro to Safety and Health Management      |
| <input type="checkbox"/> | OSHA 7505 | Intro to Incident (Accident) Investigation |

### Electives (4) [minimum of 29 contact hours]

- |                          |           |  |                          |           |   |
|--------------------------|-----------|--|--------------------------|-----------|---|
| <input type="checkbox"/> | OSHA 521  | OSHA Guide to Industrial Hygiene                   | <input type="checkbox"/> | OSHA 2045 | Machinery and Machine Guarding Standards                        |
| <input type="checkbox"/> | OSHA 2225 | Respiratory Protection                             |                          |           | -or-  |
| <input type="checkbox"/> | OSHA 2255 | Principles of Ergonomics                           | <input type="checkbox"/> | OSHA 7100 | Intro to Machinery and Machine Safeguarding                     |
| <input type="checkbox"/> | OSHA 3095 | Electrical Standards                               | <input type="checkbox"/> | OSHA 7105 | Evacuation and Emergency Planning                               |
| <input type="checkbox"/> | OSHA 2264 | Permit-Required Confined Space Standard            | <input type="checkbox"/> | OSHA 7115 | Lockout/Tagout  |
|                          |           | -or-   | <input type="checkbox"/> | OSHA 7200 | Bloodborne Pathogens Exposure Control for Healthcare Facilities |
| <input type="checkbox"/> | OSHA 7300 | OSHA Permit Required Confined Space Entry          | <input type="checkbox"/> | OSHA 7215 | Silica in Construction, Maritime, and General Industries        |
| <input type="checkbox"/> | OSHA 7000 | OSHA Training Guidelines for Safe Patient Handling | <input type="checkbox"/> | OSHA 7205 | Health Hazard Awareness   |
| <input type="checkbox"/> | OSHA 7005 | Public Warehousing and Storage                     | <input type="checkbox"/> | OSHA 7210 | Pandemic Influenza Preparedness                                 |
|                          |           |  | <input type="checkbox"/> | OSHA 7845 | OSHA Recordkeeping Rule Seminar                                 |



## CONSTRUCTION INDUSTRY

### Required (3)

- |                          |           |  |
|--------------------------|-----------|--|
| <input type="checkbox"/> | OSHA 510  | OSHA Standards for the Construction Industry |
| <input type="checkbox"/> | OSHA 7500 | Intro to Safety and Health Management        |
| <input type="checkbox"/> | OSHA 7505 | Intro to Incident (Accident) Investigation   |

### Electives (4) [minimum of 29 contact hours]

- |                          |           |  |                          |           |  |
|--------------------------|-----------|--|--------------------------|-----------|--|
| <input type="checkbox"/> | OSHA 521  | OSHA Guide to Industrial Hygiene                             | <input type="checkbox"/> | OSHA 3115 | Fall Protection<br>-or-                                      |
| <input type="checkbox"/> | OSHA 2225 | Respiratory Protection                                       | <input type="checkbox"/> | OSHA 7405 | Fall Hazard Awareness for the Construction Industry          |
| <input type="checkbox"/> | OSHA 2255 | Principles of Ergonomics                                     | <input type="checkbox"/> | OSHA 7105 | Evacuation and Emergency Planning                            |
| <input type="checkbox"/> | OSHA 2264 | Permit-Required Confined Space Entry<br>-or-                 | <input type="checkbox"/> | OSHA 7110 | Safe Bolting: Principles and Practices                       |
| <input type="checkbox"/> | OSHA 7300 | Understanding OSHA's Permit-Required Confined Space Standard | <input type="checkbox"/> | OSHA 7215 | Silica in Construction, Maritime, and General Industries     |
| <input type="checkbox"/> | OSHA 3015 | Excavation, Trenching, and Soil Mechanics<br>-or-            | <input type="checkbox"/> | OSHA 7205 | Health Hazard Awareness                                      |
| <input type="checkbox"/> | OSHA 7410 | Managing Excavation Hazards                                  | <input type="checkbox"/> | OSHA 7300 | Understanding OSHA's Permit-Required Confined Space Standard |
| <input type="checkbox"/> | OSHA 3085 | Principles of Scaffolding                                    | <input type="checkbox"/> | OSHA 7400 | Occupational Noise Exposure Hazards                          |
| <input type="checkbox"/> | OSHA 3095 | Electrical Standards   | <input type="checkbox"/> | OSHA 7845 | OSHA Recordkeeping Rule Seminar                              |



[ies.ncsu.edu/otieducationcenter](http://ies.ncsu.edu/otieducationcenter)

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**The University of Tennessee**

[cis.tennessee.edu](http://cis.tennessee.edu)

615.532.8657

**NC STATE UNIVERSITY**  
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**We Can Help.**

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Industry Expansion Solutions (IES) is the extension and outreach team for the NC State University College of Engineering with a primary mission to support manufacturing in North Carolina. IES administers the National Institute of Standards and Technology Manufacturing Extension Partnership (NIST MEP) for North Carolina (NCMEP).

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