National Center for Construction Education & Research

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SAFETY TECHNOLOGY

Competencies/Objectives

MODULE 75201-03 – INTRODUCTION TO SAFETY TECHNOLOGY

- 1. Explain the roles and responsibilities of a safety technician.
- 2. Explain important safety-related terms.
- **3.** Explain the three levels of accident causation.
- **4.** Explain the cost impact of accidents.
- **5.** Describe the basic components of a safety program.
- **6.** Explain the government regulatory requirements that affect the construction industry.

MODULE 75202-03 – HAZARD RECOGNITION, EVALUATION, AND CONTROL

- 1. Recognize unsafe acts and conditions on a work site.
- **2.** Describe the techniques for recognizing hazards.
- 3. Evaluate the risk associated with identified hazards.
- **4.** Describe the seven major methods for controlling hazards.

MODULE 75203-03 - RISK ANALYSIS AND ASSESSMENT

- **1.** Explain the factors involved in analyzing performance.
- 2. Discuss the relationship between human behavior and work-site safety.
- 3. Explain the techniques used to coach and counsel workers with performance problems.
- 4. Explain the ABC model.

MODULE 75204-03 – INSPECTIONS, AUDITS, AND OBSERVATIONS

- 1. Describe the role and responsibility of the safety technician in on-site inspections, audits, and observations.
- **2.** State the purpose of a safety inspection.
- **3.** Explain how to conduct a safety audit.
- **4.** Describe how to conduct an employee observation.

MODULE 75205-03 – EMPLOYEE MOTIVATION

- 1. Effectively communicate safety policies and procedures to all employees on a job site.
- **2.** Describe the correct way to provide motivation, recognition, and discipline as needed.

MODULE 75206-03 – SITE-SPECIFIC ES&H PLANS

- 1. Evaluate hazard risks based on probability and consequences of outcome.
- 2. Identify specific job-site hazards and requirements using existing pre-bid planning checklists.
- 3. Modify your existing company Environmental Safety and Health (ES&H) program or Safety and Loss Prevention Manual to meet specific job conditions.
- 4. Describe coordination needed to implement your company's ES&H plan with other entities.
- 5. Describe and explain administrative controls needed to make the plan effective.

MODULE 75207-03 - EMERGENCY-ACTION PLANS

- 1. Describe the types of emergencies that can occur on construction sites and at industrial facilities.
- 2. Describe the fundamental elements of an emergency-action plan.
- 3. Identify the correct procedures for dealing with the media.

MODULE 75208-03 – JSAs AND TSAs

- **1.** Define job safety analysis.
- 2. Describe how to conduct a job safety analysis.
- **3.** Describe the purpose of a task safety analysis.
- **4.** Explain the difference between a job safety analysis and a task safety analysis.

MODULE 75209-03 – SAFETY ORIENTATION AND TRAINING

- 1. Effectively train all employees on a job site about safety policies and procedures.
- 2. Coordinate safety training programs.

MODULE 75210-03 – WORK PERMIT POLICIES

- 1. Describe the role and responsibility of the safety technician in relation to work permit policies.
- **2.** State the purpose of work permit policies.
- **3.** Explain the need for hot work permits.
- **4.** Describe the safety technician's role during the performance of hot work.
- 5. Explain the need for a lockout/tagout program.
- **6.** Describe steps needed during the performance of lockout/tagout procedures.
- 7. Explain the need for confined-space permits.
- **8.** Describe the safety technician's role regarding confined-space work areas.
- 9. Describe some of the hazards involved when an excavation work permit is needed.
- **10.** Describe the safety technician's role during the performance of electrical hot work.

MODULE 75211-03 – CONFINED-SPACE ENTRY PROCEDURES

- 1. Describe three types of atmospheric hazards in confined spaces.
- 2. Demonstrate and explain atmospheric testing procedures for confined spaces.
- **3.** Explain the confined-space entry permit system.
- 4. Explain the different roles and duties for people working in confined spaces.
- **5.** Explain emergency procedures in confined spaces.
- **6.** Explain rescue procedures for confined-space entry.

MODULE 75212-03 – SAFETY MEETINGS

- 1. Communicate safety issues and concerns to workers through safety meetings.
- 2. Prepare for and conduct an effective safety meeting.
- **3.** Evaluate the quality of a safety meeting.

MODULE 75213-03 – ACCIDENT INVESTIGATION: POLICIES AND PROCEDURES

- 1. Explain the purposes and uses of accident investigations.
- **2.** Identify the person responsible for conducting an accident investigation.
- **3.** Complete an accident investigation form.
- **4.** Explain the procedure for conducting accident investigation interviews.

MODULE 75214-03 – ACCIDENT INVESTIGATION: DATA ANALYSIS

- 1. Explain, in general, the methods commonly used for analyzing accident investigation information.
- **2.** Explain at least three systematic approaches to accident investigation.

MODULE 75215-03 – RECORDKEEPING

- 1. Identify and follow OSHA and company requirements for recordkeeping.
- 2. Properly document work-related illnesses and injuries using OSHA Forms 300, 300A, and 301.
- 3. Explain how to manage safety and health records for a job site.

MODULE 75216-03 – OSHA INSPECTION PROCEDURES

- 1. Explain why OSHA inspects construction sites.
- **2.** Describe the process for an on-site OSHA inspection.
- 3. Explain the role of the safety technician during an inspection.
- **4.** Explain the difference between a focused inspection and a wall-to-wall inspection.
- 5. Explain suggested and required follow up resulting from an OSHA inspection.
- **6.** Explain the consequences of OSHA citations, violations, and fines.
- 7. Explain the rights and responsibilities of employees and employers during an OSHA inspection.
- **8.** Explain OSHA's multi-employer work site inspection and citation procedures.

MODULE 75217-03 – ES&H DATA TRACKING AND TRENDING

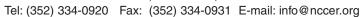
- 1. List or describe traditional methods of measuring safety performance.
- 2. List or describe proactive methods of measuring safety performance.
- 3. Use benchmarks established by the participant's firm, or corporate and industry best practices, analyze the data, and report the program strengths and areas needing improvement to site management.

MODULE 75218-03 – ENVIRONMENTAL AWARENESS

- 1. List or describe at least five types of environmental problems or issues that might arise on a typical construction site.
- 2. List or describe methods to prevent soil and water contamination when handling fuels and chemicals commonly found or used on construction sites.
- 3. List or describe ways to minimize the production of hazardous wastes on construction sites.
- 4. In general terms, explain hazardous waste shipping and manifest requirements.
- 5. List or describe the training and medical surveillance requirements for personnel who work with lead, asbestos, silica, or hazardous wastes.

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SAFETY TECHNOLOGY

Materials and Equipment

MODULE 75201-03 – INTRODUCTION TO SAFETY TECHNOLOGY

Overhead projector and screen

Transparencies

Whiteboard/chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Copy of 29 CFR 1926, OSHA Construction Industry Regulations

Construction User's Round Table A-3 report

Module Examinations

MODULE 75202-03 - HAZARD RECOGNITION, EVALUATION, AND CONTROL

Overhead projector and screen

Transparencies

Whiteboard/chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective

equipment

Copy of 29 CFR 1926, OSHA Construction Industry Regulations

Task safety analysis (TSA) checklist

Horn

Bell

Whistle

Sign

Module Examinations

MODULE 75203-03 - RISK ANALYSIS AND ASSESSMENT

Overhead projector and screen

Transparencies

Whiteboard/chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Copy of 29 CFR 1926, OSHA Construction Industry Regulations

Module Examinations

Overhead projector and screen

Transparencies

Whiteboard/chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Copy of 29 CFR 1926, OSHA Construction Industry Regulations

Module Examinations

Performance Profile Sheets

MODULE 75205-03 – EMPLOYEE MOTIVATION

Overhead projector and screen

Transparencies

Whiteboard / chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Safety sign or posting

Employee award plaque

Module Examinations

MODULE 75206-03 – SITE-SPECIFIC ES&H PLANS

Overhead projector and screen

Transparencies

Whiteboard/chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Module Examinations

Performance Profile Sheets

MODULE 75207-03 - EMERGENCY-ACTION PLANS

Overhead projector and screen

Transparencies

Whiteboard/chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Portable radio unit (walkie talkie)

Cell phone

Megaphone

Safety glasses

Gloves

Ear plugs

Hard hat

Safety shoes

Fall protection equipment

Chemical-resistant clothing

TV (optional)

VCR (optional)

The MARCOM Group Ltd. video *Emergency Planning* (optional)

Module Examinations

MODULE 75208-03 - JSAs AND TSAs

Overhead projector and screen

Transparencies

Whiteboard / chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Job safety analysis (JSA) form

Task safety analysis (TSA) form

Hazard analysis chart

Module Examinations

Performance Profile Sheets

MODULE 75209-03 - SAFETY ORIENTATION AND TRAINING

Overhead projector and screen

Transparencies

Whiteboard/chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Copy of 29 CFR 1926, OSHA Construction Industry Regulations

TV (optional)

VCR (optional)

The Video Arts video You'll Soon Get The Hang Of It (optional)

Module Examinations

MODULE 75210-03 – WORK PERMIT POLICIES

Overhead projector and screen

Transparencies

Whiteboard / chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Copy of 29 CFR 1926, OSHA Construction Industry Regulations

Blank hot work permit forms

Blank pre-inspection forms

Lockout/tagout devices

Module Examinations

MODULE 75211-03 – CONFINED-SPACE ENTRY PROCEDRES

Overhead projector and screen

Transparencies

Whiteboard/chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Copy of 29 CFR 1926, OSHA Construction Industry Regulations

Copy of 29 CFR 1910.146, OSHA Permit-Required Confined Spaces Regulations

Single-gas configuration gas detection meter

Multiple-gas configuration gas detection meter

Flammability detection meters

Gas detector tubes

Module Examinations

MODULE 75212-03 – SAFETY MEETINGS

Overhead projector and screen

Transparencies

Whiteboard/chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Copy of 29 CFR 1926, OSHA Construction Industry Regulations

TV (optional)

VCR (optional)

The CREATTP video, Tricks to Teach (optional)

Module Examinations

MODULE 75213-03 – ACCIDENT INVESTIGATION: POLICIES AND PROCEDURES

Overhead projector and screen

Transparencies

Whiteboard / chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Copy of 29 CFR 1926, OSHA Construction Industry Regulations

TV (optional)

VCR (optional)

The Safe Expectations, International video, Accident Investigation: A Tool for Effective Prevention (optional)

Accident investigation forms

Module Examinations

Performance Profile Sheets

MODULE 75214-03 - ACCIDENT INVESTIGATION: DATA ANALYSIS

Overhead projector and screen

Transparencies

Whiteboard/chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Module Examinations

Performance Profile Sheets

MODULE 75215-03 – RECORDKEEPING

Overhead projector and screen

Transparencies

Whiteboard/chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Copy of 29 CFR 1926, OSHA Construction Industry Regulations

OSHA Forms 300, 300A, and 301

Sample accident investigation report

Module Examinations

MODULE 75216-03 – OSHA INSPECTION PROCEDURES

Overhead projector and screen

Transparencies

Whiteboard / chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Copy of 29 CFR 1926, OSHA Construction Industry Regulations

TV (optional)

VCR (optional)

The Gulf Publishing Company video, What Every Manager Should Know about OSHA Inspections

Module Examinations

MODULE 75217-03 – ES&H DATA TRACKING AND TRENDING

Overhead projector and screen

Transparencies

Whiteboard / chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

Copy of 29 CFR 1926, OSHA Construction Industry Regulations

Module Examinations

MODULE 75218-03 – ENVIRONMENTAL AWARENESS

Overhead projector and screen

Transparencies

Whiteboard / chalkboard

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Appropriate personal protective equipment

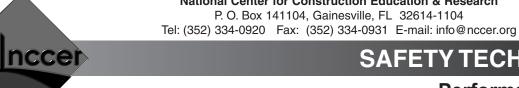
Copy of 29 CFR 1926, OSHA Construction Industry Regulations

Uniform hazardous waste form

Module Examinations

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SAFETY TECHNOLOGY

Performance Tasks

MODULE 75201-03 - INTRODUCTION TO SAFETY TECHNOLOGY

Task Number	Item	Date(s)	Recorded By
This is a knowled	dge-based module; there is no performance testing.		
MODULE 75202-	03 – HAZARD RECOGNITION, EVALUATION, A	AND CONTROL	
Task Number	Item	Date(s)	Recorded By
75202-1	Calculate risk using a written formula.		
MODULE 75203-	03 – RISK ANALYSIS AND ASSESSMENT		

Task Number	Item	Date(s)	Recorded By
This is a knowledg	e-based module; there is no performance testing.		

MODULE 75204-03 - INSPECTIONS, AUDITS, AND OBSERVATIONS

Task Number	Item	Date(s)	Recorded By
75204-1	Conduct a safety audit.		
75204-2	Perform a safety observation.		

MODULE 75205-03 - EMPLOYEE MOTIVATION

Task Number	Item	Date(s)	Recorded By
75205-1	Demonstrate how to effectively communicate with a co-worker.		

MODULE 75206-03 - SITE-SPECIFIC ES&H PLANS

Task Number	Item	Date(s)	Recorded By
75206-1	Use the risk assessment matrix to determine the risk of a given situation.		
75206-2	Modify an existing site safety plan to meet specific job conditions.		

MODULE 75207-03 - EMERGENCY-ACTION PLANS

Task Number	Item	Date(s)	Recorded By
This is a knowled	ge-based module; there is no performance testing.		

MODULE 75208-03 - JSAs AND TSAs

Task Number	Item	Date(s)	Recorded By
75208-1	Demonstrate how to properly complete a JSA.		
75208-2	Demonstrate how to properly complete a TSA.		

MODULE 75209-03 - SAFETY ORIENTATION AND TRAINING

Task Number	Item	Date(s)	Recorded By
This is a knowledge	ge-based module; there is no performance testing	ng.	

MODULE 75210-03 – WORK PERMIT POLICIES

Task Number	Item	Date(s)	Recorded By
75210-1	Perform a pre-inspection.		
75210-2	Properly complete a hot work permit.		
75210-3	Demonstrate how to use lockout and tagout devices.		

MODULE 75211-03 - CONFINED-SPACE ENTRY PROCEDRES

Task Number	Item	Date(s)	Recorded By
This is a knowledge	ge-based module; there is no performance testing.		

MODULE 75212-03 – SAFETY MEETINGS

Task Number	Item	Date(s)	Recorded By
75212-1	Demonstrate how to properly set up and use a ladder.		

MODULE 75213-03 - ACCIDENT INVESTIGATION: POLICIES AND PROCEDURES

Task Number	Item	Date(s)	Recorded By
75213-1	Choose a topic and conduct a three- to five-minute informal safety meeting.		

MODULE 75214-03 – ACCIDENT INVESTIGATION: DATA ANALYSIS

Task Number	Item	Date(s)	Recorded By
75214-1	Use one of the methods of analyzing accident data to determine the cause of an accident.		

MODULE 75215-03 - RECORDKEEPING

Task Number	Item	Date(s)	Recorded By
This is a knowledge-based module; there is no performance testing.			

MODULE 75216-03 – OSHA INSPECTION PROCEDURES

Task Number	Item	Date(s)	Recorded By
This is a knowledge-based module; there is no performance testing.			

MODULE 75217-03 - ES&H DATA TRACKING AND TRENDING

Task Number	Item	Date(s)	Recorded By
This is a knowledge-based module; there is no performance testing.			

MODULE 75218-03 - ENVIRONMENTAL AWARENESS

Task Number	Item	Date(s)	Recorded By
This is a knowledge-based module; there is no performance testing.			