

Program of Instruction

Course Syllabus

Course Title:

HAZWOPER 24-hour Operations

Course Duration: 24 hours

Program: Hazardous Materials Program

Level of Training: Performance-Defensive (OSHA Operations)

Course Description: This course is designed to train individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. The course covers: an understanding of Hazmat laws and regulations, basic hazard and risk assessment techniques, selection and proper use of personal protective equipment, understanding of basic hazmat terms, how to perform basic product control procedures, and implementing basic decontamination procedures.

Course Requirements and/or Recommendations: These can be divided into three categories: those completed prior to arriving in class (Pre-Course Work), those completed during class, such as homework assignments and quizzes (Course Work), and requirements completed after class but prior to receiving a certificate of completion. (Post-Course Work)

Summary of Directions

Pre-Course Work: None

Course Work: This course meets or exceeds the requirements of OSHA 29 CFR 1910.120(q) for First Responder Operations Training. It is intended for industrial and private response teams, who in their normal course of duty would be responsible for responding to a release of a known product.

This course does not meet all of the requirements of NFPA 472 and thus is not intended for public safety agencies (ie. fire, police, military, etc.)

Post-Course Work: None

Course Content:

Module: 1

Title: Laws, Regulations, & Standards

Terminal Learning Objective:

At the conclusion of this module, the student will *apply* the laws, regulations and standards to hazardous materials incidents.

Module: 2

Title: Response Components

Terminal Learning Objective:

At the conclusion of this module, the student will *determine* the strategic and tactical objectives to be completed at all hazardous materials incidents.

Module: 3

Title: Chemical and Physical Properties

Terminal Learning Objective:

At the conclusion of this module, the student will *predict* how the chemical and physical properties of a product will affect response to a hazardous materials incident.

Module: 4

Title: Health and Safety

Terminal Learning Objective:

At the conclusion of this module, the student will *relate* health hazards with an associated material and its container.

Module: 5

Title: Intelligence & Resources

Terminal Learning Objective:

At the conclusion of this module, the student will interpret intelligence and resource information as it relates to the hazardous materials response.

Module: 6

Title: Personal Protective Equipment

Terminal Learning Objective:

At the conclusion of this module, the student will *categorize* the different types of personal protective equipment (PPE) by their characteristics and be able to *don, doff, and work in* each type of PPE available to the Operations trained responder.

Practical: SCBA – See Drill Sheet for Specifics

Practical: PPE – See Drill Sheet for Specifics

Module: 7

Title: Recognition and Identification

Terminal Learning Objective:

At the conclusion of this module, the student will *recognize* different types of containers and markings and *determine* the hazards associated with the materials transported or stored within the container.

Module: 8

Title: Incident Analysis and Management

Terminal Learning Objective:

At the conclusion of this module, the student will *describe* procedures for predicting the release of a material from its container and determine the best protective actions for affected exposures.

Module: 9

Title: Air Monitoring

Terminal Learning Objective:

At the conclusion of this module, the student will *explain* the different types of monitors and techniques available and *demonstrate* effectively monitoring an atmosphere for a known material.

Practical: Air Monitoring – See Drill Sheet for Specifics

Module: 10

Title: Product Control

Terminal Learning Objective:

At the conclusion of this module, the student will be able to *describe* the various defensive options available to the Operations trained responder and *demonstrate* confining a hazardous material to a certain area.

Scenario 1: See Drill Sheet for Specifics

Module: 11

Title: Termination

Terminal Learning Objective:

At the conclusion of this module, the student will *explain* procedures to be followed at the termination of a hazardous materials incident. (NFPA 472 5.6)

Module: 12

Title: Decontamination

Terminal Learning Objective:

At the conclusion of this module, the student will *describe* the different types of decontamination and *demonstrate* proper selection, set-up, operation, and tear down of a decontamination line.

Practical: Decontamination – See Drill Sheet for Specifics

Final Scenario: See Drill Sheet for Specifics

Evaluation Strategy:

A written test and final practical incident are conducted at the completion of the course. In addition, several simulated evolutions and scenarios are used throughout the course.

References:

Adams, Barbara and Leslie Miller. *Hazardous Materials for First Responders 3rd Ed.* IFSTA. Fire Protection Publications. Stillwater, OK, 2004.

Federal Emergency Management Agency. www.fema.gov.

International Association of Fire Chiefs/NFPA. *Confinement & Containment.* Jones and Bartlett Publishers, Sudbury, MA, 2006.

National Fire Protection Association Standards 472 *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, 2013.

Noll, Gregory, Michael Hildebrand and James Yvorra. *Hazardous Materials: Managing the Incident 3rd Ed.* IFSTA. Red Hat Publishing Co., 2005

Schnepp, Rob. *Hazardous Materials Awareness and Operations 1st Ed.* Jones and Bartlett Publishers, Sudbury, MA, 2010.

United States Department of Homeland Security. www.dhs.gov.

U.S. Department of Labor, *Code of Federal Regulations: Labor 29 CFR 1910.120.* Washington, D.C., Office of the Federal Register, National Archives and Records Administration, 1996.

U.S. Department of Labor, *Code of Federal Regulations: Transportation 49 CFR Parts 100 to 77.* Washington, D.C., Office of the Federal Register, National Archives and Records Administration, 1995.

Course Schedule

DAY ONE

Start Time: 0800

<u>Event</u>	<u>Duration</u>
Orientation and Introductions	15 minutes
Module 1: Laws & Regulations, & Standards	45 minutes
Module 2: Response Components	1 hour
Module 3: Chemical & Physical Properties	1 hour
Module 4: Health and Safety	1 hour
Lunch	
Module 5: Intelligence and Resources	1 hour
Module 6: Personal Protective Equipment	
PPE Lecture	1 hour
Practical – SCBA Demo and Practice	1 hour
Practical – Donning & Doffing	1 hour and 30 min
End of Day (Clean up, questions, plan for tomorrow)	30 minutes

DAY TWO

Start Time: 0800

<u>Event</u>	<u>Duration</u>
Module 7: Recognition & Identification	1 hour and 30 min
Module 8: Incident Analysis and Management	1 hour
Module 9: Air Monitoring	
Monitoring Lecture	30 minutes
Practical – Air Monitoring	1 hour
Lunch	
Module 10: Product Control	
Product Control Lecture	30 minutes
Product Control Video	30 minutes
Scenario 1: Acid Leak in Lab	2 hours
Module 11: Termination	30 minutes
End of Day (Clean up, questions, plan for tomorrow)	30 minutes

DAY THREE

Start Time: 0800

<u>Event</u>	<u>Duration</u>
Module 12: Decontamination	
Lecture	1 hour
Demos – Emergency, 2 pool formal	1 hour
Practical – Decon	2 hours
Lunch	
Final Scenario: 55 Gallon Drum Leak	2 hours
Final Exam	1 hour
CEQ's, Clean-up, Class closing	1 hour