


<b>Course Title:</b>	<b>Confined Space Entry and Rescue</b>	<b>Length:</b>	16 to 24 hrs
<b>Curricula Area:</b>	<b>Permit Required Confined Spaces in General Industry</b>		
<b>Description of Curricula:</b>	The course prepares the participant to act as a confined space entrant, attendant or supervisor during a permit-required confined space entry. This course also provides students with an awareness of the basics of confined space rescue techniques.		
<b>Format of Delivery:</b>	50% hands-on field exercises, 40% classroom lecture/demonstration, 10% classroom participation		
<b>Evaluation:</b>	PASS/FAIL, quizzes, exercises, 100% hands-on		
<b>Regulatory Reference:</b>	29 CFR 1910.146		
<b>Curricula Provider:</b>	The Alliance for Business, an Alliance between Crowder College and Missouri Southern State University. 800.783.8053		
<b>Date of Development:</b>	1992	<b>Date of Last Revision:</b>	2004
<b>Intended Audience:</b>	Employees who will engage in permit-required confined space entry and rescue in general industry.		
<b>Entry Restrictions:</b>	Physically capable of wearing and working in a full-body harness, SCBA, hard-hat and gloves and being suspended in a vertical confined space environment.		
<b>Topics:</b>	Lesson 1 - Permit-Required Confined Space Regulation Lesson 2 - Confined Space Hazards Lesson 3 - Atmospheric Monitoring Lesson 4 - Ventilation Lesson 5 - Lock-out, Tag-out Lesson 6 - Confined Space Entry Permit Lesson 7 - Confined Space Entry Equipment Lesson 8 - Self Rescue and Non-Entry Rescue Lesson 9 - Confined Space Rescue		
<b>Components of Curricula:</b>			
Student Manual	Confined Space, ©2004, 101 pages		
Instructor Manual	None		
Other Instructor Resources	Transparencies & PowerPoint overheads to accompany each unit		
Supplemental Materials	None		
AV Media	Videos: Ventilation, Self Rescue, Atm. Testing, Permit Required		
Reference Materials	1910.146		
Equipment and Supplies	Significant equipment, apparatus and supplies are required to complete this program. They include tripod and winch, full-body harness with associated retrieval equipment and various pieces of hardware and software associated with lifting personnel into and out of vertical and horizontal confined space environments.		
<b>Caveats:</b>	This material has been copyrighted by HMTRI. A recipient of the material other than the federal government may not reproduce it without permission or license from HMTRI, the copyright owner.  The material was prepared for use by experienced instructors who are educated in adult education and training methods and who have completed HMTRI's 99-hour Great Environmental Safety Trainer (GreatEST) program.  The text for this program was prepared for English-speaking students with a		

	<p>minimum 9th grade reading level.</p> <p>To complete the respiratory protection and PPE activities, the participant must be physically capable of wearing a respirator.</p>
<b>Instructor Qualifications:</b>	<p>For classroom components, one instructor is required who has completed HMTRI's GreatEST Train-the-Trainer or equivalent and who possesses knowledge and experience in the areas of emergency response operations and mitigation, health and safety, toxicology, industrial hygiene, OSHA and EPA regulations. For hands-on training, a ratio of one instructor for every five students using PPE and respiratory protection must be maintained. One instructor should be certified in first aid and CPR.</p>
<b>Special Instructions:</b>	<p>All PPE equipment shall be worn at all times during hands-on exercises.</p>
<b>Examples of Training:</b>	

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**Course Objectives:**  
Upon completion of the course, the participant should be able to pass competencies in the following areas:

- Identify a space as being a confined space or permit-required confined space based upon the OSHA definition.
- Describe the employer's responsibilities under 29 CFR 1910.146.
- Demonstrate atmospheric evaluation of a confined space atmosphere.
- Identify acceptable atmospheric entry parameters.
- List the requirements for entrants, attendants, and supervisors.
- Explain the role of communication between all parties involved in making a confined space entry.
- Describe positive and negative pressure ventilation.
- Identify the precautions necessary for ventilating a confined space.
- Describe space isolation procedures.
- Demonstrate proper rigging.
- Demonstrate tying of various knots.
- Explain mechanical advantage and applications of mechanical advantage.
- Explain differences of self-rescue, external rescue, and internal rescue.

**Performance Measures:**  
All students will be required to participate in the hands-on training and will be evaluated by the Lead Trainer based on course objectives. Those students who are not given a "pass" will be given an explanation in writing and will be issued a "qualified" or "restricted" Certificate of Completion.

Students are also expected to be participatory in all classroom and supplemental activities as directed by the Lead Trainer.

**Hands-on Exercises:**  
Upon completion of the "hands-on" component of this program, the participant should be able to demonstrate proper use of:

- SELF-CONTAINED BREATHING APPARATUS (SCBA) and SUPPLIED AIR RESPIRATORS (SAR) through pre-use inspection, donning, use, doffing and post-use cleaning and storage of the unit.

- PERSONAL PROTECTIVE EQUIPMENT LEVELS through pre-use inspection, donning, use, doffing and post-use cleaning and storage of the equipment.
- RADIO COMMUNICATION EXERCISE to develop radio communication competency and to develop skill in radio transmission protocol.
- MECHANICAL ADVANTAGE EXERCISE.
- HORIZONTAL / VERTICAL RESCUE EXERCISE.
- FILL OUT A PERMIT - Ability to fill out a Confined Space entry permit out correctly.
- VENTILATION EXERCISE.
- AIR MONITORING EXERCISE.

**Use of Advanced Technology in Curricula:**

All presentations for the course are illustrated with PowerPoint®-driven computer slides and animations projected with a video projector. A mix of 35 mm slides and video tapes adds variety to presentations. Digital cameras and video cameras are used to record and critique hands-on exercises. Students will learn to access the Internet to find health and safety information, and to look for lessons learned from activities similar to those presented in the classroom.

**Course Schedule:**

Day 1	Day 2	Day 3
Regulations Overview Permit Completion & Space Evaluation Ventilation Air Monitoring Knots	Knots Hardware/Software LO/TO Entry and Rescue Drill Mechanical Advantage Entry Drill Non-entry Rescue	Knots Respiratory Protection Horizontal Non-entry Rescue Rescue Drill SAR Rescue Drill