



## Northeastern Illinois Public Safety Training Academy

### Course Syllabus

203

<b>Title:</b> <b>Confined Space Operations</b>	<b>Program Duration:</b> <b>40 hours</b>
<b>Type:</b> <b>Campus Training Program (CTP)</b>	<b>Coordinator:</b> <b>R. Chapman</b>

#### Course Description

NIPSTA's Confined Space Operations program is designed to exceed the requirements outlined by the Illinois Office of the State Fire Marshal (OSFM), and provides students with the basic knowledge and skills needed to perform confined space rescue at the NFPA 1670 & 1006 Operations level. Students will leave prepared to operate as a member of a regional team capable of responding to statewide emergencies involving CBRNE or WMD, where confined space rescue may be needed.

#### Prerequisites

The purpose of prerequisite course work is to ensure students have sufficient backgrounds to understand the terminology, tactics and practical applications presented in NIPSTA programs. At a minimum, NIPSTA requires successful completion of the following:

- Member of recognized fire department/brigade
- Basic Operations Firefighter
- Rope Rescue Operations

#### Attendance

In order to receive a certificate of completion for courses, NIPSTA requires students to be present for all lectures, demonstrations and evolutions.

#### Safety

NIPSTA Instructors will ensure hazards have been identified and addressed prior to the start of each program. All course safety guidelines are discussed prior to operations. Unsafe actions or behaviors will not be tolerated and will be grounds for dismissal.

#### Academic Integrity

NIPSTA aspires to the highest possible standards of academic honesty and integrity in all programs as key tenants of the NIPSTA experience. NIPSTA Instructors set forth clear ethical expectations, promote consistency of standards, and encourage reporting of dishonest and unsafe behaviors. While education through participation is the central goal for every NIPSTA program, it is only possible when honesty and integrity are part of the overall mission.

#### Performance Testing & Evaluation

NIPSTA employs multiple methods of measuring competency subject matter including cognitive and performance skill testing. Cognitive skills will be measured by utilizing a comprehensive written exam at the conclusion of the course. Students must achieve a minimum 70% score to successfully pass the written exam. Performance skill tests measure an individual's ability to perform specific tasks or applications based on given or known JPRs. Unless otherwise specified, performance skill tests will be measured on a pass or fail basis.

## ADA Compliance

Students with a documented disabilities, as that term is used in the American with Disabilities Act (ADA), may qualify for reasonable accomodations as defined in section 504 of the Rehabilitation Act of 1973.

## Textbook

The following Textbook is required for NIPSTA's Cofined Space Operations course.

- Title: CMC Confined Space Entry and Rescue Manual, Revised 2<sup>nd</sup> Ed
  - ISBN: 9780961833749
- The Essential Technical Rescue Field Operations Guide, Edition 4
  - ISBN: 978-0967523897

## Pre-course Assignments

The purpose of pre-course assignments is to ensure candidates are prepared to succeed at the onset of the program. The pre-course assignments for NIPSTA's Confined Space Operations course are as follows:

- Review The following documents
  - OSHA CFR 1910.146 (veivable at osha.gov)
  - "The Essential Technical Rescue Field Operations Guide" 5<sup>th</sup> Edition
- Read the following text book sections
  - *Confined Space Entry and Rescue Manual", Revised 2<sup>nd</sup> Edition: Chapters 1 - 7*

## Course Content

Course content is broken into subject area modules or "Mods". NIPSTA's Confined Space program is comprised of the followng 22 Mods:

**Mod 1:** Introduction & Orientation

**Mod 2:** Safety & Hazard Identification

**Mod 3:** Con Space Rescue Size-up

**Mod 4:** Managing Con Space Challenges

**Mod 5:** Con Space Rescue Organization

**Mod 6:** Personal Protective Equipment

**Mod 7:** Con Space Rope & Hardware

**Mod 8:** Con Space Rescue Knots

**Mod 9:** Raising & Lowering Systems

**Mod 10:** Con Space High Point Anchors

**Mod 11:** Con Space Monitoring

**Mod 12:** Con Space Ventilation

**Mod 13:** Con Space Hazard Isolation

**Mod 14:** Con Space Communication

**Mod 15:** Supplied Air Breathing Systems

**Mod 16:** Con Space Patient Packaging

**Mod 17:** Con Space Entry Operations

**Mod 18:** WMD/CBRN Factors

**Mod 19:** Con Space Table Top Scenarios

**Mod 20:** Con Space Rescue Scenario

**Mod 21:** Knowledge Assessment Testing

**Mod 22:** Skill Assessment Testing

## Learning Outcomes & Evaluation

Following the conclusion of these modules, students will be familiar with the requisite knowledge and skills needed to perform as a member of a confined space rescue team. Written and practical evaluations will be conducted at the completion of this course.

## Rope Operations Course Schedule

### Day 1

#### Reading List

CMC Rescue “*Confined Space Entry and Rescue Manual*” – Chapters 1,3,4,7,9

#### Pre-Test

Covering OSHA CFR 1910.146

#### Lecture (4 hours)

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- Mod 1:** Introduction & Orientation
- Mod 2:** Safety & Hazard Identification
- Mod 3:** Con Space Rescue Size-up
- Mod 4:** Managing Con Space Challenges
- Mod 5:** Con Space Rescue Organization
- Mod 6:** Personal Protective Equipment
- Mod 7:** Con Space Rope & Hardware
- Mod 8:** Con Space Rescue Knots
- Mod 9:** Raising & Lowering Systems
- Mod 10:** Con Space High Point Anchors
- Mod 11:** Con Space Monitoring
- Mod 12:** Con Space Ventilation

#### Practical Exercises (6 hours)

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- Mod 8:** Con Space Rescue Knots
- Mod 9:** Con Space Raising/Lowering Systems
- Mod 11:** Con Space Monitoring
- Mod 12:** Con Space Ventilation

### Day 2

#### Reading List

CMC Rescue “*Confined Space Entry and Rescue Manual*” – Chapters 5, 6, 10, 11, 12

#### Lecture (2 hours)

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- Mod 5:** Con Space Rescue Organization
- Mod 13:** Con Space Hazard Isolation
- Mod 15:** Con Space Patient Packaging

#### Practical Exercises (8 hours)

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- Mod 5:** Con Space Rescue Organization
- Mod 9:** Raising & Lowering Systems
- Mod 13:** Con Space Hazard Isolation
- Mod 14:** Con Space Communication
- Mod 15:** Con Space Patient Packaging
- Mod 16:** Con Space Entry

## Day 3

### Reading List

CMC Rescue “*Confined Space Entry and Rescue Manual*” – Chapters 3

### Lecture (2 hours)

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**Mod 15:** Con Space Patient Packaging

**Mod 17:** WMD/CBRN Factors

**Mod 18:** Con Space Table Top Scenarios

**Mod 18:** Con Space Entry Operations (Grain Bin)

**Mod 10:** Con Space High Point Anchors (Ladder Jib)

### Practical Exercises (8 hours)

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**Mod 17:** Con Space Patient Packaging

**Mod 15:** Supplied Air Breathing Systems

**Mod 18:** Con Space Entry Operations (Tank Car)

**Mod 10:** Con Space High Point Anchors (Aerials)

**Mod 18:** Con Space Entry Operations (Tank Scenario)

## Day 4

### Reading List:

Case Study: TBA

### Lecture (1 hour)

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**Mod 21:** Knowledge Assessment Testing (Final Exam)

### Practical Exercises (9 hours)

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**Mod 18:** Con Space Entry Operations (Hopper Scenario)

**Mod 22:** Skill Assessment Testing (Final Scenario)

**Mod 7:** Con Space Rope & Hardware (Inspection & Inventory)

**Conclusion:** Review and CEQs

## Reference List

*Confined Space Entry and Rescue Manual: 2nd rev. ed.* (2013). Santa Barbara, CA: CMC Rescue.

Pendley, T., & Darrow, K. (2011). *The Essential Technical Rescue Field Operations Guide*. Phoenix, Az.: Desert Rescue Research.

*NIOSH Pocket Guide to Chemical Hazards.* (2012).: Books Express Publishing.

NFPA 1006, *Standard for Rescue Technician Professional Qualifications*, 2017 Edition

NFPA 1670, *Standard on Operations and Training for Technical Rescue*, 2017 Edition

U.S. Department of Labor, Occupational Safety Health Administration, 29 CFR 1910.120

U.S. Department of Labor, Occupational Safety Health Administration, 29 CFR 1910.134

U.S. Department of Labor, Occupational Safety Health Administration, 29 CFR 1910.146

U.S. Department of Labor, Occupational Safety Health Administration, 29 CFR 1910.147

U.S. Department of Labor, Occupational Safety Health Administration, 29 CFR 1910.1000

U.S. Department of Labor, Occupational Safety Health Administration, 29 CFR 1926