

	<b>Northeastern Illinois Public Safety Training Academy</b>	
	<b>Course Syllabus</b>	<b>203</b>

<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 1006 Operations level. Students will leave prepared to operate as a member of a regional team capable of responding to statewide emergencies involving where basic 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 and at a minimum, a one (1) to six (6) instructor to student ratio will be maintained at all times. 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 Confined Space Operations course.

- ❑ Title: CMC Confined Space Entry and Rescue Manual, Revised 2<sup>nd</sup> Ed
  - ISBN: 9780961833749
- ❑ Title: The Essential Technical Rescue Field Operations Guide, 5<sup>th</sup> Edition
  - ISBN: 9780692901533

## 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 (veiwable 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 Mods:

**Mod:** Introduction & Orientation  
**Mod:** Safety & Hazard Identification  
**Mod:** Rescue Knots & Hitches  
**Mod:** Lock-out/Tag-out Procedures  
**Mod:** Con Space Anchors & Tripods  
**Mod:** Winches & M/A Systems  
**Mod:** Two-rope Systems  
**Mod:** Tri-pod Anchor Systems  
**Mod:** Gear Mastery: Rescue Harness  
**Mod:** Victim Casualty Care & Packaging  
**Mod:** SCBA vs SAR Systems  
**Mod:** Atmospheric Monitoring Equip  
**Mod:** Ventilation Equipment & Use  
**Mod:** Size-up & Reconnaissance  
**Mod:** Confined Space ICS & IAPs  
**Mod:** Operations Level Entries  
**Mod:** Mechanical Advantage Systems

**Mod:** Gear Mastery: Rescue Pulleys  
**Mod:** Horizontal Rescue Entries  
**Mod:** Fall Arrestor Devices  
**Mod:** Decent and Load Mgmt. Devices  
**Mod:** Vertical Rescue Entries  
**Mod:** Non-permit Confined Spaces  
**Mod:** Permit Required Confined Spaces  
**Mod:** Tripod Rigging Techniques  
**Mod:** Pre-rigged M/A Systems  
**Mod:** Terminating Rescue Operations  
**Mod:** Course Final Exam  
**Mod:** Mechanical Rescue Winches  
**Mod:** Aerial & Tower Ladder Anchoring  
**Mod:** Practical Skill Evaluations  
**Mod:** Final Rescue Scenario  
**Mod:** Equipment Inspection & Inventory  
**Mod:** Course Review & Evalua

## Rope Operations Course Schedule

### Day 1

#### Morning

---

**Mod:** Introduction & Orientation  
**Mod:** Confined Space Safety & Hazard Identification  
**Mod:** Con Space Rescue Knots & Hitches  
**Mod:** Lock-out/Tag-out Procedures  
**Mod:** Con Space Anchors & Tripods  
**Mod:** Winches and Mechanical Advantage Systems  
**Mod:** Two-rope Systems (main/belay & twin tension)

#### Afternoon

---

**Mod:** Tri-pod Anchor Systems (Vortex, TerrAdaptor, Skedco/Industrial)  
**Mod:** Gear Mastery: Rescue Harness  
**Mod:** Confined Space Casualty Care & Packaging  
**Mod:** SCBA vs SAR Systems (victim & rescuer)  
**Mod:** Atmospheric Monitoring Equipment & Techniques  
**Mod:** Confined Space Ventilation Equipment & Techniques

### Day 2

#### Morning

---

**Mod:** Day 1 & Knot Review  
**Mod:** Size-up & Reconnaissance (Permit vs Non-permit)  
**Mod:** Confined Space ICS & Incident Action Plans (IAPs)  
**Mod:** Operations Level Entries (NFPA 1006 Operations vs Technician)  
**Mod:** Non-permit Confined Spaces  
**Mod:** Mechanical Advantage Systems  
**Mod:** Gear Mastery: Rescue Pulleys  
**Mod:** Horizontal Rescue Entries (non-permit)

- Non-entry Rescue
- No Packaging Rescue (grab & go)
- Patient Packaged Rescue

#### Afternoon

---

**Mod:** Gear Mastery: Fall Arrestors (Petzl ASAP)  
**Mod:** Gear Mastery: Decent and Load Management Devices (Petzl I'D & Clutch)  
**Mod:** Vertical Rescue Entries (non-permit)

- Non-entry Rescue of Entrant
- Entry Rescue With Patient Packaging

## Day 3

### Morning

---

- Mod:** Day 2 & Knot Review
- Mod:** Permit Required Confined Spaces
- Mod:** Tripod Rigging Techniques
- Mod:** Gear Mastery: Pre-rigged Systems (Aztek Kit)
- Mod:** Horizontal Rescue Entries (permit required)
  - Monitoring & Ventilation Operations
  - SCBA Procedures

### Afternoon

---

- Mod:** Gear Mastery: Pre-rigged Systems (CMC CRS System)
- Mod:** Vertical Rescue Entries (permit required)
  - Monitoring & Ventilation Operations
  - SCBA Procedures

## Day 4

### Morning

---

- Mod:** Day 3 Review
- Mod:** Terminating Confined Space Rescue Operations
- Mod:** Course Final Exam
- Mod:** Mechanical Rescue Winches
- Mod:** Aerial Truck & Tower Ladder Anchoring
- Mod:** Practical Skill Evaluations
  - Confined Space Rescue Knots
  - Tri-pod Anchor System Procedures
  - Mechanical Advantage System Procedures
  - Atmospheric Monitoring & Ventilation Procedures

### Afternoon

---

- Mod:** Practical Skill Evaluations
  - Comprehensive Final Rescue Scenario
- Mod:** Equipment Inspection & Inventory
- Mod:** Course Review & Evaluation

## Reference List

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

Pendley, T. (2017). *The Essential Technical Rescue Field Operations Guide, 5<sup>th</sup> edition*. Phoenix, Az.: Desert Rescue Research.

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

NFPA 1006, *Standard for Rescue Technician Professional Qualifications*, 2021 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