Program of Instruction
Course Syllabus

Course Title: Structural Collapse Rescue Operations – Level I

Course Duration: 46 hours

Program: Special Operations Training Program

Course Prerequisites:
None

Required for National Certification (ProBoard):
Rope Rescue Operations – Level I

Course Description: The scope of this course is to prepare responders to operate as a local member of a regional team within the NIMS at a CBRNE (Chemical, Biological, Radiological, Nuclear, or Explosive) WMD event requiring statewide response that has resulted in the failure of a building constructed of wood, masonry, or pre-fabricated light metal materials. This course is extensively hands-on and prepares the student to operate safely and efficiently at a building collapse incident involving WMD. It offers practice in cutting, breaching, lifting, stabilizing, searching, shoring, packaging, and removing victims from a simulated collapse environment. This course is intense and physically demanding, but the competence and confidence that is gained is worth the sweat that is lost.

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: 5 question Questionnaire and 15 question Pretest
Course Work: Attend and participate in all lectures and practicals
Post-Course Work: None
Course Policies:

Attendance Policy: IFSI requires students to attend (100%) or make up all course content that leads to certification. Students are expected to attend on time and to remain in class for the duration of the course. Students MUST COMPLETE all portions of a certification course, both classroom and practical, to be eligible to receive their certification.

If a student misses any portion of class with an accumulated absence of 20% or less of scheduled class time, it will be the student’s responsibility to arrange the make-up of the missed course content with the instructor(s) or program manager. The student must make up the specific course content that s/he missed, not just the hours. Make-ups are limited to 20% of scheduled class time. Make-ups must be documented on the class roster. If a student’s absence is greater than 20% refer to “True Emergences” section of the IFSI Examination Policy.

Safety Policy: Students shall understand and follow all instructions pertaining to operational safety, as stated by instructors or as written in course materials. Instructors and students shall be mindful of safety at all times. Conduct judged to be unsafe shall be grounds for dismissal from the course.

Academic Integrity Policy: IFSI has the responsibility for maintaining academic integrity so as to protect the quality of the education provided through its courses, and to protect those who depend upon our integrity. It is the responsibility of the student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions. Any violation of the code of conduct is grounds for immediate dismissal from the course.

Grading Policy: Decisions regarding certificates of course completion shall be made solely by the lead instructor of the course. All grading of exams shall be conducted by the Curriculum/Testing Office. All grading of practical exercises shall be based upon the standards set by the regulatory agency referenced in the course material and IFSI.

American Disabilities Act: As guaranteed in the Vocational Rehabilitation Act and in the American Disabilities Act, if any student needs special accommodations they are to notify their instructor and provide documentation as soon as possible so arrangements can be made to provide for the student’s needs. If arrangements cannot be made at the class site, the student will test at an alternative time and place where the special accommodations can be made.

Evaluation Strategy: Written and practical skill testing is conducted at the completion of the course. In addition, simulated rescue evolutions involving various rescue problems are conducted throughout the course.
Course Content:

Module: C-1  
Title: Destructive Forces  
Terminal Learning Objective:  
At the conclusion of this module the student will differentiate the various destructive forces based on how they may affect buildings and structures.

Module: C-2  
Title: Force Types  
Terminal Learning Objective:  
At the conclusion of this module, the student will distinguish the types of forces that are exerted on materials used in building construction.

Module: C-3  
Title: Structural Members and Load Systems  
Terminal Learning Objective:  
At the conclusion of this module, the student will categorize the fundamental concepts of structural members as they are used in building construction.

Module: C-4  
Title: Building Types  
Terminal Learning Objective:  
At the conclusion of this module, the student will relate general characteristics, hazards, principal weaknesses, and properties of the various building types.

Module: C-5  
Title: Building Assessment  
Terminal Learning Objective:  
At the conclusion of this module, the student will apply building assessment principles to a collapsed structure.

Module: C-6  
Title: Marking Systems  
Terminal Learning Objective:  
At the conclusion of this module, the student will use the different marking systems utilized during a structural collapse incident.

Module: C-7  
Title: Rescue  
Terminal Learning Objective:  
At the conclusion of this module, the student will explain the various elements of rescue operations.
Module: C-8
Title: Safety
Terminal Learning Objective:
At the conclusion of this module, the student will explain how operations at the structural collapse incident can be made safer.

Module: C-9
Title: First-In Officer and Rescue Team
Terminal Learning Objective:
At the conclusion of this module, the student will state the duties of those responding to a structural collapse incident.

Module: C-10
Title: Tools
Terminal Learning Objective:
At the conclusion of this module, the student will explain the proper use of various tools used at a structural collapse incident.

Module: C-11
Title: Shoring Systems
Terminal Learning Objective:
At the conclusion of this module, the student will explain the applications of the various shoring systems.

Module: C-12
Title: Victim Assessment and Patient Packaging
Terminal Learning Objective:
At the conclusion of this module, the student will summarize the emergency medical care considerations specific to structural collapse operations.

Module: C-13
Title: Incidents involving weapons of mass destruction (WMD)
Terminal Learning Objective:
At the conclusion of this module, the student will be able to perform their Operations level duties at a structural collapse incident involving the use of weapons of mass destruction (WMD).

Module: P-14
Title: Wood Cutting Station
Terminal Learning Objective:
At the conclusion of this module, the student will demonstrate the proper use of the various tools utilized for cutting wood.
Module: P-15
Title: Metal Cutting & Burning Station
Terminal Learning Objective:
At the conclusion of this module, the student will demonstrate the proper and safe use of various tools utilized for cutting metal.

Module: P-16
Title: Breaching & Breaking Station
Terminal Learning Objective
At the conclusion of this module, the student will demonstrate the proper operation for completing a breach for entry.

Module: P-17
Title: Specialty Tools Station
Terminal Learning Objective:
At the conclusion of this module, the student will demonstrate the use of various specialty tools that may be utilized during a structural collapse rescue.

Module: P-18
Title: Rescue Shoring Station
Terminal Learning Objective:
At the conclusion of this module, the student will utilize various shoring systems to stabilize a collapsed structure.

Module: P-19
Title: Lifting and Stabilizing Station
Terminal Learning Objective:
At the conclusion of this module, the student will lift and stabilize selected objects.

Module: P-20
Title: Void Search Station
Terminal Learning Objective:
At the conclusion of this module, the student will remove a victim from a collapse environment.

Module: P-21
Title: Breaching & Breaking in a Confined Space Station
Terminal Learning Objective:
At the conclusion of this module, the student will create a series of breaches large enough and so configured for entry.
Reference List:

FEMA National Urban Search and Rescue Response System: Incident Command System for Structural Collapse Incidents


National Fire Protection Association Standards 1006 Standard for Rescue Technician Professional Qualifications

National Fire Protection Association Standards 1670 Standard on Operations and Training for Technical Search and Rescue Incidents

United States Army Corps of Engineers: Urban Search and Rescue Structures Specialist Field Operations Guide
## Course Schedule

### DAY ONE

<table>
<thead>
<tr>
<th>Event</th>
<th>Duration</th>
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</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>5 minutes</td>
</tr>
<tr>
<td>Module C1 - Destructive Forces</td>
<td>25 minutes</td>
</tr>
<tr>
<td>Module C2 - Force Types</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Module C3 - Structural Members and Load Systems</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Module C4 - Building Types</td>
<td>1 hour and 20 min</td>
</tr>
<tr>
<td><strong>Break</strong></td>
<td></td>
</tr>
<tr>
<td>Module C5 - Building Assessment</td>
<td>50 minutes</td>
</tr>
<tr>
<td>Module C6 - Marking Systems</td>
<td>30 minutes</td>
</tr>
<tr>
<td><strong>Lunch</strong></td>
<td></td>
</tr>
<tr>
<td>Module C7 - Rescue</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Module C8 - Safety</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Module C9 - First-In Officer and Rescue Team</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Module C10 - Tools</td>
<td>20 minutes</td>
</tr>
<tr>
<td><strong>Break</strong></td>
<td></td>
</tr>
<tr>
<td>Module C11 - Shoring Systems</td>
<td>4 hours</td>
</tr>
<tr>
<td><strong>Break</strong></td>
<td></td>
</tr>
<tr>
<td>Module C12 - Victim Assessment and Patient Packaging</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Module C13 - Incidents Involving Weapons of Mass Destruction</td>
<td>20 minutes</td>
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### DAY TWO

<table>
<thead>
<tr>
<th>Event</th>
<th>Duration</th>
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</thead>
<tbody>
<tr>
<td>Module P14 - Wood Cutting Station</td>
<td>1 hour</td>
</tr>
<tr>
<td>Module P15 - Metal Cutting &amp; Burning Station</td>
<td>1 hour</td>
</tr>
<tr>
<td>Module P16 - Breaching &amp; Breaking Station</td>
<td>1 hour</td>
</tr>
<tr>
<td>Module P17 - Specialty Tools Station</td>
<td>1 hour</td>
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**Lunch**

<table>
<thead>
<tr>
<th>Event</th>
<th>Duration</th>
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</thead>
<tbody>
<tr>
<td>Module P18 - Rescue Shoring Station</td>
<td>5 hours</td>
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  - Window and Door Shoring System
  - T-Spot & Vertical Shoring Systems
  - Solid Raker Shoring System
  - Split Raker Shoring System

### DAY THREE

<table>
<thead>
<tr>
<th>Event</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module P18 - Rescue Shoring Station</td>
<td>5 hours</td>
</tr>
</tbody>
</table>

  - Laced Post Shoring System
  - Sloped Floor Shoring System
  - Horizontal Shoring System
  - Raked Raker Shoring System

**Lunch**

<table>
<thead>
<tr>
<th>Event</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module P19 - Lifting and Stabilizing Station</td>
<td>1.5 hours</td>
</tr>
<tr>
<td>Module P20 - Void Search Station</td>
<td>1.5 hours</td>
</tr>
<tr>
<td>Module P21 - Breaching &amp; Breaking Confined Space Station</td>
<td>3 hours</td>
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### DAY FOUR

<table>
<thead>
<tr>
<th>Event</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Void Search Final Scenario</td>
<td>8 hours</td>
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### DAY FIVE

<table>
<thead>
<tr>
<th>Event</th>
<th>Duration</th>
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</thead>
<tbody>
<tr>
<td>House Final Scenario</td>
<td>8 hours</td>
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