Course Details

Description: Key topics include: Team organization, rescue, and environmental considerations, use of ropes, knots rigging and pulley systems, descending, rappelling, and belaying tools and techniques, subsurface rescue techniques, use of cribbing, wedges, cutting/prying and hydraulic tools, use of fire service ladders in specialized rescue situations, and day and night simulated rescue exercises.

Designed For: All emergency response personnel

Authority: Office of the State Fire Marshal

Prerequisites: Fire Fighter 1 or equivalent training, Low Angle Rope Rescue Operational Standard: N/A

Hours: 40 hours

Maximum Class Size: 48

Instructor Level: Primary instructor

Instructor/Student Ratio: 1 primary instructor per 12 students

48 student maximum: Four-module site with 4 Primary and 1 Senior Instructors
36 student maximum: Three-module site with 3 Primary and 1 Senior Instructors
24 student maximum: Two-module site with 2 Primary Instructors
12 student maximum: One-module site with 1 Primary Instructors

Restrictions: This course can only be delivered at an accredited SFT Rescue Training site.

SFT Designation: FSTEP
**Required Resources**

**Instructor Resources**

To teach this course, instructors need:

**Required**

- Instructor Guide
- Instructor PowerPoint
- Student Manual

**Online Instructor Resources**

The following instructor resources are available online at [https://osfm.fire.ca.gov/divisions/state-fire-training/fstep-curriculum/](https://osfm.fire.ca.gov/divisions/state-fire-training/fstep-curriculum/)

- Instructor Guide
- Instructor PowerPoint
- Student Manual
- Student Task Book

**Student Resources**

To participate in this course, students need:

- Student Manual
- Student Task Book

**Facilities, Equipment, and Personnel**

The following facilities, equipment, or personnel are required to deliver this course:

**Facilities**

- Standard classroom equipped for adequate size
- Whiteboards or easel pads with appropriate writing implements
- Projector/TV with appropriate laptop connections
- Wifi/Internet access
- Rehabilitation area

**Rescue Systems 1 Accredited Training Site Requirements**

An accredited Rescue Systems 1 (RS1) Training Site has facilities, structures, work areas, materials, props, tools, and equipment of adequate size, type, and quantity to fully and safely support the cognitive and psychomotor training required to deliver the RS1 curriculum.

**Site Capacity**
A RS1 Training Site is evaluated on its ability to deliver the required training to a maximum of 48 students. Each capacity level represents the maximum number of modules that can be taught on the site at any given time. This maximum number will be determined based on the suitability of the site to safely train between 12 students in each of the individual modules. A site may be capable of delivering from one to four modules simultaneously.

- **Four Modules**
  - Rope Rescue
  - Heavy Objects/Breaking and Breaching
  - Ladder Rescue Systems
  - Emergency Building Shores
- **One-Module Site**
  - Supports the instruction for teaching the maximum of one (1) module at a time for twelve (12) students
  - One (1) RS1 Primary Instructor is required for a student instructor ratio of 12:1
- **Two-Module Site**
  - Supports the instruction for teaching the maximum of two (2) modules for twenty-four (24) students
  - One (2) RS1 Primary Instructors are required for a student instructor ratio of 12:1
- **Three-Module Site**
  - Supports the instruction for teaching the maximum of three (3) modules for thirty-six (36) students
  - Three (3) RS1 Primary Instructors are required for a student instructor ratio of 12:1
  - One (1) RS1 Senior Instructor is required
- **Four-Module Site**
  - Supports the instruction for teaching the maximum of four (4) modules for forty-eight (48) students
  - Four (4) RS1 Primary Instructors are required for a student instructor ratio of 12:1
  - One (1) RS1 Senior Instructor is required

**Minimum Site Requirements**

The accredited RS1 Rescue Training Site assumes all responsibility, liability, and maintenance for the engineering design, strength, stability, and adequacy of all props, including anchor points and tie offs. The requesting agency further assumes all responsibility, liability, and maintenance for all tools, equipment, and supplies used at the site for the delivery of a RS1 class. This includes, but is not limited to, ladders, ropes, rescue hardware, shoring, and cribbing materials. The facilities and props for each module should be in close proximity to each other to facilitate timeframes.

**Rope Rescue Module**

- Structure, 30' minimum height with working roof that is of sound and safe engineering design
• High and low anchor points to perform rope evolutions
• Area to demonstrate and practice skills learned in Low Angle Rope Rescue (rescue knots, rescue/victim packaging, and rope systems)
• Area to demonstrate and practice anchor systems

Heavy Objects/Breaking and Breaching Module

• Heavy Objects
  o Three (3) 20'x20' concrete or asphalt pads with a 10' diameter buffer area at grade level (may be contiguous)
  o Four (4) 3'x3'x3' concrete cubes
  o Four (4) 5'x8'x12" concrete reinforced slabs (6,000 pounds each)
• Breaking and Breaching
  o Working area at grade level, 20' long x 20' wide
    ▪ Concrete, asphalt, or unimproved ground
    ▪ Length of work area is dependent on the length of the pipe-shaped props
  o Five (5) pipe-shaped props placed end to end allowing for breaching props to be placed between them
    ▪ Concrete, metal, or wood
    ▪ 36"-48" diameter x 6'-10' long

  o Two (2) exterior wall breaching props
    ▪ One side with 4'x4'x½" Wonder board over 4'x4' stucco lathing over 4'x4'x¾" plywood nailed with 8d nails 6" on center to a 2"x4" frame with wood studs 16" on center nailed with 16d nails
      ➢ The other side sheeted with 4'x4'x½" drywall
    ▪ Each prop shall include a span of electrical wire / conduit to simulate an obstacle
  o Two (2) interior wall breaching props
    ▪ One (1) with 4'x4'x½" drywall fastened with 1 ¾" drywall screws 6" on center to a 2"x4" frame with metal studs 16" on center
      ➢ The other side sheeted with another 4'x4'x½" drywall
    ▪ Prop shall include a span of electrical wire / conduit to simulate an obstacle
- One (1) with 4'x4'x½" drywall fastened with 1 ¼" drywall screws 6" on center to a 2"x4" frame with 2"x4" wood studs 16" on center nailed with 16d nails
  - The other side sheeted with another 4'x4'x½" drywall
- Prop shall include a span of electrical wire / conduit to simulate an obstacle.

Ladder Rescue Systems Module
- 20' structure adequate for simultaneous operations of ladder systems that is of sound and safe engineering design
- Side openings to accommodate simultaneous operations of ladder systems
- High and low anchor points appropriately placed for use with each operation
- Open field area to accommodate simultaneous operations, ladder "A" frame, ladder gin, and pickets
- Area to lower a student one story through an opening using an interior leaning ladder
  - An 8' minimum height is required

Emergency Building Shores Module
- Structure(s) adequate for simultaneous operations of interior and exterior shoring systems that is of sound and safe engineering design
  - Area large enough to accommodate lumber supply (near cutting station)
- Interior Shores
  - Working area: 16'x16' minimum with 8' ceiling
  - Timber spot shores
    - Area with simulated or actual joist(s) to set two (2) timber spot shores
  - Two post vertical shore
    - Area with simulated or actual joist(s) to set one (1) two (2) post vertical shore
  - Two post horizontal shore
    - An opening 3' to 8' wide and 8' minimum in height
  - Window and door shores
    - Window opening: 2'x2' minimum to 4'x4' maximum
    - Door opening: 2'6"x6'8" minimum to 4'x7' maximum
- Sloped Surface Shore (Cribbing)
  - 8'x8' working area minimum
  - Configured so that the crib bed of a sloped floor shore is no greater than 3' in height when constructed
  - 3' elevation within a 10' distance maximum slope (30 percent / 15 degree slope)
- Raker Shores
  - One (1) wall/area 14' high x 12' wide
  - Working area: 16' away from building and 12' wide
- Cutting Station
- Minimum of 6" off the ground
- 16'x16' working area

### Equipment Standards

#### Consumables

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Ropes</th>
<th>Ladders</th>
<th>Heavy Objects</th>
<th>Breaking &amp; Breaching</th>
<th>Shoring</th>
<th>Total 4 Modules</th>
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<tbody>
<tr>
<td>Common nails 8d</td>
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<tr>
<td>Common nails 16d</td>
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#### Nonconsumables

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<th>Heavy Objects</th>
<th>Breaking &amp; Breaching</th>
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<td>Gusset plate</td>
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<td>Lifeline (Low stretch or static)</td>
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<td>2</td>
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<tr>
<td>Plywood</td>
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<td>Prusik loop</td>
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<tr>
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<td>6</td>
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<tr>
<td>Pulley (round or PMP)</td>
<td>2&quot; or 4&quot;</td>
<td>3</td>
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<tr>
<td>Rescue litter</td>
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<td>Rescue litter pre-rig with prusiks</td>
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## Webbing

<table>
<thead>
<tr>
<th>Description</th>
<th>Ropes</th>
<th>Ladders</th>
<th>Heavy Objects</th>
<th>Breaking &amp; Breaching</th>
<th>Shoring</th>
<th>Total 4 Modules</th>
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<tbody>
<tr>
<td>Blue tubular</td>
<td>1&quot;x15'</td>
<td>15</td>
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<td>15</td>
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<td>Orange tubular</td>
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<td>Yellow tubular</td>
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<td>15</td>
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## Wedge Pairs

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<th>Shoring</th>
<th>Total 4 Modules</th>
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</thead>
<tbody>
<tr>
<td>2&quot;x4&quot;x12&quot;</td>
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<td></td>
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## Tools

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<th>Heavy Objects</th>
<th>Breaking &amp; Breaching</th>
<th>Shoring</th>
<th>Total 4 Modules</th>
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</thead>
<tbody>
<tr>
<td>Axe, flat head</td>
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### Site Deviation

In the event that a training site has a facility, structure, or prop that does not comply with the RS1 minimum site requirements and equipment standards, the site has the opportunity to apply for a site deviation. A RS1 Senior Instructor or designee submits to the Chief of State Fire Training a formal letter requesting site deviation. This letter must describe the site deviation in detail by listing:

- The need and parameters of the deviation.
- New or revised lesson plans linked to the deviation that ensures consistency with the standards and behavioral objectives of the approved RS1 curriculum.

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<tr>
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<tr>
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</table>
• Demonstration, either live or through visual aids, of any deviated technique or procedure.

The Chief of State Fire Training will review the request for site deviation. Any deficiencies will be appropriately documented and discussed with the RS1 Senior Instructor or designee requesting the site deviation. If site deviation is denied, a provisional accreditation may be granted at this time. If a site is not approved, they have three (3) months to comply with the site requirements identified as deficient in the inspection report.

Site Accreditation Process

Rescue Systems 1 Training Sites will be inspected for compliance with the RS1 minimum site requirements and equipment standards. Sites may be accredited as one of the following:

• Full Accreditation
  o A permanent-use site that fully meets the RS1 minimum site requirements and equipment standards.

• Temporary Accreditation
  o A short-term use site that meets the RS1 minimum site requirements and equipment standards.
  o Typically, these sites are in areas where permanent sites are not practical or available.
  o Accreditation is granted for the purpose of delivering a set number of courses.
  o Once the training is complete, the temporary accreditation is rescinded.

Full Accreditation

A RS1 Training Site representative submits to the Chief of State Fire Training a formal letter requesting full accreditation for a permanent site. This letter must describe the site in detail by listing the facilities, structures, work areas, materials, props, tools, and equipment available and ready for delivering a RS1 course. State Fire Training staff and/or a registered RS1 Senior Instructor, operating under the direction of the Chief of State Fire Training, will conduct an inspection of the RS1 Training Site. Any discrepancies or deficiencies will be appropriately documented and discussed with the site representative at the time of the inspection. Copies of all inspection documents and notes will be kept on file. The Chief of State Fire Training will notify the RS1 Training Site of their status after the inspection.

Temporary Accreditation

A registered RS1 Senior Instructor or designee submits to the Chief of State Fire Training a formal letter requesting temporary accreditation for delivering a RS1 course. This letter must describe the site in detail by listing the facilities, structures, work areas, materials, props, tools, and equipment available and ready for delivering a RS1 course. Photographs of each required structure, work area, and prop must be included in the application package. A completed "Request for Rescue Systems Course Scheduling" providing the dates of the upcoming course and all instructors must be included in the application package. Temporary accreditation must be requested at least ninety (90) days before the beginning date of the course.
### Time Table

<table>
<thead>
<tr>
<th>Segment</th>
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<tr>
<td><strong>Unit 1:</strong></td>
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<tr>
<td>Topic 1-1: Introduction To the California Urban Search and Rescue System</td>
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<td>Topic 1-2: Rescue Operations</td>
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<td>Topic 1-4: US&amp;R Planning and Preparation</td>
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**Time Table Key**

1. The Time Table documents the amount of time required to deliver the content included in the course plan.

2. Time is documented using the quarter system: 15 min. = .25 / 30 min. = .50 / 45 min. = .75 / 60 min. = 1.0.

3. The Course Totals do not reflect time for lunch (1 hour) or breaks (10 minutes per each 50 minutes of instruction or assessment). It is the instructor’s responsibility to add this time based on the course delivery schedule.

4. Application (activities, skills exercises, and formative testing) time will vary depending on the number of students enrolled and the acquired structure selected for training. The Application time documented is based on the maximum class size identified in the Course Details section.

5. Summative Assessments are determined and scheduled by the authority having jurisdiction. These are not the written or psychomotor State Fire Training certification exams. These are in-class assessments to evaluate student progress and calculate course grades.
Objectives

Course Objectives

1. Techniques to operate safely when working around the structural collapse of light frame buildings
2. Information on the potential hazards associated with rescue operations
3. An opportunity to build on skills acquired in Low Angle Rope Rescue Operational training
4. Information and techniques for lifting and moving heavy objects
5. Information and techniques to break or breach building components to access a victim(s)
6. Information and techniques to shore and stabilize building components
Unit 1

Topic 1-1: Introduction To the California Urban Search and Rescue System

Terminal Learning Objective
The student will be familiar with the requirements for the California Urban Search and Rescue (US&R) Basic and Light Operational Levels. The manipulative portion of the course concentrates on techniques to operate safely and effectively at structural collapse incidents involving the collapse or failure of light frame construction and basic rope rescue situations. The course uses the most innovative and progressive procedures being employed today, while maximizing rescue operation efficiency with minimal equipment and personnel. The Urban Search and Rescue Operational System Description includes; four different levels of operational capability, training, and equipment. Additional urban search and rescue multidisciplinary resources are also identified. The document uses the Incident Command System (ICS) to apply common terminology and resource management practices to provide supervision and control of essential functions at incidents that involve technically demanding rescue operations.

Enabling Learning Objectives
   1. Describe the history and objectives of the Rescue Systems 1 course.
   2. Describe the California Urban Search and Rescue System.
   3. Describe the relevant components of the ICS-US&R 120-1 Operational System.
   4. Identify the five general construction categories.

Discussion Questions
   1. Determined by instructor

Application
   1. Determined by instructor

Topic 1-2: Rescue Operations

Terminal Learning Objective
The student will be familiar with a structural collapse incident that presents the rescuer with a multitude of hazards and problems and uses the four phases of structural collapse rescue. Hazards can come from the structure itself, the surrounding area, and unsafe procedures used by the rescue team. Rescuer safety must be a priority stressed before, during, and after the incident by all personnel at the incident

Enabling Learning Objectives
   1. Describe the four phases of structural collapse rescue.
   2. Describe the checklist for the management of a structural collapse incident.
   4. Describe the search marking system.

Discussion Questions
   1. Determined by instructor

Application
   1. Determined by instructor
**Topic 1-3: US&R Safety and Medical Care for Victims**

**Terminal Learning Objective**
The student will be familiar with a structural collapse incident that can cause multiple victim injuries in a variety of ways and locations. Using some basic medical care and safety procedures during the rescue operations will greatly assist in providing the most victims with best possible chance for recovery.

**Enabling Learning Objectives**
1. Describe the general hazards of a structural collapse.
2. Describe four general types of building construction hazards.
3. Describe four types of collapse patterns.
4. Describe the necessary personal protective equipment to use during an incident.
5. Identify the safety and medical considerations to take during an incident.
6. Describe the injuries associated with a structural collapse.
7. Describe basic infectious disease precautions to take during an incident.

**Discussion Questions**
1. Determined by instructor

**Application**
1. Determined by instructor

**Topic 1-4: US&R Planning and Preparation**

**Terminal Learning Objective**
The student will be familiar with structural collapse incident organization and management. If an effective system to direct and control the large volume of personnel, equipment, and arriving resources is not in place, the person in charge will be overwhelmed. The order in which specific functions and tasks are performed will be vital to the effectiveness of mitigating the search and rescue structural collapse incident. Planning is probably the single most important function for an effective response to structural collapse incidents. Proper planning will identify the legal authority and responsibility for specific actions, develop a vulnerability and hazard assessment, and identify resources, response coordination, training, and budgetary needs.

**Enabling Learning Objectives**
1. Describe the legal authority and responsibility for US&R.
2. Describe the development of a vulnerability and hazard assessment.
3. Identify resources for a US&R incident.
4. Describe effective response coordination.
5. Describe the training needed for local resources.
6. Describe budgetary needs during a US&R incident.
7. Describe the ICS, SEMS, and NIMS as they relate to a US&R incident.
8. Describe the communications necessary for a US&R incident.
9. Describe scene control.
10. Describe federal and state resources.

**Discussion Questions**
1. Determined by instructor
Application
   1. Determined by instructor
Unit 2

2-1: Rescue Knots and Hitches

Terminal Learning Objective
The student will be able to identify and properly tie all rescue knots and hitches

Enabling Learning Objectives
1. Demonstrate learned knowledge, skills, and abilities from prerequisite Low Angle Rope Rescue Operational (LARRO) course.
2. Demonstrate how to tie the six required knots.
3. Demonstrate how to tie the four Rescue Systems 1 required knots.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 2-2: Anchor Systems

Terminal Learning Objective
The student will be aware of anchor selection and anchor system construction required for Rescue Systems 1 skills.

Enabling Learning Objectives
1. Describe considerations when selecting anchors.
2. Describe the types of anchors.
3. Demonstrate how to form a single loop, double loop, locking girth hitch (Lark's foot).
4. Demonstrate how to form a single and double loop basket sling (three bight).
5. Demonstrate how to form a single and multi-loop anchor sling.
6. Demonstrate how to form a wrap three pull two anchor sling.
7. Demonstrate sling anchor attachments: pretied.
8. Demonstrate single sling anchor attachments: open

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 2-3: Rescuer and Ambulatory Victim Packaging

Terminal Learning Objective
The student will be aware of how to properly package rescuers and victims to safely and effectively complete a rope rescue operation.

Enabling Learning Objectives
1. Describe rescue harnesses and rescuer packaging.
2. Demonstrate how to don a Class III harness.
3. Demonstrate how to package a victim in a commercial victim harness.
4. Demonstrate how to package a victim in a hasty pelvic harness.
Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 2-4: System Attachments and Fall Restraint

Terminal Learning Objective
The student will be aware of several methods of system attachments for rescuers and victims.

Enabling Learning Objectives
1. Describe system attachments.
2. Demonstrate how to attach a rescuer to a rope rescue system.
3. Demonstrate how to attach an ambulatory victim to a rope rescue system.
4. Demonstrate how to attach a rescue litter vertically to a rope rescue system.
5. Demonstrate how to attach a rescue litter horizontally to a rope rescue system.
6. Demonstrate how to tend a rescue litter.
7. Demonstrate how to attach a rescuer to a fall restraint system.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 2-5: Belay/Safety Line Systems

Terminal Learning Objective
The student will be aware of the importance of using a backup line to catch the load in the event of a failure of the main line.

Enabling Learning Objectives
1. Define key points regarding the operation of a belay/safety line system.
2. Demonstrate belay/safety line configurations.
3. Demonstrate lowering operations—basic configuration.
4. Demonstrate retrieval operations—basic configuration.
5. Describe system variations.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 2-6: Rappelling / Descending

Terminal Learning Objective
The student will be able construct and operate rope rescue descending systems.

Enabling Learning Objectives
1. Describe descending techniques.
2. Demonstrate how to construct a fixed line for a rappelling
3. Demonstrate how to reeve a figure eight descender and brake bar rack.
4. Demonstrate a rappel and lock-off using a figure eight descender and brake bar rack.
5. Demonstrate a rappel using a figure eight descender and brake bar rack with a high and low anchor point.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 2-7: Lower and Raise Main Line Systems

Terminal Learning Objective
The student will be able to demonstrate how to raise and lower Main Line Systems.

Enabling Learning Objectives
1. Describe rope rescue lowering and raising systems.
2. Demonstrate how to operate a lowering system.
3. Demonstrate how to convert a lowering system to a raising system with a 3:1 and a 5:1 inline—RPM.
4. Demonstrate how to convert a lowering system to a raising system with a 3:1 or 5:1 inline with directional pulley.
5. Demonstrate how to construct a 3:1 and 5:1 mechanical advantage (MA) system.
6. Demonstrate how to construct a 3:1 and 5:1 pig rig.
7. Demonstrate how to convert a lowering system to a raising system with a 3:1 and 5:1 pig rig.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor
Unit 3

Topic 3-1: Introduction to Lifting and Moving Heavy Objects

Terminal Learning Objective
The student will be familiar with the unit objectives in order to develop the proper size-up, techniques, and safety considerations when attempting to lift, roll, or move heavy objects. Heavy objects are unforgiving and cause severe, permanent injuries or death when performed incorrectly.

Enabling Learning Objectives
1. Describe tool types, capabilities, and safety considerations when lifting heavy objects.
2. Describe three different types of jacks, their operating principles, and safety precautions.
3. Describe the appropriate personal protective equipment, safety, and medical precautions.
4. Describe rescue team positions
5. Describe determining the weight of structural components.
6. Describe moving heavy objects.
7. Demonstrate raising, stabilizing, rotating, and lowering a single heavy object.
8. Demonstrate raising, stabilizing, moving, and lowering multiple heavy objects.
9. Demonstrate raising, stabilizing, moving, and lowering multiple heavy objects while safely managing and extricating a victim from under the objects.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor
Unit 4

Topic 4-1: Introduction to Breaking and Breaching

Terminal Learning Objective
The student will be familiar with a structural collapse incident that requires breaking and breaching operations to gain access, remove debris, or release an entrapped victim. Breaking and breaching operations discussed in this course will focus on light-frame construction materials, such as wood and light-gauge metals, unreinforced masonry such as brick veneer, and reinforced masonry such as a cinder block wall.

Enabling Learning Objectives
1. Describe tool types, capabilities, and safety considerations when breaking and breaching.
2. Describe light-frame structure design and construction materials.
3. Describe the appropriate personal protective equipment, safety medical precautions.
4. Describe breaking and breaching operations including shape and size of breaching openings.
5. Describe breaking and breaching operations in other general construction categories.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor
Unit 5

Topic 5-1: Ladder Rescue Systems

Terminal Learning Objective
The student will be familiar with the skills and techniques to move patients from a low place to a high place, a high place to a low place, or across uneven terrain. Rescuers will use fire service ladders and rope rescue equipment to build systems to accomplish this transport quickly and safely.

Enabling Learning Objectives
1. Describe the components and operational functions of the seven ladder systems.
   a. Moving ladder slide
   b. Ladder slide
   c. Exterior leaning ladder
   d. Interior leaning ladder
   e. Cantilever ladder
   f. Ladder gin
   g. Ladder "A" frame
2. Describe the components and operational functions of the mechanical advantage system used in a ladder rescue system.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor
Unit 6

Topic 6-1: Introduction to Structure Shoring Systems

Terminal Learning Objective
The student will be familiar with the skills and techniques to stabilize compromised light-frame structures and safely operate around them.

Enabling Learning Objectives
1. Describe the techniques to mitigate structure collapse hazards.
2. Describe the steps involved during shoring size-up.
3. Describe different shoring size-up considerations.
4. Describe the proper placement of shoring components.
5. Describe the positions, roles, and responsibilities of the Shoring Team.
6. Describe the different types of shoring systems.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 6-2: Introduction to Basic Tools and Equipment for Emergency Shoring Operations

Terminal Learning Objective
The student will be familiar with basic tools and equipment needed to construct emergency shores.

Enabling Learning Objectives
1. Describe the tools and equipment for emergency shoring operations, including design, use, limitations, and applications.
2. Describe the safety considerations related to shoring tools and equipment.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 6-3: Introduction to the Timber Spot Shore (Class I)

Terminal Learning Objective
The student will be familiar with the skills and techniques required to construct timber spot shores.

Enabling Learning Objectives
1. Describe the uses for timber spot shores.
2. Describe the components of timber spot shores
3. Describe the assembly procedures for timber spot shores.
4. Describe the proper placement of shoring components.
5. Describe the evaluation and safety check process for timber spot shores.
Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 6-4: Introduction to the Two-post Vertical Shore (Class II)

Terminal Learning Objective
The student will be familiar with the skills and techniques required to construct a two-post vertical shore.

Enabling Learning Objectives
2. Describe the uses for a two-post vertical shore.
3. Describe the components of a two-post vertical shore.
4. Describe the assembly procedures for a two-post vertical shore.
5. Describe the proper placement of shoring components.
6. Describe the evaluation and safety check process for a two-post vertical shore.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 6-5: Introduction to the Horizontal Shore

Terminal Learning Objective
The student will be familiar with the skills and techniques required to construct horizontal shores.

Enabling Learning Objectives
1. Describe the uses for horizontal shores.
2. Describe the components of horizontal shores.
3. Describe the assembly procedures for horizontal shores.
4. Describe the proper placement of shoring components.
5. Describe the evaluation and safety check process for horizontal shores.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 6-6: Introduction to the Pre-constructed Window and Door Shore

Terminal Learning Objective
The student will be familiar with the skills and techniques required to construct window and door shores.

Enabling Learning Objectives
1. Describe the uses for window and door shores.
2. Describe the components of window and door shores.
3. Describe the assembly procedures for window and door shores.
4. Describe the proper placement of shoring components.
5. Describe the evaluation and safety check process for window and door shores

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 6-7: Introduction to the Sloped Surface Shore with Cribbing

Terminal Learning Objective
The student will be familiar with the skills and techniques for using cribbing in combination with a shoring system.

Enabling Learning Objectives
1. Describe the need for shoring a sloped surface with cribbing.
2. Describe the components of a sloped surface shore with cribbing.
3. Describe the assembly procedures for cribbing a sloped surface.
4. Describe the evaluation and safety check process.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 6-8: Introduction to the Split Sole Raker Shore System

Terminal Learning Objective
The student will be able to construct a split shore.

Enabling Learning Objectives
2. Describe the uses for the split sole raker shore.
3. Describe the components of a raker shore system.
4. Describe the assembly procedure for a raker shore system.
5. Describe the proper placement of shoring components.
6. Describe the evaluation and safety check process for a raker shore system.

Discussion Questions
1. Determined by instructor

Application
1. Determined by instructor

Topic 6-9: Introduction to the Cutting Station

Terminal Learning Objective
The student will be able to construct and safely operate a cutting station.

Enabling Learning Objectives
1. Describe the uses for the cutting station.
2. Describe the design and components of the cutting station.
3. Describe the different applications for the cutting station.

**Discussion Questions**
4. Determined by instructor

**Application**
5. Determined by instructor