

# Rope Rescue Technician (2017)

**Course Plan** 

#### **Course Details**

**Description:** This course provides information on high-angle rescue, familiarizing

participants with operation of simple, complex, and compound rope rescue

systems in the high-angle environment.

**Designed For:** All fire service and allied emergency response personnel

**Prerequisites:** Rope Rescue Operations

**Standard:** Attend entire course. Complete all activities and any formative tests.

Complete all summative tests with a minimum score of 80%.

**Hours:** Lecture: 7:45

Activities: 31:15

Testing: 1:00

Hours (Total): 40:00

Maximum Class Size: 24

Instructor Level: Primary

**Instructor/Student Ratio:** 24:1 lecture, 6:1 high-angle activities

**Restrictions:** Training site meets site requirements and equipment standards

**SFT Designation:** FSTEP

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# **Required Resources**

#### **Instructor Resources**

To teach this course, instructors need:

- Manuals for artificial high-directionals
- Rope Rescue Manual, current edition, CMC Rescue, Inc., ISBN: 978-009845878-5 (applies to 2017 edition) (available as hard copy, online, or as an app)
- The Essential Technical Rescue Field Operations Guide (DRR), current edition, by Tom Pendley, Desert Rescue Research, ISBN: 978-0-692-90153-3 (applies to 2017 edition) (available as hard copy, and app, or online)
- NFPA 1670, 1006, 1983, 1858

#### **Online Instructor Resources**

The following instructor resources are available online at <a href="https://osfm.fire.ca.gov/divisions/state-fire-training/fstep-curriculum/">https://osfm.fire.ca.gov/divisions/state-fire-training/fstep-curriculum/</a>:

- Operational checklist
- California Code of Regulations, Title 8, Section 1670 Personal Fall Protection (dir.ca.gov)
- California Code of Regulations, Title 8, Section 3270.1 Use of Rope Access Equipment (dir.ca.gov)
- Skills list

#### **Student Resources**

To participate in this course, students need:

- Any textbooks selected by the instructor
- Helmet, gloves, eye protection, and any other safety equipment required by the AHJ
- Student materials such as paper, pens, pencils

To participate in this course, students may need:

Knee pads

## **Facilities and Equipment**

The following facilities are required to deliver this course:

- Structure, 20 feet minimum height with working roof that is of sound and safe engineering design
- Area to demonstrate and practice skills (rescue knots, rescue/victim packaging, anchors, and rope systems)

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- All high angle evolutions performed in an environment in which the load is predominately supported by the rope rescue system
- A minimum vertical distance of 10 to 20 feet
- A minimum required ascending distance of 10 to 20 feet
- A minimum horizontal travel distance of 20 feet and vertical height of 20 feet measured from the ground to loaded midspan is required for horizontal load movement activities
- An obstacle to negotiate while ascending and descending
- An obstacle to negotiate during lowering and raising operations
- An edge problem to be negotiated during the litter tender activities

The following equipment is required to deliver this course:

Note: All equipment must be NFPA compliant or purpose-designed (i.e., prusiks). Given changing technologies, instructor may choose to bring and demonstrate additional equipment or update these items with equipment that meets the same requirements.

	Size		
Item	Description	Number	Notes
Anchor plate		6	
Anchor straps		Optional	
Apparatus, fire (large)	Large	Optional	
Backboard, long		Optional	
Descent control device used by the AHJ		8	
Carabiner (locking)		80	
Commercial Class III harness (variety of sizes)		12	
Commercial victim seat harness		2	
Commercial victim chest harness		2	
Cord	8mm x 33'	Optional	
Edge protection		Based on Facility Needs	Edge protection can be manufactured (rope rollers, etc) or improvised (split fire hose, etc). There shall be adequate amounts of edge protection available for concurrent running scenarios.
Edge roller		Optional	
Ascenders		4	While Gibbs Ascenders™ are acceptable, handled ascenders are preferred.
Ascenders		Based on	ascenders are preferred.
Ladder 24'		Facility	

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		Needs	
		Based on	
		Facility	
Ladder 14'		Needs	
Double bypass lanyards		Optional	
Litter wheel		Optional	
Load-releasing device		6	Commercial or field assembled (with webbing or cordelette) complete with general use carabiners. These carabiners are in addition to the amounts specified under the carabiner and prusik categories.
Kernmantle rope	150'	6	
Kernmantle rope	20'	4	
Picket, steel	1"x4'	Optional	
Prusik loop	Short	20	
Prusik loop	Long	20	
Pulley: standard	2" or 4"	8	
Pulley: prusik minding	2" or 4"	8	All 16 can be prusik minding
Pulley: double	2" or 4"	2	
Pulley: knot passing		1	
Rescue litter		2	
			Commercial or field assembled complete with carabiners and prusiks; if field assembled, carabiners and prusiks are in addition to the numbers specified under the carabiner and prusik categories. Must include an attachment
Litter bridle		2	point for the litter tender.
Rescue mannequin		Optional	
Sledgehammer	8–10 lb.	Optional	
Spider straps		Optional	
Tie rope	15'	24	
Webbing, blue tubular	1"x15'	24	
Webbing, green tubular	1"x5'	12	
Webbing, orange tubular	1"x20'	24	
Webbing, yellow tubular	1"x12'	12	

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Pick off strap	2	
		Can be commercial or field
		assembled from one-inch
Etriers	2	tubular webbing.
Mini MA system	Optional	
		Can be a commercial or
		improvised high-directional
		made of 4x4 lumber. One
		artificial high-directional
Artificial high-directional	1	per station.
Swivels	Optional	

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#### **Unit 1: Introduction**

#### **Topic 1-1: Orientation and Administration**

#### **Terminal Learning Objective**

At the end of this topic, a student will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, resources, evaluation methods, and participation requirements in the course syllabus.

#### **Enabling Learning Objectives**

- 1. Identify facility requirements
  - Restroom locations
  - Food locations
  - Smoking locations
  - Emergency procedures
- 2. Identify classroom requirements
  - Start and end times
  - Breaks
  - Electronic device policies
  - Special needs and accommodations
  - Other requirements as applicable
- 3. Review course syllabus
  - Course objectives
  - Calendar of events
  - Course requirements
  - Student evaluation process
  - Assignments
  - Activities
  - Required student resources
  - Class participation requirements

#### **Discussion Questions**

1. What is a formative test? What is a summative test?

#### **Activities**

1. To be determined by the instructor.

# **Unit 2: Rope Rescue Technician**

### Topic 2-1: Evaluating a Scenario and Constructing Tensioned Anchor Systems

#### **Terminal Learning Objective**

At the end of this topic, given a variety of scenarios, a rope rescue system, and a variety of materials from within the AHJ, a student will be able to evaluate the needs of the scenario and construct a variety of tensioned anchor systems.

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#### **Enabling Learning Objectives**

- 1. Describe system safety factors, critical angles, and force multipliers for a variety of tensioned anchor systems, such as:
  - Pretensioned back ties
  - Front ties
  - Focused floating anchors
- 2. Describe types of and uses for a variety of tensioned anchor systems
- 3. Construct a variety of tensioned anchors

#### **Discussion Questions**

- 1. What is the purpose of a focused floating anchor?
- 2. When might you need to use a pretensioned back tie?
- 3. Why would a back tie be pretensioned?

#### **Activities**

 The instructor must create an activity directing students to construct a variety of tensioned anchor systems and asses the safety factors, critical angles, and force multipliers.

#### **Instructor Notes**

1. The instructor should heavily emphasize anchor angles.

CTS Guide Reference: CTS 3-9

#### **Topic 2-2: Ascending a Fixed Rope**

#### **Terminal Learning Objective**

At the end of this topic, given an anchored fixed rope system, a specified minimum distance for the rescuer, a system to allow ascent of a fixed rope, a structure, a belay system, a life safety harness worn by the person ascending, and PPE, the student will be able to ascend a fixed rope in a high-angle environment, so that the person ascending is secured to the fixed rope in a manner that will not allow him or her to fall; the person ascending is attached to the rope by means of an ascent control device(s) with at least two points of contact; injury to the person ascending is minimized; the person ascending can stop at any point on the fixed rope and rest suspended by his or her harness; the system will not be stressed to the point of failure; the person ascending can convert his or her ascending system to a descending system; obstacles are negotiated; the system is suitable for the site; and the objective is reached.

#### **Enabling Learning Objectives**

- 1. Identify task-specific selection criteria for life safety harnesses and systems for ascending a fixed rope
- 2. Describe PPE selection criteria
- 3. Describe design and intended purpose of ascent control devices utilized
- 4. Explain rigging principles
- 5. Describe techniques for ascending in high-angle environments
- 6. Describe converting ascending systems to descending systems
- 7. Describe common hazards posed by harness use

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- 8. Select and use harness, a system for ascending a fixed rope, and PPE for common environments
- 9. Attach the rescuer to the rope rescue system
- 10. Configure ascent control devices to form a system for ascending a fixed rope
- 11. Make connections to the ascending system
- 12. Maneuver around existing environment and system-specific obstacles
- 13. Convert the ascending system to a descending system while suspended from the fixed rope
- 14. Evaluate surroundings for potential hazards

#### **Discussion Questions**

- 1. What ascending system(s) do(es) your AHJ use?
- 2. What methods are used in your AHJ to convert the ascending system to a descending system?

#### **Activities**

1. The instructor must create an activity directing students to ascend a minimum required distance and negotiate obstacles in a high-angle environment.

#### **Instructor Notes**

- 1. The instructor must use contingency anchors on all fixed ropes.
- 2. The descent from this initial ascension does not meet the next standard. Students must complete a separate descent as part of the next topic (Topic 2-3).

CTS Guide Reference: CTS 2-13

### **Topic 2-3: Descending a Fixed Rope**

#### **Terminal Learning Objective**

At the end of this topic, given an anchored fixed-rope system, a specified minimum travel distance for the rescuer, a system to allow descent of a fixed rope, a belay system, a life safety harness worn by the person descending, and PPE, the student will be able to descend a fixed rope in a high-angle environment, so that the person descending is attached to the fixed rope in a manner that will not allow him or her to fall; the person descending is attached to the rope by means of a descent control device; the speed of descent is controlled; injury to the person descending is minimized; the person descending can stop at any point on the fixed rope and rest suspended by his or her harness; the system will not be stressed to the point of failure; the system is suitable for the site; and the objective is reached.

#### **Enabling Learning Objectives**

- 1. Identify task-specific selection criteria for life safety harnesses and systems for descending a fixed rope
- 2. Describe PPE selection criteria
- 3. Describe the design, intended purpose, and operation of descent control devices utilized
- 4. Describe safe rigging principles and techniques for high-angle environments
- 5. Identify common hazards posed by harness use

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- 6. Select and use harness, a system for descending a fixed rope, and PPE for common environments
- 7. Attach the rescuer to the rope rescue system
- 8. Make attachment of the descent control device to the rope and life safety harness
- 9. Operate the descent control device
- 10. Maneuver around existing environment and system-specific obstacles
- 11. Evaluate surroundings for potential hazards

- 1. What descending system(s) do(es) your AHJ use?
- 2. What is the difference between an autostop descender and a manual descender?

#### Activities

1. The instructor must create an activity directing students to descend a minimum required distance and negotiate obstacles in a high-angle environment.

#### **Instructor Notes**

- 1. The instructor must use contingency anchors on all fixed ropes.
- 2. If the students have covered this topic at the operations level, it need not be retaught.

#### CTS Guide Reference: CTS 2-14

### **Topic 2-4: Escaping from a Malfunctioning Device**

#### **Terminal Learning Objective**

At the end of this topic, given an anchored fixed-rope system with a simulated malfunctioning descent control device, a system to allow escape from the malfunctioning device, a belay system, a life safety harness worn by the person descending, and PPE, the student will be able to demonstrate the ability to escape from a jammed or malfunctioning device during a fixed rope descent in a high-angle environment, so that the person descending is attached to the fixed rope in a manner that will not allow him or her to fall; the person descending is attached to the rope by means of a descent control device; the means for escape will allow the rescuer to escape either upward or downward from the malfunctioning descent control device; injury potential to the rescuer is minimized; the system will not be stressed to the point of failure; the system is suitable for the site; and the objective is reached.

#### **Enabling Learning Objectives**

- 1. Identify task-specific selection criteria for escape equipment and methods used for escape from a malfunctioning descent control device
- 2. Identify PPE selection criteria
- 3. Describe the design, intended purpose, and operation of escape systems utilized
- 4. Explain rigging principles
- 5. Describe techniques for escaping a jammed device in high-angle environments
- 6. Describe common hazards posed by malfunctioning descent control devices
- 7. Select and use harness, a system for escaping a malfunctioning descent control device, and PPE for common environments

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- 8. Attach the rescuer to the rope rescue system
- Make attachment of the descent control device to the rope and life safety harness
- 10. Attach and operate the escape system to remove the rescuer from the malfunctioning descent control device while maintaining patent attachment to the fixed rope and belay
- 11. Use the escape system to maneuver upward or downward from the malfunctioning descent control device
- 12. Evaluate surroundings for potential hazards

- 1. What is a possible cause of a jammed device?
- 2. What additional equipment is needed for self-rescue in this scenario?

#### Activities

1. The instructor must create an activity directing students to escape from a jammed or malfunctioning device.

#### **Instructor Notes**

1. The activity in this topic may be combined with other activities, such as descending.

#### CTS Guide Reference: CTS 2-15

### Topic 2-5: Evaluating a Scenario and Constructing and Employing a High-Directional

#### **Terminal Learning Objective**

At the end of this topic, given a variety of scenarios, a rope rescue system, and a variety of materials from within the AHJ, a student will be able to evaluate the needs of the scenario and construct and employ a natural, structural, or artificial high-directional.

#### **Enabling Learning Objectives**

- 1. Describe types of and uses for high-directionals
- 2. Describe forces associated with high-directionals
- Identify the type of high-directional needed for different scenarios
- 4. Construct and use a high-directional

#### **Discussion Questions**

- 1. What tools and materials could be used to construct a high-directional?
- 2. What is a resultant?

#### **Activities**

1. The instructor must create an activity directing students to construct a high-directional.

#### **Instructor Notes**

- 1. Refer to Rescue Techniques in the CMC Rope Rescue Manual.
- 2. Refer to the DRR section entitled Artificial High-Directional.
- 3. Refer to manuals for artificial high-directionals.
- 4. The instructor may choose to have a static display of a high-directional prior to the activity, have the students deconstruct it, and then have them reconstruct their own.

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CTS Guide Reference: CTS 3-10

# Topic 2-6 Directing a Team in Operating a Rope Rescue System to Remove a Stranded Victim

#### **Terminal Learning Objective**

At the end of this topic, given a victim stranded on or clinging to a feature and a means of removal of the victim to the ground or other safe area, a student will be able to direct a team in the operation of a rope rescue system to remove a victim stranded on or clinging to a natural or manmade feature in a high-angle environment, so that risks to victims and rescuers are minimized, injury to the victim is minimized, the means of attachment to the rope rescue system is maintained, and the victim is removed and brought to a safe area for transfer to EMS.

#### **Enabling Learning Objectives**

- 1. Describe system safety check protocol
- 2. Describe techniques and systems for safe transfer of stranded victims from a natural or manmade feature
- 3. Describe various techniques for handling stranded victims without inducing a fall
- 4. Reduce hazards for rescuers and victims
- 5. Determine condition of the stranded victim
- 6. Select and construct systems for rapid removal of stranded victims from natural or manmade features
- 7. Manage operation of the selected system
- 8. Determine specialized equipment needs for victim movement

#### **Discussion Questions**

- 1. What are the differences between a team-based and a rescuer-based pickoff?
- 2. Why would you choose one or the other?
- 3. What victim packaging options are used by your AHJ?

#### **Activities**

1. The instructor must create an activity having students perform a pickoff of a stranded or clinging victim.

#### **Instructor Notes**

1. None

CTS Guide Reference: CTS 3-1

# Topic 2-7: Directing a Team in Operating a Rope Rescue System to Remove a Suspended Victim

#### **Terminal Learning Objective**

At the end of this topic, given a victim suspended by a harness attached to anchored rope or webbing, systems for removal of the victim from the rope or webbing, and a means of removal of the victim to the ground or other safe area, a student will be able to direct a team in the operation of a rope rescue system to remove a victim suspended from rope or

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webbing in a high-angle environment, so that risks to victims and rescuers are minimized, injury to the victim is minimized, the means of attachment to the rope rescue system is maintained, the victim is removed from the rope or webbing, and the victim is brought to a safe area for transfer to EMS.

#### **Enabling Learning Objectives**

- 1. Describe system safety check protocol
- 2. Describe techniques and systems for safe transfer of suspended victims from an existing anchored rope or webbing to a rope rescue system
- 3. Identify various techniques for handling suspended victims
- 4. Describe principles of suspension-induced injuries
- 5. Reduce hazards for rescuers and victims
- 6. Determine condition of the suspended victim
- 7. Select and construct systems for rapid removal of victims from lanyards or rope or webbing
- 8. Manage operation of the selected system
- 9. Determine specialized equipment needs for victim movement

#### **Discussion Questions**

- 1. What is suspension trauma?
- 2. What are the differences between a team-based and a rescuer-based pickoff?
- 3. Why would you choose one or the other?

#### **Activities**

1. The instructor must create an activity having students perform a pickoff of a suspended victim.

#### **Instructor Notes**

1. For safety reasons, do not leave a live simulated victim suspended for five minutes or longer.

CTS Guide Reference: CTS 3-2

# Topic 2-8: Performing the Transfer and Movement of a Suspended Victim While Suspended

#### **Terminal Learning Objective**

At the end of this topic, given a rope rescue system, a specified minimum travel distance for the victim, victim transfer systems, and specialized equipment necessary for the environment, while suspended from a rope rescue system a student will be able to perform the transfer and movement of a victim suspended from rope or webbing in a high-angle environment to a separate rope rescue lowering or raising system, so that risks to victims and rescuers are minimized; undesirable victim movement during the transfer is minimized; the means of attachment to the rope rescue system is maintained; the victim is removed from the static line and lowered or raised to a stable surface; victim positioning is managed to reduce adverse effects associated with suspension-induced injuries; selected specialized equipment facilitates efficient victim movement; and the victim can be transported to the local EMS provider.

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#### **Enabling Learning Objectives**

- 1. Describe system safety check protocol
- 2. Identify task-specific selection criteria for victim transfer systems
- 3. Describe various physical and psychological victim management techniques
- 4. Select PPE
- 5. Identify design characteristics and intended purpose of various transfer systems
- 6. Describe rigging principles
- 7. Describe causes and effects of suspension-induced injuries
- 8. Identify methods to minimize common environmental hazards created in high-angle environments
- Reduce hazards for rescuers and victims
- 10. Choose victim transfer systems, select and use PPE
- 11. Perform a transfer of the victim from a static line to the lowering or raising system
- 12. Determine specialized equipment needs for victim movement

#### **Discussion Questions**

- 1. How can you transfer a victim to the rescue system without shockloading?
- 2. What are different methods of victim transfer?

#### **Activities**

1. The instructor must create an activity having students perform a transfer of and move a suspended victim.

#### **Instructor Notes**

1. This topic may be combined with the prior topic, Directing a Team in Operating a Rope Rescue System to Remove a Suspended Victim.

CTS Guide Reference: CTS 3-3

# Topic 2-9: Performing the Activities of a Litter Tender in a High-Angle Operation

#### **Terminal Learning Objective**

At the end of this topic, given a rope rescue system, a specified minimum travel distance for the litter and litter tender, life safety harnesses, litters, bridles, and specialized equipment necessary for the environment, a student will be able to perform the activities of a litter tender in a high-angle lowering or raising operation, so that risks to victims and rescuers are minimized, the means of attachment to the rope rescue system is secure, and the travel path is negotiated while minimizing risks to equipment or persons.

#### **Enabling Learning Objectives**

- 1. Describe system safety check protocol
- 2. Identify task-specific selection criteria for life safety harnesses
- 3. Select PPE
- 4. Describe variations in litter design and intended purpose
- 5. Describe high-angle litter attachment principles
- 6. Describe techniques and practices for high-angle environments
- 7. Describe common hazards imposed by the various structures and terrain
- 8. Select and use rescuer harness and PPE for common environments

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- 9. Attach the life safety harness to the rope rescue system
- 10. Maneuver the litter past obstacles or natural structural features
- 11. Manage the litter while attached to the rope rescue system
- 12. Demonstrate tender's vertical positioning independent of litter during transit
- 13. Evaluate surroundings for potential hazards

- 1. What methods can the litter tender use to attach to the litter?
- 2. Why might a litter tender be required?

#### **Activities**

1. The instructor must create an activity directing students to tend the litter, including having them position themselves above and below the litter.

#### **Instructor Notes**

1. The intent for ELO 11 is to ensure students demonstrate positioning themselves above and below the litter to negotiate obstacles or perform a litter scoop.

CTS Guide Reference: CTS 3-4

# Topic 2-10: Participating as a Member of a Team in Constructing a Horizontal Rope Rescue System

#### **Terminal Learning Objective**

At the end of this topic, given rescue personnel, life safety rope, rope rescue equipment, and a suitable anchor capable of supporting the load, a student will be able to participate as a member of a team in the construction of a rope rescue system intended to move a suspended rescue load along a horizontal path to avoid an obstacle, so that personnel assignments are made and clearly communicated; the system constructed can accommodate the load; tension applied within the system will not exceed the rated capacity of any of its components' parts; a system safety check is performed; movement of the load is efficient; and loads can be held in place or moved with minimal effort over the required distance

#### **Enabling Learning Objectives**

- 1. Determine incident needs as related to operation of a system
- 2. Describe capabilities and limitations of various systems (including capacity ratings)
- 3. Describe methods for limiting excessive force to system components
- 4. Evaluate incident site as related to hazards and obstacle negotiation
- 5. Describe rigging principles
- 6. Describe system safety check protocol
- 7. Identify common personnel assignments and duties
- 8. Identify common and critical operational commands
- 9. Identify common problems and ways to minimize these problems during construction
- 10. Determine incident needs as related to construction of a system
- 11. Evaluate an incident site as related to hazards and setup
- 12. Identify the obstacles or voids to be negotiated
- 13. Select a system for defined task

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- 14. Perform system safety checks
- 15. Use rigging principles that will limit excessive force to system components
- 16. Communicate with personnel

- 1. What are the different systems used for horizontal movement?
- 2. What does your AHJ use?

#### **Activities**

1. To be determined by instructor.

#### **Instructor Notes**

- 1. This topic is intended to include, but is not restricted to, systems such as high lines, two-rope offsets, deflection, tracking, and guiding lines.
- 2. Activity 2-11 covers this topic and the next.

CTS Guide Reference: CTS 3-5

# Topic 2-11: Directing a Team in Operating a Rope Rescue System to Move a Suspended Load Horizontally

#### **Terminal Learning Objective**

At the end of this topic, given rescue personnel, an established system, a target for the load, a load to be moved, and PPE, a student will be able to direct a team in the operation of a rope system to move a suspended rescue load along a horizontal path, so that the movement is controlled; the load is held in place when needed; operating methods do not stress the system to the point of failure; personnel assignments are made; tasks are communicated; and potential problems are identified, communicated, and managed.

#### **Enabling Learning Objectives**

- 1. Determine incident needs as related to the operation of a system
- 2. Describe capabilities and limitations of various systems
- 3. Evaluate incident site as related to hazards and obstacle negotiation
- 4. Describe system safety check protocol
- 5. Describe procedures to evaluate system components for compromised integrity
- 6. Identify common personnel assignments and duties
- 7. Identify common and critical operational commands
- 8. Identify common problems and ways to minimize or manage those problems
- 9. Describe ways to increase the efficiency of load movement
- 10. Determine incident needs
- 11. Select personnel
- 12. Communicate with personnel
- 13. Evaluate system components for compromised integrity
- 14. Perform a system safety check
- 15. Manage movement of the load
- 16. Evaluate for any potential problems

#### **Discussion Questions**

1. What are some communication challenges in operating horizontal rope rescue systems?

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2. How can forces change during the operation of a horizontal rope rescue system?

#### Activities

1. The instructor must create an activity directing students to construct a rope rescue system and move a suspended rescue load along a horizontal path.

#### **Instructor Notes**

- 1. The activity for this topic and the prior topic are combined into one.
- 2. The instructor must consider additional safety measures while operating a horizontal rope rescue system. Refer to instructor resources.

CTS Guide Reference: CTS 1-6

#### **Topic 2-12: Climbing and Traversing Using Climbing Aids**

#### **Terminal Learning Objective**

At the end of this topic, given a specified minimum travel distance, the equipment used by the agency and a task that reflects the anticipated rescue environment, a student will be able to climb and traverse natural features or manmade structures that require the use of climbing aids, positioning equipment, or fall prevention systems to prevent the fall or unwanted movement of the rescuer, so that the objective is achieved, the rescuer can perform the required task, and fall prevention is maintained.

#### **Enabling Learning Objectives**

- 1. Describe system safety check protocol
- 2. Describe application and limitations of climbing, positioning, and fall prevention systems, including horizontal lifelines
- 3. Describe the fall factor for and risks associated with different systems used by the AHJ
- 4. Describe equipment used by the AHJ
- 5. Perform system safety checks
- 6. Climb vertical or near-vertical paths using the surfaces provided by the environment or climbing aids used by the agency
- 7. Transition horizontally between structural elements and the rescue system
- 8. Use positioning equipment to support the weight of the rescuer in a vertical or near-vertical environment permitting the rescuer to perform a task

#### **Discussion Questions**

- 1. What climbing aids does your AHJ use?
- 2. What are some methods to reduce impact force during protected climbing?

#### Activities

 The instructor must create an activity directing students to climb and traverse natural features or manmade structures that require the use of climbing aids, positioning equipment, or fall prevention systems.

#### **Instructor Notes**

- 1. The line that students are climbing on must have the ability to lower the students to a safe location in the event of an emergency.
- 2. Refer to NFPA 1006 (2017) 4.3.3 for information on ELO #7.

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CTS Guide Reference: CTS 3-7

#### Topic 2-13: Interacting with a Person in Emotional or Psychological Crisis

#### **Terminal Learning Objective**

At the end of this topic, given an environment consistent with the mission of the agency, the policies and procedures of the organization, and a person in a crisis scenario, a student will be able to interact with a person at height who is in an emotional or psychological crisis, so that the condition is recognized and communicated to the team, the rescuer is prevented from harm, and the actions of the rescuer do not escalate the incident.

#### **Enabling Learning Objectives**

- 1. Describe system safety check protocol
- 2. Describe indicators of a person in emotional crisis
- 3. Identify typical triggers that can cause individuals to become agitated or anxious
- 4. Describe methods of interacting to prevent harm to the rescuer and the subject
- 5. Identify best practices to deescalate incidents involving persons in crisis
- 6. Describe crisis-intervention resources of the AHJ
- 7. Perform system safety checks
- 8. Methods of approach that minimize the risk to the rescuer from subjects whose psychological or emotional state is unknown
- 9. Interview techniques that provide insight to the motives and state of mind of the subject
- 10. Communicating and interacting with the subject in a manner that does not escalate the incident

#### **Discussion Questions**

- 1. What are your AHJ's protocols for managing emotional or psychological crises?
- 2. What are some local or national resources for dealing with emotional or psychological crises?

#### **Activities**

1. To be determined by the instructor.

#### **Instructor Notes**

- 1. Focus on minimizing risk to responders and the AHJ's resources and protocols.
- 2. This is a good time to discuss fall factors and ensuring your system is appropriate for the situation.
- 3. Instructor may refer to:
  - National Alliance of Mental Illness "How to Help Someone in Crisis": <a href="https://www.nami.org/Blogs/NAMI-Blog/September-2017/How-to-Help-Someone-in-Crisis">https://www.nami.org/Blogs/NAMI-Blog/September-2017/How-to-Help-Someone-in-Crisis</a>
  - Suicide Prevention Resource Center: <a href="https://www.sprc.org/settings/first-responders">https://www.sprc.org/settings/first-responders</a>
  - SAMHSA "Psychological First Aid for First Responders": https://store.samhsa.gov/system/files/nmh05-0210.pdf

CTS Guide Reference: CTS 3-8

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# Time Table

Segment	Lecture Time	Activity Time	Total Unit Time
Unit 1: Introduction			
Topic 1-1: Orientation and Administration			
Lecture	1:00		
Activity 1-1: To be determined by		0:00	
instructor			
Unit 1 Totals	1:00	0:00	1:00
Unit 2: [Unit Title]			
Topic 2-1: Evaluating a Scenario and			
Constructing Tensioned Anchor Systems			
Lecture	0:15		
Activity 2-1: Constructing and Assessing Tensioned Anchor Systems		1:45	
Topic 2-2: Ascending a Fixed Rope			
Lecture	0:15		
Activity 2-2: Ascending a Fixed Rope		3:45	
Topic 2-3: Descending a Fixed Rope			
Lecture	0:15		
Activity 2-3: Descending a Fixed Rope		2:15	
Topic 2-4: Escaping from a Malfunctioning Device			
Lecture	0:15		
Activity 2-4: Escaping from a Malfunctioning Device		2:45	
Topic 2-5: Evaluating a Scenario and Constructing and Employing a High-Directional			
Lecture	1:00		
Activity 2-5: Constructing a High- Directional		3:00	
Topic 2-6: Directing a Team in Operating a Rope Rescue System to Remove a Stranded Victim			
Lecture	0:15		
Activity 2-6: Performing a Pickoff of a Stranded Victim		2:00	
Topic 2-7: Directing a Team in Operating a Rope Rescue System to Remove a Suspended Victim			

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Segment	Lecture Time	Activity Time	Total Unit Time
Lecture	0:15		
Activity 2-7: Performing a Pickoff of a Suspended Victim	V.=V	2:00	
Topic 2-8: Performing the Transfer and Movement of a Suspended Victim While Suspended			
Lecture	0:15		
Activity 2-8: Transferring and Moving a Suspended Victim		1:15	
Topic 2-9: Performing the Activities of a Litter Tender in a High-Angle Operation			
Lecture	0:30		
Activity 2-9: Tending the Litter		3:30	
Topic 2-10: Participating as a Member of a Team in Constructing a Horizontal Rope Rescue System			
Lecture	1:00		
Activity 2-10: To be determined by instructor.		0:00	
Topic 2-11: Directing a Team in Operating a Rope Rescue System to Move a Suspended Load Horizontally			
Lecture	1:00		
Activity 2-11: Constructing a System and Moving a Suspended Load		6:00	
Topic 2-12: Climbing, Ascending, Descending, and Traversing Using Climbing Aids			
Lecture	1:00		
Activity 2-12: Climbing, Ascending, Descending, and Traversing Using Climbing Aids		3:00	
Topic 2-13: Interacting with a Person in Emotional or Psychological Crisis			
Lecture	0:30		
Activity 2-13: To be determined by instructor		0:00	
Unit 3 Totals	6:45	31:15	38:00
Lecture, Activity, and Unit Totals:	7:45	31:15	39:00

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### **Course Totals**

Total Lecture Time (LT)	7:45
Total Activity Time (AT)	31:15
Total Testing Time (TT)	1:00
Total Course Time	40:00

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