

Course Outline

COURSE: JFT 13 **DIVISION:** 50 **ALSO LISTED AS:**

TERM EFFECTIVE: Fall 2017 **CURRICULUM APPROVAL DATE:** 02/27/2017

SHORT TITLE: LARRO

LONG TITLE: Low Angle Rope Rescue Operational Course

<u>Units</u>	<u>Number of Weeks</u>	<u>Type</u>	<u>Contact Hours/Week</u>	<u>Total Contact Hours</u>
.5	18	Lecture:	.22	3.96
		Lab:	1.14	20.52
		Other:	0	0
		Total:	1.36	24.48

COURSE DESCRIPTION:

The Low Angle Rope Rescue Operational course is designed to provide training for responders in low angle rope rescue operations. This course will also provide training in a subject element required for the California Urban Search and Rescue (US and R) Basic and Light Operational Level.

PREREQUISITE: JFT 8 - Fire Fighter I Academy

1. State Fire Marshall certified basic firefighting academy diploma or equivalent as determined by the Dean of Academy Instruction. NOTE: Approval of equivalent training is not a guarantee state regulatory or licensing agencies will also grant equivalency.
2. Prior to beginning this course students must already be familiar with, and be able to demonstrate all of the skills listed below. These will not be taught in the course; rather, they will be the starting point for advanced officer training that builds upon them. These minimum knowledge and skill levels are regarding: - Firefighter safety - Knowledge of all firefighting tools and equipment, ladders, and hoses including appropriate selection, carry, and use for each type across all types of emergencies - Rescue knots such as bowline, clove hitch, figure eight on a bight, half hitch, Becket, and safety knots

PREREQUISITES:

Completion of JFT 8, as UG, with a grade of C or better.

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

P - Pass/No Pass

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

- 02 - Lecture and/or discussion
- 03 - Lecture/Laboratory
- 04 - Laboratory/Studio/Activity

STUDENT LEARNING OUTCOMES:

1. Describe the components, use/misuse, types, construction, size/dimension, and inspection/maintenance for a kernmantle rescue rope, prusik loop, webbing, load-releasing device, commercial harness, carabiner, brake bar rack, figure eight plate with ears, rescue pulley, mechanical grab device, anchor plate, and edge protection

Measure of assessment: Skills demonstration Skills Exam

Year assessed, or planned year of assessment: 2016

Semester: Fall

2. Demonstrate how to tie the six required knots.

Measure of assessment: Skills Demonstration Skills Exam

Year assessed, or planned year of assessment: 2016

Semester: Fall

3. Identify several methods of system attachments for rescuers and victims.

Measure of assessment: Skills Exam

Year assessed, or planned year of assessment: 2016

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 02/27/2017

1 Hours

Content: Chapter 1: Course Introduction (1 Hour)

I. Course Overview

A. Welcome/Purpose of the course

1. Instructor Experience, background, injuries, limitations, Low angle, High angle

Student Performance Objectives (SPO): Describe low angle and high angle rescue

Out-of-Class Assignments: Review lecture material

1 Hours

Content: Chapter 2: Rope Rescue Equipment (1 Hour)

I. Types of Equipment

A. Kernmantle Rescue Rope/prusik loop

B. Webbing and load releasing devices

C. Components, use, types, construction, size

D. Inspection

Student Performance Objectives (SPO): Identify rope rescue components and equipment

Out-of-Class Assignments: review lecture material

2 Hours

Content: Chapter 3: Rescue Knots and Hitches

I. Qualities of a Rescue Knot

A. Five characteristics to any preferred rescue knot

II. Rope Terminology

A. Running end, working end, standing part

III. Components of Knots and Hitches

IV. Hitches

A. Temporarily secure objects

- B. Securing a victim to a rescue litter
 - V. Knots
 - A. Bights, loops, and round turns
 - B. Bending knot (overhand bend, figure eight bend, double overhand bend) is used to tie rope or webbing
 - C. Terminology
 - D. Tail Length
 - E. Required Knots

Student Performance Objectives (SPO): Demonstrate how to tie rescue knots and hitches

Out-of-Class Assignments: practice tying knots and hitches

2 Hours

Content: Chapter 4: Anchor Systems

- I. California Code of Regulations, Title 8, Section 167 0
 - A. Personal Fall Arrest Systems
 - II. Considerations When Selecting Anchors
 - A. Force Hold Required
 - B. Direction of Pull
 - C. Working Distances
 - D. Sharp Edges
 - III. Types of Anchors
 - A. Natural Anchors
 - B. Manufactured anchors
 - IV. Sling Anchor Attachments: Pre-tied
 - A. Advantages
 - B. Disadvantages
 - V. Single Sling Anchor Attachments: Open
 - A. Advantages
 - B. Disadvantages
 - VI. Multi-Point Self-adjusting Anchor Systems
 - A. Two-point/three point Self-adjusting Anchor System, critical angles
 - VII. Windlassed Picket Systems

Student Performance Objectives (SPO): Demonstrate construction of appropriate anchor systems

Out-of-Class Assignments: practice construction of anchor systems

2 Hours

Content:

Chapter 5: Rescuer and Ambulatory Victim Packaging

- I. Rescuer Packaging
- II. Sample NFPA class II harness instruction card
- III. Ambulatory victim packaging

Student Performance Objectives (SPO): Demonstrate application of rescuer and victim packaging

Out-of-Class Assignments: Review NFPA class II harnesses

2 Hours

Content: Chapter 6: Types of Litters and Victim Packaging

- I. Rescue Litters
 - A. Metal Litters
 - B. Metal/plastic
- II. How to Secure a Victim to a Rescue Litter
 - A. Interior Lashing, exterior lashing

III. Alternative Victim Packaging (Optional)

A. Equipment Needed, advantages, disadvantages, uses.

IV. Considerations for Packaging Non-ambulatory Victims in Unstable Terrain

Student Performance Objectives (SPO): Identify and describe litters and victim packaging systems.

Out-of-Class Assignments: practice securing simulated victims in litters

2 Hours

Content: Chapter 7: System Attachments and Fall Restraint

I. Rescuer attachment to a rope rescue system.

A. Ambulatory victim attachment to a rope rescue system

B. Rescuer Litter Attachment to a Rope Rescue System

C. Three Rescuer Litter Attachment

D. Four Rescuer Litter Attachment

E. Components of a Fall Restraint System

Student Performance Objectives (SPO): Demonstrate application of rope rescue systems to litter attachments

Out-of-Class Assignments: Practice rescue litter attachments to a rope rescue system

3 Hours

Content: Chapter 8: Three Main Components of a Rope Rescue System

I. Three main components of low angle rope rescue operations.

A. Belay/Safety Line Component

B. Main line component

C. Mechanical advantage

D. Single RPM Configuration

E. Pre-rigged Dual RPM System

Student Performance Objectives (SPO): Identify components of a belay system

Out-of-Class Assignments: Review lecture material

2 Hours

Content: Chapter 9 Belay/Safety Line Systems

I. Operation of Belay/Safety Line Systems

A. Belay safety line configurations

Student Performance Objectives (SPO): Identify safety considerations of a belay system

Out-of-Class Assignments: Review lecture material

2 Hours

Content: Chapter 10: Descending/Ascending

I. Descending

A. Types of Descent Control Devices (DCD)

II. Ascending

A. Equipment

B. Topside Recovery Option

C. Self-Rescue Option

Student Performance Objectives (SPO): Identify descending and ascending control devices

Out-of-Class Assignments: Review lecture material

2 Hours

Content: Chapter 11: Lower/Raise (Mechanical Advantage) Systems

I. Key Points Regarding Lower/Raise Operations

A. Lowering Line Systems

B. Raising (MA) Systems

C. Piggyback Systems

Student Performance Objectives (SPO): Identify key points of lowering/raising operations

Out-of-Class Assignments: Construct lower/raise systems

1 Hours

Content: Chapter 12 : Load-releasing Methods

I. Rappelling operations

A. Load Releasing and Raising

Student Performance Objectives (SPO): Identify load releasing methods

Out-of-Class Assignments: Review lecture material

5 Hours

Content: Chapter 13.: Rescue Scene Organization and Management

I. Command and Control in Low Angle Rope Rescue Operations

A. Incident command system

C. Rescue operation

D. Small incidents

E. Unified Command

G. Positions that may need to be filled on a "typical" low angle rescue incident

include:

1. Incident Commander (IC).

2. Safety Officer (this role may be retained by the IC).

3. Rescue Group Supervisor.

4. Assistant Safety Officer- Low Angle Rescue.

5. Rigging Team.

6. Haul Team.

7. Litter Team.

8. Edge Person.

9. Main Line Tender.

10. Belay/Safety Line Tender.

11. Rescuer(s).

II. Example Organization of a Low Angle Rescue Using 3-Person Engines

A. First Arrival Considerations

1. Size-up, anchor systems.

B. Step #1 : Scene Assessment and Rigging

1. First Engine

C. Step #2: Initial Victim Contact

1. First Engine

D. Step #3 : Ambulatory Victim Walkout

1. Second Engine, third engine

E. Step #4: Non-ambulatory Victim Packaging

1. Second Engine

F. Step #5 : Non-ambulatory Victim Rescue

1. Third Engine

G. Sample Organization Chart

1. Scene Assessment and Rigging, initial victim contact, ambulatory victim walkout, non-ambulatory victim packaging/rescue, blank chart

Student Performance Objectives (SPO): Identify the ICS positions and scene management organization

Out-of-Class Assignments: Review ICS rescue scene organizations

2 Hours

Content: Chapter 14: Litter Walkouts

- I. Walkouts
- A. Simple walkout
- B. Caterpillar walkout
- C. Single pitch walkout with belay/safety line
- D. Multiple pitch with a belay/safety line
- E. Staffing, ladders used in litter walkouts

Student Performance Objectives (SPO): Identify the components of a litter walkout system

Out-of-Class Assignments: Practice constructing litter walkout systems

2 Hours

Content: Chapter 15: Ladder Rescue Systems

- I. Ladder rescue systems
- A. Moving Ladder Slide
- B. Construction
- C. Operations safety considerations

Student Performance Objectives (SPO): Demonstrate construction of a moving ladder slide

Out-of-Class Assignments: Review lecture material

4 Hours

Content: Chapter 16: Evolutions

- I. Evolution Components
- A. Mechanical Advantage Systems
- B. Victim packaging,\
- C. Rescuer packaging
- D. Anchor systems

Student Performance Objectives (SPO): Construct a rescue system as directed by instructor

Out-of-Class Assignments: review lecture material

1 Hours

Final

METHODS OF INSTRUCTION:

Lab / Lecture / Demonstration

METHODS OF EVALUATION:

Writing assignments

Percent of total grade: 10.00 %

Percent range of total grade: 10 % to 20 % Reading Reports. If this is a degree applicable course, but substantial writing assignments are NOT appropriate, indicate reason: Course primarily involves skill demonstration or problem solving

Problem-solving assignments

Percent of total grade: 20.00 %

Percent range of total grade: 20 % to 30 % Homework Problems; Skills Demonstrations Skills Exams

Skill demonstrations

Percent of total grade: 50.00 %

Percent range of total grade: 50 % to 60 % Performance Exams

Objective examinations

Percent of total grade: 10.00 %

Percent range of total grade: 10 % to 20 % Multiple Choice

OUT OF CLASS ASSIGNMENTS:

Required Outside Hours:

Assignment Description: Skills practice

REPRESENTATIVE TEXTBOOKS:

Required Representative Textbooks

Required: CDF/State Fire Marshal, Low Angle Rope Rescue Operational, State Fire Training. 2016.

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:

CSU GE:

IGETC:

CSU TRANSFER:

Transferable CSU, effective 201270

UC TRANSFER:

Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education:

Program Status: 2 Stand-alone

Special Class Status: N

CAN:

CAN Sequence:

CSU Crosswalk Course Department: JFT

CSU Crosswalk Course Number: 13

Prior to College Level: Y

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: C

Maximum Hours: .5

Minimum Hours: .5

Course Control Number: CCC000533719

Sports/Physical Education Course: N

Taxonomy of Program: 213300