Course Title: Statewide WMD Response: Rope Rescue Operations

Course Duration: 40 Hours

Program: Technical Rescue Program

Course Prerequisites: Pre-requisites for this class are Statewide WMD Response: Technical Rescue Awareness and Statewide WMD Response: Hazardous Materials Operations.

Course Description: The scope of this course is to prepare local 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 need for a low-angle rescue. This course provides those personnel with the basic knowledge and skills needed to perform rescues using rope systems. The class will cover the use of rope, rope equipment, hardware, construction of mechanical advantage systems, belay and safety systems, anchor systems, and patient packaging. Special consideration will be given to the policies of standard-making agencies such as OSHA, ANSI, NFPA, and others.

Course Policies:

Attendance Policy: Must attend 100% of the course. It will be the student’s responsibility to notify the coordinator of any pending absences.

Safety Policy: See Safety Rules for Rope Rescue Courses

Grading Policy: Must obtain a score of 70% or better on the final exam.

Course Requirements:
- Attend and participate 100% of the course.
- Completion of the final exam with a score of at least 70%.
- Complete and pass all practical skill tests administered.

Failure to comply with the requirements of the course, as stated above, will be recorded as an “incomplete”. An “incomplete” will only be good for a period of one year, starting from the date of the last day of the scheduled class. If the requirements to satisfy the “incomplete” are not met within the one-year time frame, the student will be required to register for and meet the requirements for completion of another course.
Course Content:

Module: 1
Content: Introduction

Terminal Learning Objective
At the conclusion of this lecture, the student will explain the purpose of rope rescue operations and the requirements students must fulfill to successfully complete the course.

Module: 2
Content: Safety

Terminal Learning Objective
At the conclusion of this module, students will apply the safety rules to rope rescue operations.

Module: 3
Content: Rope

Terminal Learning Objective
At the conclusion of this module, the student will summarize characteristics of rope used in rope rescue.

Module: 4
Content: Knots

Terminal Learning Objective
At the conclusion of this module, the student will summarize characteristics of knots used in rope rescue.

Module: 5
Content: Webbing

Terminal Learning Objective
At the conclusion of this module, the student will use webbing for conducting rope rescue operations.

Module: 6
Content: Auxiliary Equipment

Terminal Learning Objective
At the conclusion of this module, the student will explain the use of auxiliary rope equipment for conducting rope rescue operations.
Module: 7
Content: Forces

Terminal Learning Objective:
At the conclusion of this module, the student will calculate forces impacting rope rescue operations.

Module: 8
Content: Anchors

Terminal Learning Objective:
At the conclusion of the module, the student will construct anchor systems for rope rescue.

Module: 9
Content: Belay Systems

Terminal Learning Objective
At the conclusion of this module, the student will operate a belay system.

Module: 10
Content: Ascending and Descending

Terminal Learning Objective:
At the conclusion of this module, the student will ascend and descend a fixed rope in a low angle environment.

Module: 11
Content: Haul Systems

Terminal Learning Objective:
At the conclusion of this module, the student will operate haul systems.

Module: 12
Content: Low Angle Lowering Operations

Terminal Learning Objective:
At the conclusion of the module, the student will operate a lowering system including a belay system in a low angle environment.
Module: 13
Content: Patient Packaging

Terminal Learning Objective:
At the conclusion of this module, the student will package a patient in a litter and transport the patient in a low angle environment.

Module: 14
Content: Lowering to Hauling Operations

Terminal Learning Objective:
At the conclusion of the module, the student will operate a lowering system including a belay system then converting to a haul system in a high angle environment.

Module: 15
Content: Weapons of Mass Destruction

Terminal Learning Objective:
At the conclusion of this module, the student will summarize the considerations at a WMD incident.

Evaluation: Written and practical skill testing is conducted at the completion of the course.

Reading Assignments: Reading assignments are strongly encouraged to be completed before the start of class. Reading assignments will come out of the text; High Angle Rescue Techniques, Third Edition 2004, Tom Vines and Steve Hudson.

Read: Chapters 1-8, 16, & 18
Reference:


On Rope, New Revised Edition 1996, Allen Padgett and Bruce Smith

The Ashley Book of Knots, Clifford W. Ashley, 1944

Office of the State Fire Marshal, Rope Operations Requirements

Rescue Technician Course, Louis F. Garland Fire Academy, Goodfellow AFB, Texas, 2000

Confined Space and Structural Rope Rescue, Michael Roop, Thomas Vines, and Richard Wright, 1997

Engineering Practical Rope Rescue Systems, Michael G. Brown, 2000

Rope Rescue for Firefighting, Ken Brennan, Fire Engineering, 1998

Rescue Technician, Operational Readiness for Rescue Providers, University of Maryland, 1998


U.S. Manual of Cave Rescue, National Speleological Society

Rope Levels I and II, Jeff Matthews 2009

Class Schedule
**Day 1**

Module 1  Introduction  
30 minutes  (L)

Module 2  Safety  
30 minutes  (L)

Module 3  Rope  
1 hour  (L)

3.1  Rope Inspection  
30 minutes  (H)

Issue Equipment  
1 ½ hours  (H)

**Lunch**

Module 4  Knots  
30 minutes  (L)

4.1  Knots  
2 hours  (H)

Module 5  Webbing  
30 minutes  (L)

5.1  Overhand Bend  
10 minutes  (H)

5.2  Hasty Harness  
20 minutes  (H)

Module 6  Ancillary Equipment  
1 hour  (L)

Module 7  Forces  
30 minutes  (L)

**Day 2**

Equipment Review  
30 minutes  (L)

Knot Practice  
30 minutes  (H)

Module 8  Anchors  
1 hour  (L)

8.1  Webbing & Anchor Straps  
30 minutes  (H)

8.2  Load Distributing Anchors  
30 minutes  (H)

8.3  Tensionless Hitch  
30 minutes  (H)

8.4  Pickets  
30 minutes  (H)

**Lunch**

Module 9  Belay  
30 minutes  (L)

9.1  Constructing/Operating Belay  
45 minutes  (H)

9.2  Belay Drop  
45 minutes  (H)

Module 10  Ascending & Descending  
1 hour  (H)

10.1  Prusik Drill  
1 hour  (H)

10.2  Rack Drill  
1 hour  (H)
**Day 3**

Equipment Review  
30 minutes (L)

Knot Practice  
30 minutes (H)

Module 11  
Haul Systems  
1 hour (L)

Haul Systems Overview  
1 ½ hour (H)

**Lunch**

Module 11  
Haul Systems  
11.1 Load Releasing Hitch  
1 hour (H)

11.2 3:1 Inline  
30 minutes (H)

11.3 3:1 Attached  
30 minutes (H)

11.4 4:1 Inline Block and Tackle  
30 minutes (H)

11.5 4:1 Double “J”  
30 minutes (H)

Module 12  
Low Angle: Lowering Operations  
1 ½ hour (H)

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**Day 4**

Equipment Review  
30 minutes (L)

Knot Practice  
30 minutes (H)

Module 13  
Patient Packaging  
30 minutes (L)

13.1 Patient Packaging  
1 hour (H)

Module 14  
High Angle: Lowering to Hauling Operations  
1 ½ hours (H)

**Lunch**

Module 14  
High Angle: Lowering to Hauling Operations  
4 hours (H)
Day 5

Module 15 WMD 30 minutes (L)
Review 1 hour (L)
Final Exam 1 hour
Knot Test 1 ½ hours (H)

Lunch

Individual Skill Stations 4 hours (H)