Program of Instruction
Course Syllabus

Course Title: Statewide WMD Response: Rope Rescue Technician

Course Duration: 84 Hours

Program: Technical Rescue Program

Course Prerequisites: Pre-requisites for this class are Statewide WMD Response: Technical Rescue Awareness, Hazardous Materials Operations, Rope Rescue Operations, Confined Space Operations, and Trench Rescue 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 high-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 written exam and 100% on all practicals.

Course Requirements:

- Attend 100% of the course.
- Completion of the final exam with a score of at least 70%.
- Complete and pass all practical skill tests administered.
Course Content:
Module: 1
Title: Introduction

Terminal Learning Objective:
At the conclusion of this module, the student will explain the purpose of rope rescue operations and the requirements students shall meet prior to being qualified as a technical rescuer.

Module: 2
Title: Safety

Terminal Learning Objective: At the conclusion of this module, students will summarize the safety rules for rope rescue operations.

Module: 3
Title: Rope and Knots Review

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

Module: 4
Title: Anchors and Rigging Review

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

Module: 5
Title: Belay

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

Module: 6
Title: Descending

Terminal Learning Objective:
At the conclusion of this module, the student will descend a vertical fixed rope for a minimum of 30 feet using a moving brake bar rack.
Module: 7
Title: Jammed Rack

**Terminal Learning Objective:**
At the conclusion of this module, the student shall demonstrate clearing or rendering operable a jammed brake bar rack while on a fixed vertical rope.

Module: 8
Title: Low Light and Wet Rope Conditions

**Terminal Learning Objective:**
At the conclusion of this module, the student will rappel a vertical fixed rope for a minimum of 30 feet using a moving brake bar rack during low light and wet rope conditions and clear a jammed rack as outlined in Module 7.

Module: 9
Title: Ledge Rescue

**Terminal Learning Objective:**
At the conclusion of this module, the student will participate in an operation rescuing a victim from a ledge.

Module: 10
Title: Line Transfer

**Terminal Learning Objective:**
At the conclusion of this module, the student will transfer a victim suspended on fixed vertical line rope to the rescuer’s rope rescue system.

Module: 11
Title: Ascending and Converting

**Terminal Learning Objective:**
At the conclusion of this module, the student will maneuver on a fixed vertical rope.
Module: 12
Title: Knot Passing

Terminal Learning Objective:
At the conclusion of this module, the student will pass a knot through directional pulleys during both raising and lowering operations while under load.

Module: 13
Title: Litter Basket Operations

Terminal Learning Objective:
At the conclusion of this module, the student will operate as a member of a team assigned to raise and lower a patient in a litter basket.

Module: 14
Title: Hatch System

Terminal Learning Objective:
At the conclusion of this module, the student shall move a packaged patient in a rigid litter basket through a floor hatch.

Module: 15
Title: High Point Anchor

Terminal Learning Objective:
At the conclusion of this module, the student will operate as a member of a team to construct a high point directional anchor.

Module: 16
Title: Highline Construction

Terminal Learning Objective: At the conclusion of this module, the student will direct a team in the construction of a highline system and move a rescuer and rescue litter, with rescue load, from one point on the high line to a predetermined point on the ground.

Module: 17
Title: English Reeves System

Terminal Learning Objective:
At the conclusion of this module, the student will direct a team in the construction of a high line system utilizing an English Reeves system for vertical movement at any point along span on the high line.
Module: 18
Title: Incidents Involving 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.


Rope Levels I and II, Jeff Matthews 2009.
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  15 minutes
Module 2  Safety  1 hour
Module 3  Rope and Knots Review  1 hour
Module 4  Anchors and Rigging Review  1 ½ hours
Module 5  Belay  15 minutes

Lunch

Log & Issue Student Gear Bags

Station 1: Anchor Systems  1 hr 20 min.
  Webbing and Straps
  Load Distributing Anchors
  Tensionless Hitch
  Picket System
  Deadman System
  Demonstration – Deadman & 10 Pin Picket System

Station 2: Haul Systems  1 hour 20 min.
  3:1 Inline
  3:1 Attached
  4:1 Inline
  4:1 Attached
  Change of Direction

Station 3: Belay Drop & Catch  1 hour 20 min.
Day 2

Module 6  Descending  4 hours

Lunch

Module 7  Jammed Rack  4 hours

Dinner

Module 8  Low Light and Wet Rope Conditions  4 hours

Day 3

Module 9  Ledge Rescue  4 hours

Lunch

Module 10  Line Transfer  4 hours

Day 4

Module 11  Ascending and Converting
  Ascending  1 hour
  Descend using ascending equipment  1 hour
  Ascending to Descending  1 hour
  Descending to Ascending  1 hour

Lunch

Module 12  Knot-Passing
  Horizontal Orientation  4 hours
  Vertical Orientation
Day 5

Module 15  Litter Basket Operations  4 hours

One Rope Vertical Orientation
Patient Packaging & Bridle System
Four Minute Drill

Lunch

Litter Basket Operations  4 hours

Two Rope Vertical Orientation
Patient Packaging & Bridle System
Four Minute Drill

Day 6

Litter Basket Operations  4 hours

Single Rescuer Horizontal Orientation
Two Rescuer Horizontal Orientation
Four Minute Drill – Knot Passing

Lunch

Module 16  Hatch System  4 hours

Drill 16.1 Hatch Rescue
Day 7

Module 17  High Point Anchor  4 hours
            Jib System
            Gantry System
            Gin Pole

Lunch

Module 20  Highline Construction  3 ½ hours
            On the Ground
            Lead Climbing Demo  30 minutes

Day 8

Highline Construction  8 hours
            High to Low Construction

Working Lunch

Day 9

Module 21  English Reeves System  8 hours
            High to High Construction

Working Lunch
Day 10

Module 22 Incidents Involving Weapons of Mass Destruction 30 minutes

Course Review 30 minutes

Final Exam 2 hours

**Working Lunch**

Final Practical 4 hours

Cleanup & Equipment Inventory 1 hour