

COURSE OUTLINE **Vehicle and Machinery Rescue I**

Course Description

FS 150. Vehicle and Machinery Rescue I. 1 hour credit. Prerequisites: FS 140 and FS 200 with a C or better. This course will enable the student to recognize conditions requiring vehicle or machinery rescues. This course is designed to meet National Fire Protection Association's Standard 1670, pertaining to vehicle and machinery rescues. The student will also be capable of hazard recognition, equipment use, and techniques necessary to operate at a vehicle or machinery rescue incident.

Course Relevance

This course is designed to meet the concepts covered in the National Fire Protection Association 1670, Standard on Operations and Training for Technical Search and Rescue Incidents. The student will expand their knowledge of vehicle and machinery rescues by participate in an in-depth study of stabilization and extrication equipment and techniques. This course will expand on material and concepts briefly covered in FS 140, Emergency Rescue.

Required Materials

International Fire Service Training Association, (2000), *Principles of vehicle extrication*. (2nd ed.). Stillwater, OK: Fire Protection Publications.

Learning Outcomes

The intention is for the student to be able to

1. Identify procedures for initiating the emergency response system where a vehicle or machinery rescue is required
2. Identify procedures for carrying out site control and scene management
3. Recognize hazards associated with vehicle and machinery rescues and the procedures to mitigate these hazards
4. Identification and utilization of personal protective equipment assigned for use at a vehicle and machinery rescue incidents

Primary Learning PACT Skills that will be DEVELOPED and/or documented in this course

Through the student's involvement in this course, he/she will develop his/her ability in the following primary PACT skill areas:

1. Critical Thinking
 - The student critical and analytical skills through gathering data during an initial scene size up and determine the proper and safest course of action.
2. Field-Related Technology
 - Through the performance of various stabilization and extrication skills the student's proficiency will be assessed.

Secondary skills (developed but not documented):

- Problem Solving
- Communication

Major Summative Assessment Task(s)

These learning outcomes and the primary Learning PACT skills will be demonstrated by

1. The student will perform a series of cognitive and psychomotor assessments to demonstrate proficiency in vehicle and machinery rescues to meet National Fire Protection Association's Standard 1670
2. Executing site control and management on a scene requiring advanced vehicle and machinery rescue techniques

Course Content

- I. Themes – Key recurring concepts that run throughout this course:
 - A. Site control and scene management
- II. Issues – Key areas of conflict that must be understood in order to achieve the intended outcome:
 - A. Safety Issues in reference to personal, patient, and equipment
- III. Concepts – Key concepts that must be understood to address the issues:
 - A. Importance of safety concepts
- IV. Skills/Competencies – Actions that are essential to achieve the course outcomes:
 - A. Demonstrate sizing up vehicle and machinery incident scenes
 - B. Recognize vehicle hazards
 - C. Demonstrate the use of stabilization equipment
 - D. Demonstrate vehicle extrication
 - E. Recognize machinery hazards
 - F. Demonstrate disentanglement techniques

Learning Units

- I. Procedures for sizing up existing and potential conditions
 - A. Scope, magnitude, and nature of the incident
 - B. Location, number and condition of victims
 - C. Risk/ benefit analysis
 - D. Access to the scene
 - E. Environmental factors
 - F. Available and necessary resources
- II. Procedures for ensuring safety within search and rescue area
 - A. Stabilization
 - B. Isolation
- III. Procedures for identifying, containing and stopping fuel release
 - A. Identification various fuel types/ sources
 - B. Identification of various fuel container types and locations
 - C. Damming and diking methods of containment

- IV. Procedures for protecting victim during extrication or disentanglement
 - A. Accessing victims trapped in a vehicle or machinery
 - B. Packaging of a victim trapped prior to extrication or disentanglement

- V. Performing extrication and disentanglement operations through the use of hand and power tools.
 - A. Patient packaging
 - B. Victim treatment
 - C. Victim removal

- VI. Demonstrate measures to maintain control of traffic at the incident scene.

Learning Activities

The student will be engaged in both classroom interaction as well as field applications.

Grade Determination

The student will be evaluated through written exams, skill proficiency assessments, and other methods of evaluation at the discretion of the instructor.