

University of Illinois Fire Service Institute

Course Syllabus

Course Title: Alternative Fuel Vehicle

Course Duration: 8 Hours

Program: Special Operations Training Program

Course Prerequisites: None

Course Description: This course introduces students to new technologies not encountered in the past that can impact rescue efforts. Topics covered include hybrid or electric driven vehicles, alternative fuel systems, dangerous drive train components, hazardous mechanical and hydraulic systems, plus more. Rescue challenges associated with air bags and their deployment and detonation systems, pre-tension systems and other passive restraint devices throughout the passenger compartment are also discussed. Methods of construction, vehicle body components and their materials of construction offer challenges not found at accident scenes in the past. The course is a recommended follow-up class to the Basic Auto Extrication course.

Course Requirements and/or Recommendations:

Pre-Course Work – Completed prior to arriving: None

Course Work – Completed during class: None

Post-Course Work – Completed after class: None

Course Policies:

Safety Policy: Students shall understand and follow all instructions pertaining to operational safety, as stated by instructors or as written in course materials. Instructors and students shall be mindful of safety at all times. Conduct judged to be unsafe shall be grounds for dismissal from the course.

Academic Integrity Policy: IFSI has the responsibility for maintaining academic integrity so as to protect the quality of the education provided through its courses, and to protect those who depend upon our integrity. It is the responsibility of the student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions. Any violation of the code of conduct is grounds for immediate dismissal from the course.

University of Illinois Fire Service Institute

American Disabilities Act: As guaranteed in the Vocational Rehabilitation Act and in the American Disabilities Act, if any student needs special accommodations, they are to notify their instructor and provide documentation as soon as possible so arrangements can be made to provide for the student's needs. If arrangements cannot be made at the class site, the student will test at an alternative time and place where the special accommodations can be made.

Course Content:

Module: 1

Title: Hybrid and Electric Vehicles: Concepts and Hazards

Terminal Learning Objective:

At the conclusion of this module, the student will identify the features and hazards of Hybrid and Electric Vehicles.

Module: 2

Title: Alternative Fuel Vehicles: Concepts and Hazards

Terminal Learning Objective:

At the conclusion of this module, the student will identify features and hazards of alternative fuel vehicles.

Reference List:

Electric Vehicle Safety for Emergency Responders, National Fire Protection Association. 2011

NFPA 1006, Standard for Rescue Technician Professional Qualifications, Chapters 5, 10, 19, 2013 Edition

Principles of Vehicle Extrication, 4th Edition, IFSTA, Fire Protection Publications 2017

Vehicle Extrication, Levels I and II: Principles and Practice, David A. Sweet, Jones & Bartlett, 2012

Vehicle Rescue and Extrication, 2nd Ed., Ronald E. Moore, Mosby Jems, 2003

University of Illinois Fire Service Institute

Course Schedule

<u>Event</u>	<u>Duration</u>
Module 1 – Hybrid and Electric Vehicles: Concepts and Hazards	4 Hours
Lunch	
Module 2 – Alternative Fuel Vehicles: Concepts and Hazards	4 Hours