Course Description

Provides basic fire chemistry relating to the categories of hazardous materials including problems of recognition, reactivity, and health encountered by firefighters. Lecture 3 hours per week.

General Course Purpose

The purpose of this course is to provide the Emergency Medical Technology and Fire Science student with a solid foundation and understanding of the hazardous materials incident management system, examining the necessary issues needed to mitigate a hazmat incident.

Prerequisites/Corequisites

The student is presumed to have successfully completed all requirements for a high school diploma or equivalent

Course Objectives

After successful completion of this course the student will have an in-depth understanding of a hazardous materials incident and all of the components which are needed to successfully mitigate the situation including:

- Identify and describe the common elements of the Periodic Table
- Distinguish between elements, compounds, and mixtures
- Explain the difference between ionic and covalent bonding
- Define the basic chemistry involved with common hydrocarbon derivatives
- Describe the basic chemical and physical properties of gases, liquids, and solids
- Discuss the nine U.S. Department of Transportation hazard classes and their respective divisions
- Demonstrate the utilization of guidebooks, MSDS, and other reference materials to determine an initial course of action

Major Topics to be Included

- Hazmat Laws, Standards, and Regulations
- Health and Safety at a Hazmat Incident
- Role of the Incident Commander and relation to the other players in the Incident Management System
- Gathering Information and Identifying the Problem at a Hazmat Incident
- Hazard and Risk Evaluation of Potential Course of Harm
- Implementation, Evaluation and Review of Strategic Goals and Tactical Response Objectives
- Personal Protective Equipment and Clothing
- Decontamination
- Terminating the Incident (Critique, Debriefing, Post-Incident Analysis)