A. Identification:
   1. Subject Area: Fire Science (FSC)
   2. Course Number: 138
   3. Course Title: Hazardous Materials First Responder
   4. Credit Hours: 4
   5. Course Description: Definition, detection, identification, scene management, basic training, equipment planning, strategy, and tactics in the management of hazardous materials incidents. Preparation for Department of Emergency Services certificate. Four lecture.

B. Course Goals: To provide the students with information on how to identify, contain and control a hazardous material incident. Preparation will be provided for a department of emergency services certificate.

C. Course Outcomes: Students will:
   1. comprehend and identify various hazardous materials and their potential dangers;
   2. demonstrate procedures necessary for effective scene management;
   3. comprehend systems for assessing possible intervention;
   4. identify to the three tier concept of hazardous materials intervention:
      a. define hazardous materials;
      b. describe and utilize the D.O.T. and N.F.P.A. identification and numbering systems for hazardous materials;
      c. describe clues for detecting the presence of hazardous materials by type of occupancy, container, etc.;
      d. describe the chemical and physical properties of the major classifications of hazardous materials under the U.N. - D.O.T. system;
      e. identify the hazards to health and safety created by hazardous materials emergencies and methods of personal protection;
      f. describe the risk assessment considerations to be made by first responders at a hazardous materials incident, with special attention to the limitations due to lack of specialized protective clothing, equipment, and training;
      g. describe the potential roles of police, fire departments, industrial, pre-hospital and hospital personnel and other governmental and private agencies at the scene of a hazardous materials emergency;
      h. and identify the components of a pre-emergency plant for hazardous materials incidents.

D. Course Content will include:
   1. the hazardous material problem:
      a. historical perspective;
      b. current perspective: national dilemma, AZ dilemma;
   2. recognizing and identifying hazardous materials:
a. clues for detecting hazardous materials;
b. placard systems for recognizing hazardous materials;
c. reference materials;
3. flammable hazardous materials:
a. flammable liquids;
b. hydrocarbon derivatives;
c. flammable liquid containers;
d. control and stabilization;
e. flammable solids;
4. reactive hazardous materials:
a. compressed gases;
b. oxidizers;
c. organic peroxides;
d. explosives;
5. toxic hazardous materials:
a. corrosives;
b. poisons;
c. radioactive materials;
d. OREMS;
6. basic equipment and safety practices:
a. breathing apparatus;
b. protective clothing;
c. basic equipment;
d. decontamination;
e. medical treatment;
7. size-up, tactics and strategy:
a. size-up;
b. events analysis;
c. basic tactics and strategy;
8. scene management:
a. first responder responsibilities;
b. command responsibilities;
c. sectorization;
d. managing the hazardous materials section;
9. Pre-emergency planning:
a. integrated emergency management system;
b. hazard analysis;
c. planning for fixed sites;
d. available resources;
e. legal considerations;
f. contingency planning.