COCONINO COMMUNITY COLLEGE
COURSE OUTLINE

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Revised by: J. Cardani Fall 1995
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Revised by: David Ramos January 31, 2014
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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.