COURSE INFORMATION FORM

DISCIPLINE  EHSS
COURSE TITLE Properties and Hazards of Hazardous Materials

CR.HR  3  LECT HR.  3  LAB HR.  ______  CLIN/INTERN HR.  ______  CLOCK HR.  ______

CATALOG DESCRIPTION

This course covers the recognition and communication of the physical, chemical and health hazards of hazardous materials based on the nine DOT hazard classes, NIOSH Pocket Guide and EPA’s definition of characteristic hazardous waste. Included are toxic, corrosive, reactive, flammable and combustible liquids, compressed gases, LP-gases and cryogenic liquids. Upon satisfactory completion students will receive an OSHA 2015 (Hazardous Materials) certificate.

PREREQUISITES

None

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)

Upon completion of this course, the student will be able to:

1. Explain the nine DOT classes and divisions of hazardous materials.
2. Identify major chemical groups and individual chemicals.
3. Explain the physical properties of hazardous materials.
4. Interpret the information on a material safety data sheet or NIOSH Pocket Guide.
5. Explain chemical bonding and its impact on emergency response.
6. Explain the structure of common elements and compounds.
7. Discuss the basics of toxicology.
GENERAL EDUCATION OUTCOMES (ESO)
Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

<table>
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<tr>
<th>Outcomes</th>
<th>ESO</th>
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PROGRAM-LEVEL OUTCOMES

CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

1. Students will demonstrate the ability to apply foundational skill in an industrial setting, safely and to industry guidelines.
2. Students will think critically and apply problem-solving skills.
3. The program will graduate individuals who exhibit competence in the entry-level skills of technical profession environmental health and safety technology.
4. The program will graduate individual who can interact and communicate with managerial, supervisory, labor and external public using a combination of skills for a clear exchange of ideas and information.

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes may be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Assignments (1-7)
2. Written examinations (1-7)
3. Student participation ( 1-7)
COURSE OUTLINE FORM

DISCIPLINE: Environmental Health and Safety

COURSE TITLE: Properties and Hazards of Hazardous Materials

Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Elements
   A. Properties of Representative Families
   B. Hazards of Representative Families

II. Salts
   A. Properties
   B. Hazards

III. Nonsalts – Properties and Hazards
   A. Inorganic
      1. Properties
      2. Hazards
   B. Organic
      1. Hydrocarbons
         (a) Properties
         (b) Hazards
      2. Hydrocarbon Derivatives
         (a) Properties
         (b) Hazards

IV. Industrial Applications
   A. Plastics
   B. Acids
   C. Explosives
   D. Other

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