Las Positas College
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Course Outline for FST 65

FIRST RESPOND HAZ MAT/INCIDENT

Effective: Spring 2019

I. CATALOG DESCRIPTION:
FST 65 — FIRST RESPOND HAZ MAT/INCIDENT — 3.00 units

Hazard recognition and identification; incident response safety procedures and decontamination. Response to hazardous materials emergencies. Emphasis on skills and knowledge necessary to protect lives, property, and the environment. Meets the California Specialized Training Institute's requirements for Hazardous Materials First Responder Operational Awareness and Hazmat First Responder "Decon" Certifications under California Government Code Section 1503. Principles of Incident Command System, basic ICS stricture and common responsibilities. Meets the State Fire Marshall's Office I-200 Basic ICS (2006) Certification Requirement.

3.00 Units Lecture

Strongly Recommended
FST 53 - Fire Behavior and Combustion
with a minimum grade of C

Grading Methods:
Letter Grade

Discipline:
- Fire Technology

	MIN
Lecture Hours:	54.00
Expected Outside of Class Hours:	108.00
No Unit Value Lab	18.00
Total Hours:	180.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

Before entering this course, it is strongly recommended that the student should be able to:

A. FST53

IV. MEASURABLE OBJECTIVES:

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

A. Define and categorize each of the eight basic hazard classes;
B. Describe the various physical and chemical properties;
C. Utilize the various methods of identifying hazardous materials;
D. Describe the duties and responsibilities of the various response agencies;
E. Describe the procedures for responding safely to Hazardous Materials Incidents
F. Establish and utilize the Incident Command System for ICS 200;
G. Initiate incident scene isolation and zoning;
H. Describe evacuation procedures;
I. List and describe the various methods of containing hazardous materials;
J. Select the appropriate emergency actions at potential Boiling Liquid Expanding Vapor Explosion (BLEVE) incidents;
K. Describe the forms of toxic exposure and how to complete exposure records;
L. Select the appropriate level of protective clothing;
M. Establish decontamination procedures;
N. Describe different methods and levels of Decontamination Procedures

V. CONTENT:
A. Hazardous Material definitions, classes and properties
1. Classifications
2. Definitions and properties

B. DOT placarding and labeling system
    1. Component parts of DOT warning system
        a. Table I and Table II materials
        b. Interpreting hazards
        c. DOT shipping papers
    2. Types of shipping papers
        a. Location for mode of transportation
        b. CHEMTREC
C. The DOT Emergency Response Guidebook
    1. Purpose and limitations
    2. Contents
    3. Organization
    4. Use
D. The NFPA 704 Warning System
    1. Intentions of the 704 Warning System
    2. Where it is used
    3. Components utilized in the system
    4. Criteria for numerical classification of hazards
    5. Interpreting information
E. The EPA Pesticide Labeling System
    1. pesticides defined
    2. classifications of pesticides
    3. mandatory information required on labels
    4. signal words
    5. analysis of information on pesticide labels
F. Reference Books and Material Safety Data Sheets (MSDS)
    1. Categories of information sources
    2. Use of references
    3. Material safety data sheets
G. Container recognition in Highway Transportation
    1. Types of containers
    2. Products carried
    3. Safety considerations
H. Container recognition in Railroad Transportation
    1. Types of containers
    2. Products carried
    3. Safety considerations
    4. Tank car markings
    5. Lettering and specifications
    6. Fumigation labels, dome placards, and way bills
I. Incident response safety procedures and size-up
    1. Responding safely
    2. Elements of size-up
    3. Components of condition report
    4. Levels of incidents
J. Overview of the Incident Command System
    1. Components of ICS
    2. Responsibilities of positions with ICS
    3. Attributes of an IC
        a. Incident Mitigation Operations
    4. Incident scene isolation and zoning
    5. Evacuation procedures
    6. Decontamination procedures-overview
    7. Containment of hazardous materials
        a. Incident Action Plan
    8. How the organization initially develops at an incident
    9. How the organization expands and / or contracts
    10. Transfer of command / unified command
    11. Organization development exercise
        a. Decision making at potential “BLEVE” Incidents
    12. “BLEVE” defined
    13. Causes and effects of “BLEVE” Incidents
    14. Conditions necessary for “BLEVE” to occur
    15. Offensive / defensive decisions
        a. Pre-emergency planning
    16. Value of pre-emergency planning
    17. Elements to be identified
    18. Components of pre-planning
        a. Introduction to toxicology
    19. Poison’s, toxicology, and toxicity defined
    20. Dose-response relationship
    21. Toxicology terms
    22. Factors influencing toxicity and routes of exposures
    23. Exposure reports
        a. Protective Clothing for Hazardous materials Emergencies
    24. EPA levels of protection
        a. Level A
        b. Level B
        c. Level C
        d. Level D
            1. Selection criteria
            2. Types of chemical resistant clothing
            3. Advantages and disadvantages of suits
K. Decontamination
    1. Types of Decontamination
        a. Emergency Decontamination
            1. Gross Decontamination
        b. Technical Decontamination
            1. Entry Teams Decontamination
        c. Mass Decontamination

1. MCI-Terrorist Event

L. Methods of Decontamination
   1. Absorption
      a. Adsorption
      b. Covering
      c. Dilution
      d. Disinfection
      e. Disposal
      f. Emulsification
      g. Neutralization
      h. Overpacking
      i. Removal
      j. Solidification
      k. Vacuuming
      l. Vapor Dispersion
M. Decontamination Process
N. Decontamination Plan – Incident Command

VI. METHODS OF INSTRUCTION:

A. Group activities
B. Lecture, discussion and example
C. Audio-visual presentations
D. Video
E. Manipulative performance standards
F. Problem-solving exercises
G. Reading assignments
H. Diagnostic
I. Quizzes
J. Overheads

VII. TYPICAL ASSIGNMENTS:

A. Weekly reading Assignments
   1. Read Chapter in Chapter 2 in Text, “Hazardous Materials Incidents”
      a. Read ICS Module 1, I-100 “ICS Orientation”
B. Group Activities
   1. ICS-Role Playing, Developing the ICS Structure using ICS identifiers to a dynamic simulated scenario.
      a. Manipulative performance utilizing appropriate procedures, tools and PPE’s, with different decontamination scenarios.

VIII. EVALUATION:

Methods/Frequency

A. Exams/Tests
B. Quizzes
C. Simulation
D. Class Participation
E. Class Performance

IX. TYPICAL TEXTS:

1. - *California Specialized Training Institute Workbook on Hazardous Materials.* Latest ed., First Responder Certification Program, 2017.
2. - *Incident Command System, National Training Curriculum Module 1-6.* Latest ed., National Wildfire Coordinating Group, 2017.
3. *Hazardous Materials For First Responders.* 5th ed., IFSTA, 2017.
4. *Hazardous Materials: Awareness and Oprations.* 2nd ed., Jones and Bartlett Learning, 2014.

X. OTHER MATERIALS REQUIRED OF STUDENTS:

A. Notebook
B. Level B Protective PPE with Boots and Gloves SCBA *Provided by LPC Fire Service Technology Program