



El Camino College
COURSE OUTLINE OF RECORD – Official

Subject:	FTEC
Course Number:	504
Descriptive Title:	Hazardous Materials First Responder: Operational Level
Division:	Health Sciences and Athletics
Department:	Fire and Emergency Technology
Course Disciplines:	Fire and Emergency Technology, Fire Technology
Catalog Description:	This noncredit course is designed for fire department personnel who may respond to releases or potential releases of hazardous materials as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. Defensive tactics to contain the release from a safe distance, keep it from spreading, and prevent exposures without trying to stop the release. This course may require additional materials fees for state course completion certificate.
Prerequisite:	
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	.66
Hours Laboratory (per week):	.22
Outside Study Hours:	2
Total Course Hours:	16
Course Units:	0
Grading Method:	Pass/No Pass only
Credit Status:	Noncredit
Transfer CSU:	No
Effective Date:	
Transfer UC:	No
Effective Date:	
General Education ECC:	
Term:	
Other:	
CSU GE:	
Term:	
Other:	
IGETC:	
Term:	

Other:	
CalGETC:	
Term:	
Other:	
Student Learning Outcomes:	Upon completion of this course, the student should be able to: 1. Develop tactics that can be used to protect the public, the environment, and property from the effects of a hazardous materials release 2. Apply appropriate response procedures, including use of protective equipment and decontamination techniques, during simulated hazardous materials incidents in accordance with safety protocols and legal requirements. 3. Formulate and implement a hazardous materials response plan based on scene assessment, resource coordination, and established incident management systems.
Course Objectives:	1. Analyze hazardous materials incidents and lessons learned, safety precautions, making proper notifications, and legal aspects of response. 2. Describe scene management considerations and the utilization of IDHA and action plans. 3. Demonstrate safe methods and procedures for the proper use of hazardous materials protective equipment, containment, protective actions, decon, disposal and documentation. 4. Evaluate considerations when preplanning for hazardous materials incidents. 5. Demonstrate skill proficiency in a simulated exercise that uses the information, methods, and procedures contained in this course.
Major Topics:	I. Introduction to Hazardous Materials at the Operational Level (lecture) II. Hazardous Materials Recognition and Safety (lecture) III. Safety, Isolation, and Notifications (lecture) IV. Command/Introduction to Scene Management (lecture) V. Protective Equipment and First Responder Limits (lecture) VI. Containment and Protective Actions (lecture) VII. Decon Disposal and Documentation (lecture) VIII. Agency Coordination (lecture) IX. Pre-Event and Event-Specific Planning (lecture) X. Toxicology (lecture) XI. The Safe and Competent Hazardous Materials Process (lecture) XII. Hazardous Materials Legal Aspects and the Media (lecture) XIII. Create Hazardous Material action plans (lab) XIV. Participate in a first responder operational exercise (lab)
Total Lecture Hours:	12
Total Laboratory Hours:	4
Total Hours:	16
A.1. Primary Methods of Evaluation (Part 1 - CCN courses only):	
Primary Method of Evaluation:	3) Skills demonstration
Typical Assignment Using Primary Method of Evaluation:	In this activity, you and your team will step into the role of first responders at a simulated hazardous materials incident. Your goal is to assess the situation, identify risks, and come

	up with a basic action plan using the IDHA model — Identify, Determine, Hazard, and Action. Steps to Complete: 1. Listen to the Scenario a. Your instructor will present a real-world-style hazmat incident (like a chemical spill or overturned tanker). b. You'll receive a printed summary with key details: what happened, where, when, and what material is involved. 2. Work with Your Team a. Get into a group of 3–5 students. b. Use the IDHA worksheet to guide your response planning: i. Identify the hazardous material and any immediate dangers ii. Determine the protective actions you'd take (like isolating the area or evacuating) iii. Hazard: Evaluate the specific risks of the substance (fire hazard, toxicity, etc.) iv. Action: List out your team's first steps — PPE, notifications, containment, and decon 3. Share Your Plan a. Pick one group member to give a 1-minute summary of your response plan to the class. b. We'll briefly discuss each plan and go over key takeaways. What You'll Turn In: · Your completed IDHA worksheet (one per group) How You'll Be Graded (25 points total): Participating in group work (10 points) Clear and accurate IDHA response (10 points) Sharing your plan with the class (5 points)
Critical Thinking Assignment 1:	Choose a real hazardous materials incident that has been documented (e.g., a transportation spill, industrial release, or train derailment involving hazardous substances). Provide a brief summary of the incident (1–2 pages), including: • What happened (substance involved, location, time, agencies involved) • Initial response and challenges • Outcomes and any identified errors or lessons learned · Analysis (2–3 pages): Analyze the incident based on topics from course lectures: • Hazard recognition and scene safety • Initial isolation and protective measures • Notifications made and agency coordination • Use or limitations of protective equipment • Decontamination and disposal efforts • Legal issues or media involvement (if applicable) IDHA-Based Action Plan (1–2 pages): Using the IDHA model, create an action plan you would implement if you were the first responder on the scene today. Include: • Identify the hazards (materials, risks) • Determine protective measures (evacuation, isolation) • Hazard assessment (toxicity, reactivity, exposure routes) • Action steps (containment, PPE, decon, notifications) Pre-Event Planning Reflection (1 page): Evaluate what could have been done in terms of preplanning to improve response (e.g., training, equipment, community awareness). Reflect on how this assignment will help inform your actions in a simulated or real event.
Critical Thinking Assignment 2:	Select a Hazardous Materials Incident: Choose a documented incident (e.g., news report, NTSB summary, FEMA case study). Summarize the incident in 1–2 paragraphs, including: 1. What happened

	2. What hazardous material(s) were involved 3. Basic response actions taken Develop a Brief IDHA Plan: In bullet points or short paragraphs, outline your response using the IDHA model: 1. Identify: What are the hazards? 2. Determine: What protective actions should be taken (e.g., isolate, evacuate) 3. Hazard: What are the specific risks (flammable, toxic, etc.)? 4. Action: What steps should responders take (PPE, decon, notifications)? Reflection (Optional Extra Credit – 5 points): In 1 paragraph, reflect on one thing that surprised you or stood out from this incident.
Other Evaluation Methods:	Completion, Embedded Questions, Matching Items, Multiple Choice, Objective Exam, Presentation, Quizzes, True/False
If Other:	
Instructional Methods:	Demonstration, Discussion, Group Activities, Lab, Lecture, Multimedia presentations
If other:	
Work Outside of Class:	
If Other:	
Up-To-Date Representative Texts:	<i>Department of Transportation DoT Emergency Response Guidebook (ERG) 2020</i> , Department of Transportation 2020.
Alternative Texts:	
Required Supplementary Readings:	
Other Required Materials:	
Requisite	
Category	
Requisite course:	
Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	
Requisite Skill and Matching skill(s): Bold the requisite skill(s). if applicable	
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Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Matthew Kline
Date:	02/04/2025
Original Board Approval Date:	06/26/2025
Effective Term:	FA 2026