

Montgomery County Community College
FSC 102
Hazardous Materials
3-3-0

COURSE DESCRIPTION:

This course is about hazardous material (hazmat) incident response. It is designed to provide both public and private sector emergency response personnel with a logical system for managing hazardous materials incidents. This course will also present a study of the proper storage, transportation and handling of flammable liquids and gasses, combustible solids, oxidizing and corrosive materials; dusts, metals and plastics; radioactive and poisonous substances; cryogenics and rocket fuels; electrical hazards; and will place emphasis on emergency situations and firefighting and control.

REQUISITES:*Previous Course Requirements*

- FSC 100 Introduction to Fire Science

Concurrent Course Requirements

None

LEARNING OUTCOMES Upon successful completion of this course, the student will be able to:	LEARNING ACTIVITIES	EVALUATION METHODS
1. Discuss the major classes of hazardous materials, the dangers they pose, and their effects on life and property.	Assigned Readings Lectures Discussions Case Study Analysis AV/Multimedia Materials Field Trips Essay Assignments Directed Research Quizzes and Exams	Attainment of State HazMat Tech Certification Multiple-Choice Exam Graded Essay Graded Essay Exam Assignments Graded Research Project Individual or Group Presentation Graded Class Discussion Graded Case Study
2. Explain the requirements for handling, storage, and transport of the major classes of hazardous materials.	Assigned Readings Lectures Discussions Case Study Analysis AV/Multimedia Materials Field Trips Essay Assignments Directed Research Quizzes and Exams	Attainment of State HazMat Tech Certification Multiple-Choice Exam Graded Essay Exam Assignments Graded Research Project Individual/or Group Presentation Graded Class Discussion Graded Case Study

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
3. Explain the application of local, state, and federal regulations concerning hazardous materials.	Assigned Readings Lectures Discussions Case Study Analysis AV/Multimedia Materials Internet Field Trips Field Trips Essay Assignments Directed Research Quizzes and Exams	Attainment of State HazMat Tech Certification Multiple-Choice Exam Graded Essay Graded Essay Exam Assignments Graded Research Project Individual or Group Presentation Graded Class Discussion Graded Case Study
4. Participate in the process of planning, organizing, and training for response to hazardous materials mishaps and exposures.	Assigned Readings Lectures Discussions Case Study Analysis AV/Multimedia Materials Internet Field Trips Field Trips Essay Assignments Directed Research Quizzes and Exams	Attainment of State HazMat Tech Certification Multiple-Choice Exam Graded Essay Graded Essay Exam Assignments Graded Research Project Individual or Group Presentation Graded Class Discussion Graded Case Study
5. Discuss agency responsibilities for hazardous materials incident preparedness, incident prevention, and incident response.	Assigned Readings Lectures Discussions Case Study Analysis AV/Multimedia Materials Internet Field Trips Field Trips Essay Assignments Directed Research Quizzes and Exams	Attainment of State HazMat Tech Certification Multiple-Choice Exam Graded Essay Graded Essay Exam Assignments Graded Research Project Individual or Group Presentation Graded Class Discussion Graded Case Study
6. Identify and work with representatives of multiple services, agencies, and levels of government in an organized incident management structure.	Assigned Readings Lectures Discussions Case Study Analysis AV/Multimedia Materials Internet Field Trips Field Trips Essay Assignments Directed Research Quizzes and Exams	Attainment of State HazMat Tech Certification Multiple-Choice Exam Graded Essay Graded Essay Exam Assignments Graded Research Project Individual or Group Presentation Graded Class Discussion Graded Case Study

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
7. Be conversant in issues pertaining to hazardous materials and how they might be employed or leveraged by terrorists in an attack.	Assigned Readings Lectures Discussions Case Study Analysis AV/Multimedia Materials Internet Field Trips Field Trips Essay Assignments Directed Research Quizzes and Exams	Attainment of State HazMat Tech Certification Multiple-Choice Exam Graded Essay Graded Essay Exam Assignments Graded Research Project Individual or Group Presentation Graded Class Discussion Graded Case Study

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Associate Vice President of Academic Affairs. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria.*

SEQUENCE OF TOPICS:

1. The Hazardous Materials Management System
2. Health and Safety
3. The Incident Command System
4. The Eight Step Process: An Overview
5. Site Management
6. Identifying the Problem
7. Hazard Assessment and Risk Evaluation
8. Select Personal Protective Clothing and Equipment
9. Information Management and Resource Coordination
10. Implementing Response Objectives
11. Decontamination
12. Terminating the Incident
13. Community-Centered Managerial Issues
14. Department-Centered Managerial Issues
15. Program Management

LEARNING MATERIALS:

Noll, Gregory G., Hildebrand, Michael S. and Yvorra, James G. (2012). *Hazardous Materials: Managing the Incident* (4th ed.). Jones & Bartlett.

Other learning materials may be required and made available directly to the student and/or via the College's Libraries and/or course management system.

COURSE APPROVAL:

Prepared by: Don Nypower	Date: 6/1995
Revised by: Benn Prybutok and Michael Moonblatt	Date: 2/2/2009
VPAA/Provost Compliance Verification: Dr. John C. Flynn, Jr.	Date: 9/11/2009
Revised by: Benn Prybutok	Date: 2/2013
VPAA/Provost or designee Compliance Verification: Victoria L. Bastecki-Perez, Ed.D.	Date: 2/25/2013
Revised by: Jayden Sampson	Date: 12/16/2017
VPAA/Provost or designee Compliance Verification:	Date: 12/18/2017



This course is consistent with Montgomery County Community College's mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.