

ARIZONA STATE UNIVERSITY



College of Technology and Applied Sciences

Arizona State University

**IST 524(494)—Emergency Preparedness, Response and Planning for Hazardous Materials
Summer Semester 1997**

Prerequisites: CHM 101, 113 and 115; MAT 170; IST 501.

Instructor: Dr. Danny Peterson

Dates: Jun 7, 13, 21, 27, July 12, and 18. *Alternating Friday and Saturday seminars.*

Venue: ASU East; CNTR 109.

Time: 8:00am - 5:00 pm.

Objective: Individuals who work with, manage, or otherwise interface directly or indirectly with industrial wastes and/or hazardous materials must have at least a rudimentary understanding of contingency planning and response to incidents and accidents involving hazardous materials. This course will provide a basic understanding of techniques for in-house or on-site emergency response contingency planning. Sample plans will be developed with emphasis on assessment, equipment requirements, collateral support agreements and actual response. Definitions will be covered which will promote and facilitate discussions concerning planning and response as well as providing a framework upon which the student can engage in problem formulation and statement. An actual response exercise will be conducted requiring total class participation.

Method of presentation: The course is structured in a seminar format. Presentation of materials will be through lectures, discussions, appropriate videos, class projects, and case studies. Participation in an actual hazmat exercise is mandatory.

Required Materials:

Noll, G., Hildebrand, M. & Yvorra, J. (1995). *Hazardous materials: Managing the incident*. Stillwater, Oklahoma: Oklahoma State University.

Noll, G., Hildebrand, M. & Yvorra, J. (1995). *Student Workbook; Hazardous materials: Managing the incident*. Stillwater, Oklahoma: Oklahoma State University.

Course Requirements:

Readings: Students are required to complete the necessary reading assignments prior to the session as reflected in the schedule.

Attendance: Class attendance is strongly encouraged. Any unexcused absence(s) will be reflected in the reduction of overall grade. University policy will be strictly adhered to regarding absenteeism.

Assignments, Grading, and Exams: All participants are required to work in groups for some class assignments. There will be four quizzes administered throughout the course. A comprehensive final will be given the morning of 18 July. The afternoon of 18 July will be used reviewing the final exam and debriefing an exercise scenario. This afternoon session is mandatory and will be part of the final grade. In addition, graduate students are required to write a 10 page term paper on one of the subjects listed on attachment 1. Other subjects may be used on a case-by-case basis with instructor approval. All exams will be given during lecture times. Exam dates are indicated on the course outline. No make-up exams will be given. If an exam is missed for a valid reason, all of the other exam scores will be averaged and that average used in lieu of the missed exam. Additional missed exams will receive a score of zero.

Disclaimer: This *syllabus may be modified* at the instructor's discretion as necessary to meet the needs of the course.

Note: Term paper must be typed, double-spaced. Style and format are not show-stoppers, but APA style is preferred.

Grading Criteria*:

Non-Credit and Undergraduates:

| | |
|-------------------------------------|------------|
| Class Participation and attendance: | 20% |
| Quizzes: | 60% |
| Final Exam: | <u>20%</u> |
| | 100% |

Graduate Students:

| | |
|-------------------------------------|------------|
| Class Participation and attendance: | 20% |
| Quizzes: | 40% |
| Term Paper: | 20% |
| Final Exam: | <u>20%</u> |
| | 100 % |

Grading Guidelines

| | |
|---------|---|
| 90-100% | A |
| 80-89% | B |
| 70-79% | C |
| 60-69% | D |

*Note: Grading criteria are guides only. A modified curve may be used.

Schedule

- June 7: History of hazmat incidents and accidents
Theory of contingency planning
National Contingency Planning framework
Hazmat laws, regulations, and definitions
Health and safety considerations
The Hazardous Materials Management System
Assignment: Project group assignment; Read chapters 1-2 Noll, Hildebrand, & Yvorra.
Complete chapters 1 and 2 in student workbook.
- June 13: Quiz #1
Health and Safety
Politics of hazmat incident management
Contingency planning process
Site management
Assignment: Chapters 3-4, Noll, et. al. Complete chapters 3 and 4 in student workbook.
- June 21: Quiz #2
The Incident Management System
The Politics of Hazmat incident management
Problem identification
Hazard and risk evaluation
Contingency plan writing
First Responder duties
Assignment: Chapters 5, 6, 7 Noll, et. al. Complete chapters 5, 6, and 7 in student workbook.
- June 27: Quiz #3
Site Management and Control
Identification of the Problem
Hazard and Risk evaluation
Personal protective clothing and equipment
Information management and resource coordination
Contingency plan coordination
Mutual aide and co-lateral support agreements
Assignment: Chapters 8, 9, and 10. Noll, et. al. Complete chapters 8, 9, and 10 in student workbook.
- July 12: Quiz #4
Personal Protective clothing and equipment
Information management and resource coordination
Implementing response objectives
Exercise participation
Exercise discussion and critique
Assignment: Chapters 11 and 12, Noll et. al. Complete chapters 11 and 12 in student workbook.

July 18: Decontamination
Terminating the incident
Final Exam
Final Exam review and critique
Exercise debrief
Plan revisions

\$ SURVIVAL 3 DISASTER

1. The impact of an Emergency Operations Center on a Hazmat incident. Is it truly beneficial?
2. The optimum number of technicians on a Hazmat team.
3. Have reporting requirements been beneficial to fire departments?
4. History and present status of 40 CFR 68; Air Toxics.
5. Toxic corridor calculations,
6. Integration of disaster planning for natural and chemical accidents,
7. Security during a Hazmat response. Who and under what circumstances do you allow entry?
8. How do well-defined maintenance practices lower environmental and legal costs?
9. Cost analysis of maintaining an on-site response team.
10. What are the state and Federal liability considerations for preparedness for Hazmat accidents?