DISASTER RESPONSE PLANNING

Course Objective

To offer the student insight into some of the policies and activities of emergency management.

Method of Evaluation

Grades will be determined by the following:

a) topical presentations in class
b) take-home midterm exam
c) take-home final exam
d) research papers

Topics for presentations and research papers will be determined by individual and/or class interests.

COURSE OUTLINE

I. Overview of Emergency Planning
   A. Video #1: “Formulating Public Policy: Segment 1: Countdown to Disaster.” 17 + min.
   B. Video #2: “Why Plan.” 22 min.
      (See pages 8 and 9 for descriptions of videos.)

II. Preliminary Consideration of Available Information (material will be on reserve either at the library or in my office.)
   A. Resource Materials
         d. Introduction to Emergency Management. FEMA IG 60, August 1983.

g. Model Community. FEMA, SM 171.1, March 1988.

2. Textbooks


3. Texas Publications—Division of Emergency Management (DEM)

b. Annexes for DEM-10.

Annex A. Warning 12/87
B. Communications 7/86
C. Shelter/Mass Care 4/88
D. Radiological Protection 8/86
E. Evacuation 12/87
F. Fire and Rescue 9/85
G. Law Enforcement 9/85
H. Health and Medical 9/85
I. Emergency Public Information 12/87
J. Damage Assessment 9/85
K. Public Works/Engineering 9/85
L. Utilities 9/85
M. Resource Management 12/87
N. EOC/Direction and Control 12/87
O. Human Services 9/85
P. Hazard Mitigation 12/87
Q. Hazardous Materials Response 12/87
R. Rescue 9/85
S. Transportation 9/85

4. Texas A&M University Publications

5. Journals and Papers
a. Quarterly Status Report of Superfund Sites. EPA, Region VI.
b. FEMA Newsletter. FEMA, Washington, D.C.
c. DEM Digest. Texas Department of Public Safety.
e. Hazard. Maryland: Research Alternatives, Inc.
6. Others
   f. *Disaster Preparedness Plans*, the University of Texas Medical Branch at Galveston, 1990.
   g. *American Red Cross Disaster Guidelines*.
   h. *Private Disaster Company Folder*.
   i. *City of Corpus Christi Emergency Management Plan*.

B. Classification of Disasters

1. Threefold
   a. Attack: biological, chemical, nuclear, and conventional war.
   b. Man made: epidemic; fire (accident, arson); hazardous material accident (fixed site, transport); nuclear and radiological (fixed site, transport); pollution; resource and energy disruptions or shortages; reservoir and dam breaks; major gas and water main breaks; major transportation accidents; mine disasters; pipeline explosions; terrorism; and civil disorders, riots, and strikes.
   c. Natural: drought; extreme cold; fire from lightning or spontaneous combustion (forest, range, other); flood and other water; landshift (earthquake, earthslide, or mudslide); snow and ice; tsunami and storm surge; volcanic eruption; wind (cyclone, hurricane, typhoon); tornado; sand and dust storms; severe fog and smog; and agricultural blight or infestation.

2. Twofold
   a. Technological
      1. Attack
      2. Man Made
   b. Natural
C. Four Phases of Emergency Management
   1. Mitigation (long term)
   2. Preparedness (to respond)
   3. Response (to the emergency)
   4. Recovery (short & long term - “mitigation”)

III. Roles in Disaster Planning
   A. Federal Emergency Management Agency (FEMA)—Video #3: “Just in Case.” 27 min. Role of FEMA.
   C. Governor’s Division of Emergency Management (DEM)
      2. Disaster Districts
         a. Head—Texas Department of Public Safety (TDPS).
         b. DEM represented by Regional Liaison Officer (RLO).
      3. City and County Emergency Management—contacts are DEM and RLO’S.
         a. Directors (highest elected officials).
         b. Coordinators

D. The American Red Cross

IV. Topical Presentations
   A. “Natural Hazard Mitigation Costs and Impacts.” Petak and Atkinson, Chapter 6.
   C. “Policy Makers, Stakeholders, and Candidate Public Problems”. Petak and Atkinson, Chapter 8.
   I. Disaster Preparedness Plans, The University of Texas Medical Branch at Galveston, 1990.

K. *American Red Cross Disaster Guidelines*.

V. Functional Disaster Areas—Integrated Emergency Management System (IEMS)
   A. Communications and Warning
   B. Damage Assessment
   C. Health and Medical Services
   E. Evacuation
   F. Fire Service
   G. Law Enforcement
   H. Resource Management
   I. Public Information and Education—Video #12: “Gleaming in the Public Eye.” 13 min.
   J. Public Works
   K. Radiological Defense
   L. Rescue
   M. Shelter
   N. Social Services

VI. Disaster Case Studies—presentations by class members on selected disasters incorporating the four phases of disaster planning and the functional sectors.

VII. Hurricane Planning for the Texas Coast
   A. Video #13: “Hurricane Training Tape.” 120 min.
      1. Evacuation Studies
      2. Vulnerability Studies
      3. Contingency Studies
   B. Video #14: “Hurricane Alicia.” 28:30 min.
C. Video #15: “48 Hours on Hurricane Gilbert.” 60 min.

VIII. The Concept of Vertical Evacuation
   A. Structural Concerns
   B. Legal Concerns
   C. Political Concerns
   D. Behavioral Concerns

IX. Military Support of Civil Defense

X. Superfund Amendments and Reauthorization Act of 1986 (SARA)
   Video #16: “Town of Our Times.” 26 min.

POSSIBLE FIELD TRIPS
1. The Emergency Operating Center of the Governor’s Division of Emergency Management—Austin.
2. Brazos County Emergency Operations Center.

POSSIBLE GUESTS
1) Jack Cangelosie, Coordinator of Brazos County.
2) Al Stirling, Division Head, Oil and Hazardous Materials Training Division, Texas Engineering Extension Service, on SARA.
3) Thomas Urbanik II, Texas Transportation Institute, on nuclear evacuations.

VIDEO DESCRIPTIONS

Video #1: “Formulating Public Policy”: Segment I: Countdown to Disaster”: 17 + minutes. Video contains assorted film clips from different types of disasters.

Video #2: “Why Plan”: 1/2. 22 minutes. Color. A Federal Emergency Management Agency Production. A look at five different types of disasters and the readiness of each area affected. Depicts how to complete an emergency plan. This film is used in conjunction with the Professional Development Series courses. Disasters shown are Mount Saint Helens Volcano eruption, the San Diego Air crash, California forest fires, Miami riots, and Hurricane Allen.

Video #3: “Just in Case”: 27 minutes. Role of FEMA.

Video #4: “Terrible Tuesday”: 16 mm. 23:30 minutes. Color, sound. The story of the tornado that struck Wichita Falls, Texas in April, 1979.


Video #7: “A Special Kind of Place—Jackson, Mississippi/Hind Co. E.O.C.”: 1/2 . 20 minutes. Color. An overall description of the E.O.C. facility. Features the deactivation procedures for the facility as well as staff functions. Describes equipment in the facility.

Video #8: “Trapped”: 16 mm. 20 minutes. Black and white, sound. This is a Swedish-made rescue film in English which has been adapted for use in the United States. It emphasizes the need for many trained rescue workers and shows the special techniques required in rescue work.

Video #9: “Hazardous Materials Response”: 1/2 . 30 minutes. Color. This is an introduction to the problems of hazardous material emergencies. Explains why it is so important for an emergency responder to be educated on the procedures to take in order to identify, handle, and control hazardous material emergencies. Describes how to perform these three procedures with all types of hazardous materials. Shows different hazardous material disasters from past history.

Video #10: “Blueprint for Safety”: 16 mm. 16 minutes. Color, sound. 1982 DuPont Corporation Production. Scenario is a hazardous material spill as a result of a tanker carrying methanol colliding with another vehicle which causes a leak in the tanker. Shown are procedures to be implemented in the handling of such an incident.

Video #11: “San Antonio Train Derailment—Part I, II, & III”: 1/2 . 2 hours, 54 minutes. Color. This 3 part video is raw aerial & ground footage of the train derailment which took place June 8, 1986 in northeast San Antonio, Texas and burned for 6 days. Tanker cars were transporting the highly flammable substance, Butadiene which is used in making synthetic rubbers and resins.

Video #12: “Gleaming in The Public Eye—Positive Media Relations in a Crisis”: 1/2 . 13 minutes. Color. 1983. Using a hazardous material spill scenario, this video depicts how detrimental untrained personnel relaying information about an incident can be. Video shows the correct way media interviews should be handled. Illustrates the crucialness in planning ahead for interviews of this sort.

Video #13: “Hurricane Training Tape”: 2 hours. This film explains how to use the evacuation, vulnerability, and contingency studies developed for the Texas Gulf Coast.

Video #14: “Hurricane Alicia”: 16 mm. 28:30 minutes. Color, sound. Destruction caused by Hurricane Alicia which came ashore on Galveston Island in August, 1983, and caused damage from the coast inland to Houston.

Video #15: “48 Hours an Hurricane Gilbert”: 1 hour.

Video #16: “Town of the Times”: 16 mm. 26 minutes. Color, sound. Demonstrates the arguments, pro and con, when the Civil Defense Director faces resistance, false information, and
do-nothing attitudes. It also demonstrates results which can be achieved through concerted, directed community action behind a worthy undertaking.

Video #17: “Mutual Aid—The U.S. Industry”: 16 mm. 25:30 minutes. Color, sound. This film depicts a demonstration of coordination between the fire-fighting and rescue squads of various large industries located in a highly industrialized section of New Jersey. The climax of the film shows how these large companies and area towns combined their resources to combat a large fire set off in a catalyst-cracking plant of Standard Oil in New Jersey.

Video #18: “Denver Media Plan (Airport)"

Video #19: “Hurricane Hugo Debriefing”

Video #20: “Flight 1141”
PLAN 689
ORGANIZATIONAL AND COMMUNITY
PLANNING AND RESPONSE FOR DISASTERS
Spring 1995
Dr. Dennis Wenger

Office: Room 106B, Building C, Langford Architecture Complex
Phone: 845-7813
Office Hours: 2:00 PM - 4:00 PM, TR

Required Texts

Additional Readings
Additional readings from single item materials will be made available to the student at the cost of five cents/page for reproduction.

This course is intended to be an introduction to the field of disaster research. The study of the social and human aspects of disasters has a rather brief, but colorful, history. The analysis of disasters has come to focus upon four interrelated phases, including mitigation, preparedness, response and recovery. This course is going to focus primarily upon emergency preparedness and response at the individual, organizational and community levels of analysis. Very little attention will be given to the issues of mitigation and recovery. (These topics, and others, such as risk perception, will be addressed in other courses in the hazard emphasis area.) Our approach will be conceptual, in that we will address various theoretical and conceptual issues inherent in human preparedness and response to disasters. It will also be embedded within the research literature.

As such, we are all pilgrims on a journey that is rather new. This course has been offered previously at Texas A&M University, but it has never been presented at any other university in the United States. Therefore, flexibility and adaptability on the part of the student will be valuable traits. BE READY TO ADJUST.

The course will be organized around the following major topics:
I. Disaster Research and Conceptual Issues
II. Mitigation and Emergency Planning
III. Immediate Pre-Impact Activities
IV. Immediate Post-Impact Activities
V. Later Recovery and Reconstruction Issues
TOPIC I: DISASTER RESEARCH AND CONCEPTUAL ISSUES (about 2 weeks)

Aufderheide: chapter 1 and pp. 49-54
Drabek: pp. 1-20 and 406-423
Miller: Individuals in Disaster (Chapter 9)*
Wenger: Community Response to Disasters*

We will begin our quest with a brief overview of the history of disaster research in the United States and throughout the world. We will examine the concept of disaster by looking at various definitions of the term. For example, we will consider such distinctions as natural versus technological disasters; catastrophes versus disasters, versus emergencies, and various stress models. Finally, the characteristics of disaster agents will be examined.

TOPIC II: MITIGATION AND EMERGENCY PLANNING (about 3 weeks)

Aufderheide: chapters 2 and 3
Drabek: pp. 21-70 and 348-404

Brief attention will be given to the problems of stimulating adoption of mitigation and preparedness measures within communities. The concept of Crises Management Capabilities and Disaster Subcultures will be examined. Various established principles of effective disaster planning will be studied. Finally, the course will focus upon the issue of the organization and structure of emergency planning within local emergency management agencies.

TOPIC III: IMMEDIATE PRE-IMPACT ACTIVITIES (about 4 weeks)

Aufderheide: chapters 5 and 9 and pp. 54-63
Drabek: pp. 70-129
Miller: Organizations, Communities and Societies in Disaster (chap. 10)*

A variety of immediate pre-impact activities and issues will be considered. Warning systems and human response to warnings will be studied. The findings of research on evacuation and panic will be examined. The critical issue of role conflict of emergency personnel will be empirically investigated. Finally, the ecology of the disaster area will be described.
TOPIC IV: IMMEDIATE POST-IMPACT ACTIVITIES (about 4 weeks)

Aufderheide: chapters 6 and 7
Drabek: pp. 132-198

The immediate post-impact behavior of individuals and organizations will be given extensive treatment. Disaster myths at the individual level will be discussed. Subsequently, a four-fold typology of organizational response to disaster will be presented. The specific problems inherent in search and rescue, emergency medical provisions, the integration of volunteers, and the handling of casualties will be catalogued. Media coverage of disasters will be considered. Finally, the effectiveness of the Incident Command System will be assessed.

TOPIC V: LATER RECOVERY AND RECONSTRUCTION ISSUES (one week)

Aufderheide: chapters 9 and 10
Drabek: pp. 200-250 and 250-316

The course will end with a brief discussion of external involvement in disasters. A model that examines local recovery from disasters in light of vertical and horizontal ties will be presented. Finally, the implications of disasters for producing social change and mitigation will be considered.

*Material will be provided by the instructor in class at a nominal fee.

Course Requirements

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<tr>
<th>Requirement</th>
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<td>Mid-term Examination</td>
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<td>Course Paper</td>
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<td>Final Examination</td>
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Both examinations will be of a take-home essay format. The mid-term examination will come after Topic III. The Final Examination will be due during final examination week, but it will not be cumulative. The nature of the paper will be discussed in class during the first two weeks.
Dr. G. Rogers
Office: 104c Langford (C)
Phone: 845-7284
Office Hours: By Appointment

Required Readings:


Articles on Reserve (By topic)

Optional Books (worth reading):


Course Description—This course focuses on the public policy and planning aspects of risk. Starting with the evaluation and development of risk analysis, including risk assessment, perception of risk, risk communication, as well as risk management. This course also examines the mitigation of risk, involving technology, emergency management, disaster preparedness and response associated with all hazards. This course emphasizes the relationship with and use of risk analysis in establishing public policy, public participation, emergency preparedness, hazard mitigation, and the management of risk.
Course Requirements:
In-class Midterm Exam 30%
Final Exam 30%
Term Paper 25%
Class Participation/Book Report 15%
Course Grade 100%

The term paper will be due the 12th week of class. However, prior to the completion of the paper an abstract/outline will be reviewed with the instructor on or before 4th week, and a bibliography and review of relevant literature will be provided and reviewed by 8th week of class. The term papers are to be “of article length and quality” and in a format appropriate for submission to a professional journal. The expected nature of the paper will be discussed in class.

Literature reports will be presented to class during the discussion of the related topics. These reviews will (a) communicate the essence of the article/book/report, (b) identify key arguments, strengths and weaknesses, if any, and (c) identify the key contributions of the book to hazard and risk management literature. In addition to the class presentation a 3-5 page written review will be handed in and shared with the class.

Schedule of Classes

1. Risk Definitions—What is risk?

2. Risk Assessment—How risky is it?

3. Cost-Benefit Analysis—How do we weigh the costs and benefits?
4. Acceptable Risk—How Safe is Safe enough?

5. Risk Perception: Cognitive Psychology Approach—How do people think about risk?

6. Risk Perception: Social Structural Approach—How does who you are influence what you think about risk?
Rogers, G.O., Theoretical Development

7. Social Structural Approach—How do experience and values effect perceived and acceptable risk?
Rogers, G. Life Events, Experience and Perceived Risk

8. Public Perception of Risk—What do survey results tell us about risk and public policy?
Harris, L. Risk in a Complex Society.
Rogers, G.O., Conditions of Acceptability.

9. Judgmental Heuristics—What are the biases that effect what people think about risk? Can they be avoided?

10. Risk and culture—How does culture effect risk perception, management and policy?

11. Risk Communication—How can we communicate more effectively about risk? What does it mean to communicate more effectively?
12. Regulating Risk—What risks should be regulated? How should we regulate risk?

13. Risk Management—Management and acceptability, how can we manage risks better?

14. Social Organizations and Risk—What are the consequences of social organizations on inherent risk? How can organizations help reduce risk?

15. Incorporating Human Behavior in Exposure Models—How can our risk models better incorporate human behavior into risk assessment?

16. Ethics of Risk—How can we account for the ethical issues associated with risk, its regulation and management?