

THE GEORGE WASHINGTON UNIVERSITY
Environmental and Energy Management Program
EMSE 6240 - Environmental Hazard Mgmt
Syllabus

Instructor

Course Description

This course is designed to serve as a bridge between crisis/emergency management and environmental management. The causes and effects of extreme natural and technological hazards will be explored with an emphasis placed on organizational responsibilities, shared governance, management approaches, environmental security, directed technologies, and the social factors related to environmental hazard assessment and risk reduction. An introduction to the various types of natural, technological and social hazards will be provided. Hurricane Katrina, the oil fires in Kuwait, and other recent environmental disasters will be used to illustrate possible prevention, response and mitigation tools. Additionally, the course will focus on the cultural, institutional and technical capacities that bear upon environmental disaster management, global adjustment patterns, and national and international risk reduction and mitigation measures. The emerging area of environmental security will be introduced as a response to intentional acts that use the environmental processes to propagate terror, property destruction, and death.

The principal text is "ENVIRONMENTAL HAZARDS Assessing Risk and Reducing Disaster" 3rd Ed. by Keith Smith (Routledge of London and New York). It is available in paperback so that will save you some money. The text will be supplemented by handouts and information available free on the internet. Grading will be based on a project and final exam.

Topics: Part 1 Environmental Disaster Management Concepts and Tools

1. Introduction to Environmental Disaster Management
 - a. Administrative matters
 - b. Class introductions
 - c. Definitions and subject matter covered
2. Classifying and measuring the dimensions of environmental disaster
 - a. Classification of natural and human-impact disasters involving the environment
 - b. What will be covered what is not
 - c. Audits of disaster and statistical analysis
3. The role of risk assessment and disaster management
4. Responding to environmental hazards: accepting, mitigating, and sharing the loss
 - a. Planning and responding to inevitable occurrences
 - b. Planning and responding to "unexpected" disasters
5. Adjustment to hazard: Prevention and mitigation of loss due to environmental disaster
 - a. engineered and physical structures
 - b. land use planning

c. legal and social controls

Part 2 Management of Specific Environmental Hazards and Disasters

6. Hydrological hazards: floods
7. Hydrological hazards: droughts
8. Mass movement hazards
9. Severe storm hazards
10. Biophysical hazards: temperature extremes, epidemics and wildfires
11. Tectonic hazards: earthquakes
12. Tectonic hazards: volcanoes
13. Technological hazards
14. War and terrorist induced environmental disasters
15. Course Review and Conclusion—Final Exam