

UNIVERSITY OF WASHINGTON

Toward Community Sustainability through Hazards Mitigation:

509 X – Winter Semester

Course Description:

This course is a risk reduction survey course designed to introduce the student/practitioner to the widest range of alternative tools and approaches while emphasizing hazards mitigation as the foundation of any comprehensive strategy.

The concepts introduced build upon those developed through the FEMA Higher Education initiative.

Course Objectives: At the end of the course, students will:

- Understand emergency management and risk reduction concepts and principals.
- Be able to integrate these concepts and principles into other activities.
- Have outlined a hazards mitigation strategy according to one of the above-mentioned templates.
- Be able to design interdisciplinary teams toward the development of comprehensive risk reduction strategies.
- Make use of emerging technology in defining community vulnerability.

Approach:

The course will allow the student to use any one of a number of planning templates in developing a risk reduction strategy for a specific problem. The student will be expected to apply course material to the development of a risk reduction strategy for the problem.

The course material is presented in five phases:

- Introduction
- Concepts
- Scoping and Issue Identification
- Plan Making
- Implementation and Evaluation

The course will rely and build upon the experience of student practitioners and the following publications: (The student will be expected to purchase *Disasters by Design*. All other reference material will be given to the students or can be downloaded.)

- *Planning for Post-Disaster Recovery and Reconstruction*, prepared by the American Planning Association (APA) 1998.

- *Disasters by Design*, Dennis S. Mileti, Joseph Henry Press 1999.
- *Introduction to Hazards Mitigation*—FEMA Independent Study Course 393
<<http://www.fema.gov/emi/is393.htm>>
- *Primer on Natural Hazards Mitigation*—Organization of American States
<<http://www.oas.org/usde/publications/Unit/oea66e/begin.htm#Contents>>
- Selected Web sites: <<http://depts.washington.edu/mitigate>>

Specific Knowledge and Skills: At the end of the course, students should (have):

- Learned the four areas of risk reduction and clearly the role of mitigation. (e.g. Preparedness, Response, Recovery and Mitigation).
- Appreciated misconceptions concerning the concept of mitigation and gain knowledge to clearly communicate the concept to both lay people and professionals, including decision makers and the public.
- Acquired knowledge of the types of hazards, their measurement, and classification and regions of U.S. affected by hazard types. (emphasis will be on Northwest hazards: Primary Hazards of Flooding, Earthquakes, Winter storms, and the secondary Landslide hazard).
- Acquired knowledge of disasters common in the United States, including a review of declared disasters under the Stafford Act.
- Acquired an understanding of the Stafford Act and antecedent legislation.
- Be able to develop an integrated hazard and vulnerability assessment within the context a planning process.
- Be able to write a Hazard Mitigation Plan according to the State of Washington Division of Emergency Management guidelines.
- Differentiate among related terms (i.e. disaster, incident, hazard, risks, vulnerability accidents, emergency, mass emergency catastrophes).
- Determine root causes to apply this knowledge to a course of action.
- Understand the effect three major systems have on risk reduction (i.e. the physical environment, social and demographic characteristics and the constructed environment).
- Understand the need for mitigation in social, economic, political and environmental dimensions; the "costs and benefits" of mitigation.
- Acquire appreciation of the contest for mitigation as a multi-agency, multi-jurisdictional activity involving the public sector, private sector and non-governmental organizations.
- Emphasizing the intergovernmental relationships at the local, state and federal levels.

- Gain an understanding of the essential elements of a mitigation program including legal authority, fiscal capacity, political will and technical ability.
- Acquire knowledge for planning a mitigation program at the state, local and federal levels.
- Knowledge of a wide variety of mitigation strategies, tools and techniques used to reduce the level of risk.
- An exposure to key types of federal disaster assistance programs available specific to and related to hazard mitigation, including the linkages between federal, state and local programs.
- Acquire appreciation of the broader context of mitigation initiatives, problems and barriers including social, economic, political, legal, ethical, environmental, and sustainability considerations.
- Acquire knowledge of policy trends related to hazard mitigation including national policy, multi-hazard insurance, and privatization.
- Acquire an appreciation for the evolving technological framework for hazard mitigation and emergency management through geographic information systems and the Internet.
- Develop skills for developing and critiquing hazard mitigation plans and policies at the local, state, and/or federal level.

Faculty:

Bob Freitag will be the instructor for the course. Bob Freitag is the Director of the Institute for Hazard Mitigation Planning and Research at the University of Washington. He came to the University with 23 years experience with the Federal Emergency Management Agency (FEMA) in a wide range of emergency management activities, including training and education, exercise and design, the National Flood Insurance Program, federal response planning and hazard mitigation. He has managed response and recovery programs in over 50 Presidential disaster declarations, involving hazards ranging from floods and storm surges to hurricanes, wind driven fires and tornadoes, and has served as the Federal Coordinating Officer (FCO) in Idaho, Alaska, and Washington. Freitag has been instrumental in the creation and development of many mitigation related activities including FEMA's most recent initiative -- *Project Impact*.

**URBAN PLANNING 598X --WINTER QUARTER -- 2001
BUILDING SUSTAINABILITY THROUGH HAZARDS MITIGATION**

DATE	TOPICS	INSTRUCTORS	READINGS
JAN.	2 COURSE OVERVIEW AND INTRODUCTION	FREITAG	MILETI - SUMMARY
CONCEPTS			
	4 DISASTERS CASE STUDIES RISK REDUCTION MEASURES MITIGATION, PREPAREDNESS, RESPONSE, RECOVERY ACTORS IN THE FIELD OF: EMERGENCY/RISK MANAGEMENT, CONT. PL. BUS RESUMP.		Video APA -- CH 1, 2 MILETI - CH 1, 2 OAS PRIMER...Exec.
	9 ALTERNATIVE PLANNING PROCESSES COURSE PLANNING PROCESS SCOPING, PROBLEM/OPPORTUNITY IDENTIFICATION, PLAN MAKING IMPLEMENTATION, EVALUATION ALTERNATIVE TEMPLATES INTRODUCED NEPA, OAS, FEMA, WASH. STATE... INTEGRATION INTO A COMPREHENSIVE PLANNING/DEV. PROCESSES HOUSING, LAND USE, TRANSPORTATION... POST/PRE DISASTER CLASS WORKING GROUPS DETERMINED SCOPING CLASS PROJECTS	BEST FREITAG	APA -- CH 4 IS 393 - UNIT 1 OAS PRIMER...CH 1 WA, EMD PROCESS APA -- CH 3
PROBLEM/OPPORTUNITY IDENTIFICATION -- HAZARDS, VULNERABILITY AND RISK			
	11 OVERVIEW OF RISK ASSESSMENT (CLARIFICATION OF TERMS) HAZARDS IDENTIFICATION - PRIMARY/SECONDARY VULNERABILITY (HZRDS/NON-HZRDS SPCFC) PHYSICAL/NATURAL, SOCIO/DEMOGRAPHIC, BUILT ENVIRONMENTS RISK = F (FREQUENCY AND IMPACT)	FREITAG	IS 393 - 4-28 APA - CH 7 MILETI - CH 3 IS 393 - 1-17 OAS PRIMER PART III
	16 EARTHQUAKES	STEELE	APA - CH 12
	18 FLOODING FEMA - NFIP, CRS	BASICH	APA - CH 8
	23 LANDSLIDES	MILES	APA - CH 7
	25 OTHER HAZARDS	FREITAG	APA - CH 9, 10, 11
	30 VULNERABILITY ANALYSIS - GIS RISK ASSESSMENT -- HAZUS REMOTE SENSING	LANGHEILM	OAS PRIMER PART II
FEB	1 MIDTERM EXAM/CLASS PROJECTS RISK, VISIONING, LOOKING FOR ROOT CAUSES		IS 393 - 1-20 HARRALD
PLAN MAKING			
	6 RISK REDUCTION CASE STUDIES POST DISASTER - STAFFORD ACT EXAMPLES PRE DISASTER - PROJECT IMPACT PRINCEVILLE, NC CASE STUDY	FREITAG DEW	
	8 PLANNING PROCESS GOALS, OBJECTIVES, STRATEGIES STAKEHOLDER PARTICIPATION	FREITAG	IS 393 - UNIT 2, 4 MILETI - CH 4. 5

STAKEHOLDER PARTICIPATION		
13 FIELD TRIP - SNOQUALMIE		FREITAG
15 CAPABILITIES ASSESSMENT		APA - CH 5-7
INTRODUCTION OF TOOLS		IS 393 - UNIT 3
REVISIT RISK ANALYSIS		OAS...CH 1 (PHASE II)
20 WORKSHOP (class projects)		FREITAG MILETI - CH 6
RISK REDUCTION STRATEGIES		MILETI - CH 7
PRE/POST DISASTER		MILETI - CH 3
CONTINGENCY PLANNING		
IMPLEMENTATION/EVALUATION		
22 DISCUSSION (class projects)		
SELECTED TOOLS AND STRATEGIES	CHANEY	IS 393 - 2-14, 2-15, 2-18
EVALUATING STRATEGIES, PROGRAMS...		
27 PROJECT IMPACT		www.FEMA.gov
MRCH 1 WORKSHOP (class projects)		
ETHICS	FREITAG	
6 NEW DIRECTIONS		MILETI - CH 8
PRESENTATIONS		
8 CLASS PRESENTATIONS		
13 CLASS PRESENTATIONS CONTINUED		
FINAL EXAMINATION		
READING MATERIAL	GUEST LECTURERS	CLASS PROJECTS
Selected FEMA publications	Marty Best, State Mitigation Off.	1. Landslide area on
Planning for Post Disaster Recovery... APA	Larry Basich PE, FEMA Reg Eng.	Snohomish
Disasters by Design: Dennis S. Mileti	Scott Niles PE, USGS.	2. Weapons of mass
<i>Introduction to Hazard Mitigation</i> : FEMA	Jean Chaney JD, FEMA Br. Chief	destruction
Independent Study Course 393 - http://www.fema.gov/emi/is393.htm		3. Other
Primer on Natural Hazards Management: Org. of American States		
http://www.oas.org/usde/publications/Unit/oea66e/begin.htm#Contents		
Washington State EMD Planning Process:		
http://www.wa.gov/wsem/4-pr/recovery/recovery-publications/local-mitigation-wkbk-final.pdf		
Special area web sites: http://depts.washington.edu/mitigate		