

**FLORIDA INTERNATIONAL
UNIVERSITY**

Florida International University
DEPARTMENT OF CONSTRUCTION MANAGEMENT

BCN 5906
TOPICS IN HAZARD MITIGATION
Fall Semester, 1995

COURSE INFORMATION

- INSTRUCTOR:** Ricardo A. Alvarez
- SCHEDULE:** Saturdays 8:25 a.m. to 11:05 a.m. [3 Credit Hours]
- CLASSROOM:** PC-211
- TEXTBOOK:** None
- Handouts, containing pertinent material to complement subject matter presented and discussed in class, will be provided to each student from time to time.
- A suggested reading list for optional research will also be provided.
- DESCRIPTION:** This graduate level course will review the concepts of hazard, risk, vulnerability, disaster and damage within the context of emergency management. The cycle of construction, destruction and reconstruction will be analyzed in conjunction with its socio-economic impact. The concept of hazard mitigation will be introduced and defined and analyzed as a tool to reduce damages from future disasters.
- Methodology to analyze the technical and economic effectiveness of proposed hazard mitigation measures will be introduced.
- ATTENDANCE:** Class attendance is mandatory. Roll will be called at the start of each class. Tardiness will be considered an unexcused absence. Two unexcused absences will reduce the student's final grade by one letter grade.
- NOTE:** If illness prevents attendance, the student is required to call, prior to class time, to notify absence.

TESTS: Written tests will be given as follows:

Test 1: given, September 30, 1995

Test 2: given, November 4, 1995

Final

Examination: given, December 9, 1995

PROJECTS: Projects involving application of concepts introduced and discussed in class, as well as research, will be assigned as follows:

Project 1: assigned, October 7, 1995 due, October 28, 1995

Project 2: assigned, November 11, 1995 due, December 2, 1995

NOTE: No work will be accepted after the due date unless extenuating verifiable circumstances, beyond the control of the student, exist.

ACADEMIC HONESTY:

Students are expected to observe academic honesty. Dishonest practices including giving or receiving assistance in any manner or form during an examination, unauthorized possession of exam questions, and plagiarism (willfully presenting another person's writings, opinions or thoughts as one's own, without proper credit and documentation) will not be tolerated.

Violations of this academic honesty policy will be subject to all possible disciplinary actions including removal of violator from this course and from Florida International University.

OWNERSHIP: All work done for this course including exams, projects, homework and quizzes is the intellectual property of the student, but will remain the physical property of the instructor.

QUALITY OF PRESENTATION:

All class work, including projects and homework, is expected to be presented in a professional manner. Written work is to be typewritten or printed by computer. Quality of presentation, including neatness, completeness, organization etc., will be taken into account for grading purposes together with correctness of answers, originality, clarity of thought and research.

SPECIAL CONSIDERATIONS:

Students with disabilities who may need special accommodations should contact the Office of Disabilities Services, telephone (305) 348-3852. In addition, these students are encouraged to optionally contact the instructor so that arrangements can be made to accommodate their needs.

OTHER POLICIES: The instructor reserves the right to modify, solely at his discretion, the number and dates of exams, projects and assignments, as well as their weight to be used in determining the final grade.

COURSE OUTLINE:

WEEK 1: September 2, 1995	Administrative matters, review of Syllabus Course Rationale and objectives.
WEEK 2: September 9, 1995	Concept of hazard. Natural and technical hazards. National, regional and local hazards. Characteristics of different hazards and their potential for damage.
WEEK 3: September 16, 1995	Concept of risk. Acceptability of risk. Risk assessment. The concept of vulnerability. Vulnerability assessment. The concept of disaster. Agencies dealing with disaster and their authority.
WEEK 4: September 23, 1995	Concept of emergency management. Concepts of preparedness, response and recovery. The cycle of construction, destruction and reconstruction. The role of building codes. The concept of hazard mitigation.
WEEK 5: September 30, 1995	Review of concepts. TEST 1
WEEK 6: October 7, 1995	PROJECT 1 ASSIGNED. Breaking the cycle. Hazard mitigation on a macro scale. Actions to accomplish hazard mitigation.
WEEK 7: October 14, 1995	Hazard mitigation on a micro scale. Vulnerability of individual facilities or buildings. Type of construction and effect of individual engineering and architectural features on vulnerability and hazard mitigation. Alternative mitigation measures vs. specific types of hazards.
WEEK 8: October 21, 1995	Hazard mitigation analysis. The concept of cost effectiveness. A model for analyzing wind hazard mitigation. Review of sample cases. The concept of

damage reduction. Probability of recurrence of hazard events.

WEEK 9:
October 28, 1995

PROJECT 1 DUE. Models for analysis of flood related hazard mitigation. Review of sample case. The role of the Federal and State governments in hazard mitigation. Authorities to conduct hazard mitigation.

WEEK 10:
November 4, 1995

Review of concepts. TEST 2

WEEK 11:
November 11, 1995

PROJECT 2 ASSIGNED. Environmental issues in hazard mitigation. The NEPA process. The Interagency Hazard Mitigation Team and its role after disaster declarations.

WEEK 12:
November 18, 1995

The role of engineers, architects and other construction industry professionals in hazard mitigation. The status of hazard mitigation in our local communities.

WEEK 13:
November 25, 1995

THANKSGIVING HOLIDAY - NO CLASS

WEEK 14:
December 2, 1995

PROJECT 2 DUE. The future of hazard mitigation. Review of concepts. Review of analytical models. Class evaluation by students.

WEEK 15:
December 9, 1995

FINAL EXAM. Saturday, December 9, 1995, 9:50 a.m. to 12:30 p.m.