

560.766: Multi-Hazard Risk Mitigation Spring 2013

Credits: 3

Lectures: MW 1:30-2:45pm

Room: Hodson 305 first day; Krieger 309 then on

Prerequisite: EN.560.766 (Multi-Hazard Risk Mitigation)

Instructor: Prof. Judith Mitrani-Reiser, jmitrani@jhu.edu
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Blackboard: <https://blackboard.jhu.edu> (Login using JHU Enterprise Authentication)

Description: An examination of performance quantification methods for assessing structures under multiple hazards including seismic, wind, and other extreme loads. An introduction on the integration of these performance metrics into the design process, and an overview on how to effectively design risk mitigation strategies.

Textbook: None, but may reference Chopra's *Dynamics of Structures: Theory and Applications to Earthquake Engineering*, 4th edition, Prentice-Hall.

On reserve: May change throughout the course.

Grading:	In-Class Presentations (4)	30%
	Midterms (2)	35%
	Final Project	35%

Presentations: In-class presentations contribute 30% of your final grade. The class will be divided into four groups: A, B, C, and D. The group names can change at your discretion. Each group is expected to present an overview of literature on a specific topic for 30 minutes and answer questions for 10 minutes, four times per semester. The grade for each in-class presentation will be based on basic understanding of the reading material, the content of the presentation and supporting materials in your e-portfolio, and the delivery of the presentation.

Exams: Exams contribute to 35% of your final grade. These exams will be written in order to test your understanding of the topics covered in class and reading assignments. I encourage you to ask lots of questions in class, in office hours, and through the "Discussion" section of our Blackboard webpage to help prepare you for examinations.

Project: The final project contributes to 35% of your final grade. Your final project is to assess a specific risk mitigation strategy for a single or multiples hazards. The grade for the final project will be based on a 10-page project report and a 20-minute presentation.

Disabilities: Any student with a disability who may need accommodations in this class must obtain an accommodation letter from Student Disability Services, 385 Garland, (410) 516-4720, studentdisabilityservices@jhu.edu

Ethics: The strength of the University depends on academic and personal integrity. In this course, you must be honest and truthful. All violations of academic ethics will be prosecuted. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition. For further information, please see the guide on “Academic Ethics for Undergraduates” and the Ethics Board Website (<http://ethics.jhu.edu>).

Date	Topic	Presenting Group
28 Jan	NO CLASS	
30 Jan	Topic 1: Introduction to Course	
04 Feb	Topic 2: Representing the Earthquake Hazard	
06 Feb	Topic 3: <i>Presentations on the Earthquake Hazard</i>	A & B
11 Feb	Topic 4: Estimating Seismic Demands	
13 Feb	NO CLASS	
18 Feb	Topic 5: Estimating Seismic Demands	
20 Feb	Topic 6: <i>Presentations on Seismic Demands</i>	C & D
25 Feb	Topic 7: Predicting Seismic Damage	
27 Feb	Topic 8: <i>Presentations on Seismic Damage</i>	A & B
04 Mar	Topic 9: Seismic Risk Management and Mitigation	
06 Mar	Topic 10: Seismic Risk Management and Mitigation	
11 Mar	Topic 11: <i>Presentations on Seismic Risk Management and Mitigation</i>	C & D
13 Mar	Midterm 1	
18 Mar	NO CLASS: Spring Break	
20 Mar		
25 Mar	Topic 12: Representing the Hurricane Hazard	
27 Mar	Topic 13: <i>Presentations on the Hurricane Hazard</i>	A & B
04 Apr	Topic 14: Estimating Wind Demands	
06 Apr	Topic 15: <i>Presentations on Wind Demands</i>	C & D
11 Apr	Topic 16: Predicting Wind Damage	
18 Apr	Topic 17: <i>Presentations on Wind Damage</i>	
20 Apr	Topic 18: Hurricane Risk Management and Mitigation	
22 Apr	Topic 19: <i>Presentations on Hurricane Risk Management and Mitigation</i>	A & B
25 Apr	Topic 20: Representing the Flood Hazard & Predicting Demands	
27 Apr	Topic 21: Flood Risk Management and Mitigation	
02 May	Topic 22: <i>Presentations on Flood Risk Management and Mitigation</i>	C & D
04 May	Midterm 2	
16 May 9am-12pm	Final Project Presentations	