

Natural Hazards (450:311:01)

Location:	RAB-208, Cook-Douglas	Time:	MTH2 (10:55 AM- 12:15 PM)
Instructor:	Kevon Rhiney	Office hours:	Wed (11:00-1:00PM)
Email:	kevon.rhiney@rutgers.edu	Course web:	http://sakai.rutgers.edu

Course Description and Goals

Every year, thousands of human lives and livelihoods get exposed to extreme natural events such as cyclones, wild fires, tsunamis, earthquakes and droughts - often times resulting in deaths, displacement of livelihoods and billions of dollars in damage. The term natural hazard generally refers to a naturally occurring event that might have a negative effect on people or the environment. Natural hazards are only considered disasters when people's lives and livelihoods are severely affected or destroyed. Conversely, isolated natural events such as volcanic eruptions or wild fires that do not threaten or affect human beings, are not regarded as hazardous nor do they result in disasters. Even though humans can do little or nothing to change the incidence or intensity of most natural hazards, the decisions we make as well as our social and economic circumstances, can determine if these hazardous events translate into disasters. Therefore, understanding the differing and complex ways humans interact with their natural environment can shed light as to why some regions and socio-economic groups are more susceptible to harm from certain natural hazards than others.

This course will introduce students to a number of key concepts from the hazards and disaster literature including risk, risk perception, vulnerability and mitigation. The course will examine how people become vulnerable to a range of natural hazards, including how they are affected by such events, how they contribute to them, how they cope or mitigate the effects of these naturally occurring phenomena, and what they do when existing adjustment measures or interventions fail. The course will examine case studies from around the world on hazards and risks related to geologic, hydro-meteorological and biological phenomena. An important focus of the course is to introduce students to different methods of mapping and analyzing hazards, vulnerability and risk. Case examples of best-practices and failures in addressing disaster risk-reduction worldwide will be used to illustrate major themes presented in the course. The geographical scope of the course is global and students are encouraged to keep abreast of contemporary developments in hazards and disasters as reported in the mass media and other sources.

The main goals of this course are to present a comprehensive approach for analyzing and managing different types of natural hazards and to cultivate analytical skills for investigating hazard-related problems. An important secondary goal is to encourage students to develop their own interests as points of entry to graduate study or professional careers in organizations concerned with the reporting, planning and management of extreme natural hazards, including: emergency management, journalism, planning, disaster management and relief, environmental law, hazard risk insurance, architecture, and historic preservation to name some. There will be important career opportunities in this field both within and outside the United States as the world confronts issues of increasing climate risks and population change.

Course Format

Course contents will be explored through lectures, readings, short video clips, and in-class exercises and discussions. There are two primary lectures each week. In these lectures, we will explore themes covered in assigned readings, and present a series of in-depth case studies. Students are expected to attend all lectures, should be familiar with the material covered in assigned readings and be prepared to participate during in-class discussions and oral presentations. Copies of lecture presentations and readings will be available on sakai.rutgers.edu, under the course's resources menu.

Grading Criteria

In order to succeed in this course, you will need to complete all readings and assignments in a timely fashion, attend and participate in class, and successfully complete one mid-term and a final exam. The exams will consist primarily of multiple-choice questions and short answer questions pertaining to the readings assigned and topics discussed in class. Combined, the exams will make up 60% of your final grade. Attendance will be recorded either via check-in sheets that will be circulated on every class session or via TopHat. Students are expected to attend all classes and participate actively in discussions.

Student Evaluation

Attendance and participation	05%
Mid-term exam	25%
Take home/lab-based assignments	15%
Group paper/presentation	20%
Final	35%
Total	100%

Note:

The final grade amounts to a total of 100 percent.

- Both the mid-term (25%) and final exam (35%) will involve multiple choice and short answer questions. The exams are designed to assess students' knowledge and understanding of key concepts and theories in hazard and disaster studies.
- Students will get three (3) take home/lab-based class assignments, totalling 15 percent of the overall course grade. Each assignment is worth 5 percent.
- Students will be organized into groups. Each group will be given a particular natural hazard to research and present a case study in class. The group is also expected to submit a jointly written synthesis paper on the assigned topic one week after the presentation is made. Will provide more details in class.

Final course grades will be calculated as follows:

A (90-100)	B+ (85-89)
B (80-84)	C+ (75-79)
C (70-74)	D (60-69)
F (0-59)	

Course Material

Required:

Smith, K. (2013) Environmental Hazards: Assessing risk and reducing disaster. New York: Routledge, 6th Edn

Resources:

Other readings will also be important, especially during the first half of the course. These will be available at the Sakai website (<https://sakai.rutgers.edu/>) or in electronic journals carried by the Rutgers Library system. Occasional news items relating to course themes may also be added to the reading list throughout the term.

Policy regarding Missed Exams

Make-up exams will not be given except in the event of religious observance, documented illness, documented family emergency, or documented Rutgers team event.

Class Attendance

Students are expected to attend all classes; if you expect to miss one or two classes, please use the University absence reporting website <https://sims.rutgers.edu/ssra/> to indicate the date and reason for your absence.

Classroom Etiquette

Cell phones are to be muted while you are in the classroom. Computers are not to be used for non class-related purposes during class time.

Academic Integrity

Students are expected to understand and to act in accordance with the Rutgers Academic Integrity Policy: <http://academicintegrity.rutgers.edu/policy-on-academic-integrity>

Student-Wellness Services

Just In Case Web App

<http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901 / <rhscaps.rutgers.edu/>

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers.

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / <vpva.rutgers.edu/>

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

Scarlet Listeners

(732) 247-5555 / <http://www.scarletlisteners.com/> Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.

Access Information for TopHat App

Course URL: <https://app.tophat.com/e/332498?> <<https://app.tophat.com/e/332498>>

Join Code: 332498

Lecture Topics

Week	Topic/Activities	Topic/Activities
1		Introduction (Jan 19)
2.	Why is a focus on natural hazards important (Jan 23)	Natural hazards and disasters: changing perspectives (Jan 26)
2	The physical nature of natural hazards (Jan 30)	Human dimensions of disasters: vulnerability, risk perception and behavioral change (Feb 2)
3	Global and regional trends: are disasters getting worse? (Feb 6)	New Jersey and Super Storm Sandy (Feb 9)
4	Hydro-meteorological hazards: An overview (Feb 13)	Droughts and wild fires: student presentations (Feb 16)
5	Tropical cyclones and floods: student presentations (Feb 20)	Tornadoes: student presentations (Feb 23)
6	Lab I: constructing and interpreting a flood hydrograph (Feb 27)	Geophysical/tectonic hazards: an overview (Mar 2)
7	Volcanoes: student presentations (Mar 6)	Mid-semester test – online (Mar 9)
	SPRING RECESS March 11 -19, 2017	
8	Earthquakes and tsunamis: student presentations (Mar 20)	Landslides: student presentations (Mar 23)
9	Lab II: measuring and predicting earthquakes (Mar 27)	Film (Mar 30)
10	Biological hazards: an overview (Apr 3)	No class (Apr 6)
11	Ebola: student presentations (Apr 10)	Mosquito-borne diseases: student presentations (Apr 13)
12	Climate change – physical dimensions (Apr 17)	Climate change – human dimensions (Apr 20)
13	Lab III: Hurricanes (Apr 24)	Film: Before the Flood (Apr 27)
14	Future developments in natural hazard/disaster studies (May 1)	
* Teaching ends on Monday May 1, 2017		
* Final Exam period: Thursday May 4 – Wednesday May 10, 2017		