GEOG 206: Human Dimensions of Natural Hazards  
(Winter 2014) 
Department of Geography, University of Waterloo

Instructor: Brent Doberstein  
Office: EV1-220  E-mail: bdoberst@uwaterloo.ca  
Class Hours: T Th 11:30-12:50pm  
Classroom: STP 105  
Office Hours: W 10:00am – 12:00 noon (or by appointment)

COURSE DESCRIPTION

Calendar Description
This course will investigate the human dimensions of the global experience with natural hazards and associated disasters. The physical nature of a wide range of geophysical and biophysical hazards will be explored, paying particular attention to: the ways in which hazards become dangerous to humans, and the pathways by which humans can either increase or decrease their vulnerability in the face of natural hazards.

Overview
Natural hazards and associated disasters are, in part, a product of inappropriate human modifications or management of the natural landscape. In a decade in which the human dimensions of natural hazards are becoming increasingly recognized, (e.g. Haiti’s 2010 earthquake saw heavy casualties due in large part to poor building standards, and damages from both the 2011 Japan earthquake/tsunami and the 2013 Typhoon Haiyan disaster in the Philippines have been linked to inadequate coastal zone planning), it is appropriate that this course focus on the ways in which humans increase or decrease the risks posed by natural hazards.

This course investigates the human dimensions of the global experience with natural hazards and associated disasters. The physical nature of a wide range of geophysical and biophysical hazards are first explored, paying particular attention to: the ways in which hazards become dangerous to humans, and the pathways by which humans can either increase or decrease their vulnerability in the face of natural hazards. The course will then examine how humans adjust to the presence of hazard and disaster, with a particular concentration on disaster preparedness, disaster risk reduction and hazard mitigation. Throughout the course, case studies and examples drawn from countries and regions around the world will be used to clarify conceptual and methodological issues. Through assignments and in-class participation, students are encouraged to explore hazards and world regions of personal interest.

Course Objectives:
1. Provide a conceptual & methodological framework for the examination of natural hazards  
2. Explore human dimensions of natural hazards, disasters & mitigation  
3. Clarify the relative risks posed by different types of natural hazard  
4. Explore newly-emerging trends in natural hazards knowledge, planning & mitigation  
5. Illuminate & contrast natural hazards & hazards mitigation theory with real-world case studies & applied mitigation planning exercises.
Texts:
   Where to buy:
   - UW Bookstore (South Campus Hall): Soft cover copy
   - FEDS Used Bookstore
   - e-Text ‘rental’ [link]

Course Evaluation
Your final mark will be determined on the basis of 2 tests + 2 assignments. There is no final exam.
1. Test #1 (30%): Feb. 11th – short answer format
2. Assignment #1 (20%): Feb. 27th
3. Assignment #2(20%) Mar. 27th
4. Test #2 (30%): Apr. 3rd – M/C + essay format

Grading
Numeric grades on a scale from 0-100 are used in grading all tests and assignments at the University of Waterloo. The following list will give you an idea of the basis upon which numeric grades are assigned:

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100%</td>
<td>Work that shows a high level of initiative and is clearly above and beyond what is expected at a second year level. Referencing, style, grammar/spelling, content and the development of ideas are all superior.</td>
</tr>
<tr>
<td>80-89%</td>
<td>Work that shows good initiative and is above what is expected at a second year level. Referencing, style, grammar/spelling, content and the development of ideas are all good.</td>
</tr>
<tr>
<td>70-79%</td>
<td>Work that shows initiative and is about what is expected at a second year level, but one or more problems are evident in referencing, style, grammar/spelling, content and/or the development of ideas.</td>
</tr>
<tr>
<td>60-69%</td>
<td>Work that does not demonstrate initiative, has a series of problems in referencing, style, grammar/spelling, content and/or the development of ideas, and overall, does not fully convince the reader that the topic has been well considered.</td>
</tr>
<tr>
<td>50-59%</td>
<td>Work that is substandard/sloppy in places, has many problems in referencing, style, grammar/spelling, content and/or the development of ideas, and overall, raises more questions in a reader’s mind than the work answers.</td>
</tr>
<tr>
<td>40-49%</td>
<td>Work that is of consistently poor quality, demonstrates gaps in comprehension of the assigned material, and/or indicates that not enough time was taken to properly address the assignment.</td>
</tr>
<tr>
<td>&lt;40</td>
<td>Work that is clearly of poor quality, demonstrates a lack of comprehension of the assigned material, shows little attempts at a personal development of ideas or efforts to back up arguments with suitable evidence, and/or indicates that the work was completed ‘at the last minute’. Possibly contains plagiarized material.</td>
</tr>
</tbody>
</table>
Assignment #1: Briefing Note: Summarization of two Disasters (DUE Feb. 27th)

SUMMARY: Research assignment and short summary of two different disasters originating from the same type of hazard. Length: 4 pages maximum + bibliography!

Imagine you have been hired to brief a senior government official (e.g. Minister or even Prime Minister) on two disasters which originated from the same hazard. This individual does not have time to read through an extended report, so is depending on you to both do rigorous research and then communicate your results in a clear, brief format. In short, a “briefing note”! Each piece of evidence you provide in your briefing note must be referenced with a bracketed number (e.g. “(2)”) which connects to your bibliography.

This assignment requires you to carry out online, library and journal-based research on two different disasters stemming from the same type of hazard. You will gather evidence on a number of required themes (see below) and then present these as an extended comparative table (i.e. a side-by-side comparison of the physical nature, impacts, and human dimensions of the two disasters). You will write a brief introductory paragraph which introduces your two disasters, and after the table you will write a brief summary analysis of your table followed by a conclusion.

NOTE: You must also fill out, sign and attach an “Assignment Checklist” which can be downloaded from the course LEARN webpage (also attached to this syllabus)

Components

1. Introduction & overview of briefing note ................................................................. /10
   -including overall ‘thesis/main argument’

2. Physical descriptions of the hazard event
   Case #1................................................................................................................. /10
   E.g.: intensity, magnitude, duration, geographic extent, complexity, secondary hazards, etc
   Case #2................................................................................................................. /10
   E.g.: intensity, magnitude, duration, geographic extent, complexity, secondary hazards, etc

3. Impacts
   Case #1................................................................................................................. /10
   E.g.: deaths, injuries, displacements, injuries, economic damages, etc
   Case #2................................................................................................................. /10
   E.g.: deaths, injuries, displacements, injuries, economic damages, etc

4. Human dimensions contributing to greater or lesser damages (15%). This may include, but is not necessarily limited to:
   -extent of hazard preparedness of affected communities,
   -land-use practices, building codes & styles, zoning
   -cultural factors affecting risk
   -awareness of hazard risk/prior exposure to the hazard,
     public awareness campaigns,
   -hazard mitigation and disaster risk reduction efforts,

   Case #1................................................................................................................. /7.5
   Case #2................................................................................................................. /7.5

5. Summary: differences and/or similarities................................................................. /15
   -main reasons both disasters were/were not experienced the same way

6. Conclusion.............................................................................................................. /5

7. Style & Professionalism ....................................................................................... /10

8. Bibliography: minimum 10 sources & balance of materials................................. /5
   (i.e. online sources, books, journal articles, etc)
Assignment #2: Documentary Analysis (Due Mar. 27th)

**SUMMARY: Analysis of documentaries - any 3 of the 4 long documentaries screened in Geog 206**

Using a template which will be posted on LEARN (both PDF form-fillable and Word versions will be available), review any 3 of the ‘long’ (>15 minutes) documentaries screened in Geog 206. All three of your reviews should be submitted at one time, in hardcopy, in class. You should include a coverpage with your name and ID number clearly displayed.
Assignment Checklist — Individual submissions

The following student signed Checklist was developed by the Secretariat as a means of emphasizing the importance of attribution of referenced work and reducing plagiarism. It is not official, but you are free to use it if you wish. It appeared in a publication from the CTE office.

Assignment Checklist

Please read the checklist below following the completion of your assignment. Once you have verified these points, hand in this signed checklist with your assignment.

1. I have referenced and footnoted all ideas, words or other intellectual property from other sources used in the completion of this assignment.

2. I have included a proper bibliography, which includes acknowledgement of all sources used to complete this assignment.

3. This assignment was completed by my own efforts and I did not collaborate with any other person for ideas or answers.

4. This is the first time I have submitted this assignment or essay (either partially or entirely) for academic evaluation.

Signed: ___________________________  Date: ___________________________

Print Name: ______________________  UW-ID# ______________________
COURSE AND UNIVERSITY POLICIES

Attendance
Attendance in class is at your discretion. However, there is often extra content in the notes displayed in class vs. the notes posted on the course webpage (e.g. discussion points or questions asked of the class, graphics-heavy images such as maps or diagrams), and all in-class discussions are valid “testable” materials. Also, all A/V materials (e.g. DVDs screened in class) are valid, “testable” materials, so complete notes should be taken for each DVD screened. For these reasons, attendance at each lecture is HIGHLY RECOMMENDED.

Missed Test:
All tests are mandatory, and thus, every effort should be made to attend each test. The only exceptions to this are those students who have a valid medical reason, personal or family emergency, etc:
1. Valid medical reason such as illness or accident (appropriate proof such as a Doctor’s note is required);
2. Personal or family emergency, death in the family, etc (with suitable proof where possible);
3. Other valid reasons beyond the control of the student (to be approved on a case-by-case basis at the discretion of the instructor). If you know in advance that you will not be able to make a test, please contact the instructor as far in advance as possible to discuss alternatives.

If you miss a test for any reason:
1) Communicate to the instructor the reason you missed the quiz.
2) IMPORTANT! As soon as possible, please obtain a valid medical, counselor’s or other ‘proof of absence’ note explaining the reason for your absence, degree of incapacitation, dates covered by the note, etc. Please make a copy of this note and give the copy to your instructor by hand or scanned and sent by email (email to bdoberst@uwaterloo.ca).

If you miss a test but do NOT have a doctor’s/counselor’s note or other valid explanation for your absence: Explain the reason for your absence to the instructor (ideally during a help session or by email). The instructor will determine on a case-by-case basis whether an alternative arrangement can be made, or whether to assign a ‘zero’ on the test.

Note for students with disabilities:
The student AccessAbility Services (AAS) office, located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AAS at the beginning of each academic term.

Religious Observances:
Please inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and tests.

Academic Integrity:
In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. www.uwaterloo.ca/academicintegrity/. Students who are unsure what constitutes an academic offence are requested to visit the on-line tutorial at: http://www.lib.uwaterloo.ca/ait/
A student is expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline, http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm

Within The Faculty of Environment, those committing academic offences (e.g. cheating, plagiarism) will be placed on disciplinary probation and will be subject to penalties which may include a grade of 0 on affected course elements, 0 on the course, suspension, and expulsion.

Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance, http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm

Appeals:
A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 – (Student Discipline) may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 (Student Appeals) www.adm.uwaterloo.ca/infosec/Policies/policy72.htm

Consequences of Academic Offences:
ENV students are strongly encouraged to review the material provided by the university’s Academic Integrity office (see: http://uwaterloo.ca/academicintegrity/Students/index.html).

University Policies: Plagiarism
Please familiarize yourself with the University of Waterloo’s policy dealing with plagiarism. Be especially careful when using materials obtained from the internet, and be aware that software available to instructors can be used to check student submissions for plagiarism (e.g. www.Turnitin.com). Plagiarism offices are normally treated quite seriously by the University and can result in significant penalties being assessed (e.g. failing grade on an assignment, repeating a course, suspension or expulsion).

Definition of Plagiarism
“The act of presenting the ideas, words or other intellectual property of another as one's own.”
- Source: University of Waterloo, Policy 71.

To Avoid Plagiarism
The use of other people's work must be properly acknowledged and referenced in all written material such as take-home examinations, essays, laboratory reports, work-term reports, design projects, statistical data, computer programs and research results. The properly acknowledged use of sources is an accepted and important part of scholarship. Use of such material without complete and unambiguous acknowledgement, however, is an offence under policy 71.
**Group Work**
All tests and assignments in GEOG 206 are to be completed **individually.** No group work or collaboration is allowed on any of the tests/assignments.

**Unclaimed Assignments**
Unclaimed assignments will be retained until one month after term grades become official in quest. After that time, they will be destroyed in compliance with UW’s **confidential shredding procedures.**

**Course Notes: Information for Students Using Desire to Learn (course webpage for Geog 206)**
Desire to Learn or D2L is a web-based course management system that enables instructors to manage course materials (posting of lecture notes etc.), interact with their students (drop boxes for student submissions, on-line quizzes, discussion boards, course e-mail etc.), and provide feedback (grades, assignment comments etc.). The degree to which D2L is utilized in a particular course is left to the discretion of the instructor and therefore, you may find a large variance in how D2L is being used from course to another.

**Logging Into D2L**
Users can login to LEARN via:
[http://learn.uwaterloo.ca/](http://learn.uwaterloo.ca/) (using your WatIAM/Quest username and password)

**Checking Your Userid and Password**
Your password can be checked by going to: [https://watiam.uwaterloo.ca/idm/user/login.jsp](https://watiam.uwaterloo.ca/idm/user/login.jsp)
If you still cannot get on after checking your password, please confirm with your instructor that you are on the class roster. Only students with courses using D2L will have access to the site.

**Getting Help**
A D2L student guide can be found at: [http://av.uwaterloo.ca/uwace/training_documentation/student_index.html](http://av.uwaterloo.ca/uwace/training_documentation/student_index.html)
### Lecture Schedule

(Note: the dates topics are covered are approximate and are subject to minor changes)

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics Covered</th>
<th>READINGS</th>
</tr>
</thead>
</table>
| WEEK 1 (Jan 7, 9) | INTRODUCTION  
- Introduction & course overview  
- Definitions, hazard/risk/disaster, hazard research  
- Hazard typology  | Ch. 1 (pgs. 3-14)  
Ch. 2                                    |
| WEEK 2 (Jan 16, 18) | CONTEXT: HAZARDS & DISASTER RISK REDUCTION  
- From Hazard to Disaster  
- The range of adjustments (bearing, sharing & reducing exposure)  
- Modifying human vulnerability | Ch. 5                                    |
| WEEK 3 (Jan 23, 25) | THE PHYSICAL NATURE OF TECTONIC HAZARDS:  
- Earthquakes  
- Tsunamis | Ch. 6                                    |
| WEEK 4 (Jan 30, Feb 1) | THE PHYSICAL NATURE OF TECTONIC HAZARDS (CONTINUED)  
- Volcanoes  
THE PHYSICAL NATURE OF BIOPHYSICAL HAZARDS  
- Biophysical Hazards (Disease, pests & Wildfire) | Ch. 7  
Ch. 10 (p. 273-294)                                    |
| WEEK 5 (Feb. 4, 6) | THE PHYSICAL NATURE OF SEVERE WEATHER HAZARDS  
- Cyclonic storms  
- Video #2: “Hurricane Katrina The Storm That Drowned A City” |                                    |
| WEEK 6 (Feb 11, 13) | - Test #1 (Tues. Feb. 11) short answer format  
- NOTE: Class Cancelled Feb. 13th |                                    |
| WEEK 7 READING WEEK | Reading Week (Feb. 17-23<sup>rd</sup>)  
No Classes |                                    |
| WEEK 8 (Feb 25, 27) | THE PHYSICAL NATURE OF SEVERE WEATHER HAZARDS (continued)  
- Extreme Weather (e.g. winds, heat, lightning, etc)  
THE PHYSICAL NATURE OF MASS MOVEMENT HAZARDS  
- Mass Movement Hazards (Landslides, Avalanches, Erosion)  
- Assignment #1 due: Thurs, Feb. 27 | Ch. 9  
Ch. 10 (p. 268-272)  
Ch. 8                                    |
| WEEK 9 (Mar 4, 6) | - Hydrological hazards (Floods) | Ch. 11                                    |
| WEEK 10 (Mar 11, 13): | - Hydrological hazards (Drought)  
- Video #4: “God’s Tears” | Ch. 12                                    |
| WEEK 11 (Mar 18, 20): | BEFORE & AFTER DISASTER  
- Video #3: “Water’s Edge”  
- Video #4: “Inside Disaster Haiti” |                                    |
| WEEK 12 (Mar 25, 27) | - After a disaster: the cycle of response  
- “Pressure and Release” (PAR) model  
- Paradigms of hazard (incl. “Unnatural Hazard”)  
- Vulnerability  
- Disaster risk reduction (IDNDR & ISDR)  
- Assignment #2 due: Thurs, Mar. 27 | Ch. 1 (pgs. 14-22)  
Ch. 2 (review)  
Abramovitz (p.1-28)                                    |
| WEEK 13 (Apr. 1, 3) | - Complexity, climate change & hazards connections  
- Test #2 (Thurs, Apr. 3) MC format + essay | Ch. 14                                    |
Useful Hazard & Disaster links

Realtime Disaster Monitoring & Event Reporting:
http://www.reliefweb.int/rw/dbc.nsf/doc100?OpenForm
http://earthobservatory.nasa.gov/NaturalHazards/
http://www.emdat.be/
http://www.emdat.be/disaster-week
http://www.usgs.gov/hazards/
http://earthquake.usgs.gov/earthquakes/map/
http://www.disastercenter.com

Hazards/Disasters Journals (NOTE: must be connected as a UW user for free access)
Disasters http://www.blackwellpublishing.com/journal.asp?ref=0361-3666&site=1
Disaster Management and Response www.sciencedirect.com/science/journal/15402487
Disaster Prevention & Management http://www.emeraldinsight.com/Insight/viewContainer.do?containerType=Journal&containerId=10806
Environmental Hazards http://elsevier.net/wps/find/journaldescription.cws_home/706537/description
Natural Hazards http://www.springerlink.com/content/0921-030X
Natural Hazards and Earth Systems Sciences
http://www.nat-hazards-earth-syst-sci.net/volumes_and_issues.html
Natural Hazards Observer http://www.colorado.edu/hazards/o/
Natural Hazards Review http://scitation.aip.org/nho
Global Environmental Change
http://www.elsevier.com/wps/find/journaldescription.cws_home/30425/description#description

Hazards Research Centres
http://www.colorado.edu/hazards/
http://www.benfieldhrc.org/
http://www.cas.sc.edu/geog/hrl/
http://www.aoml.noaa.gov/hrd/
http://www.ihc.fiu.edu/

Latin America/Caribbean
http://www.disaster-info.net/socios_eng.htm
http://www.cdema.org/
http://www.eird.org/index-engl.htm

Asia/Pacific
http://www.adpc.net/
http://www.pdc.org/iweb/pdchome.html
http://www.unisdr.org/asiapacific/asiapacific-index.htm
http://www.adrc.or.jp/top.php

Africa
http://www.unisdr.org/africa/africa-index.htm
Canada

USA
http://www.fema.gov/
http://www.bt.cdc.gov/disasters/

Hazard Mitigation & Disaster Reduction
http://www.fema.gov/plan/mitplanning/index.shtm
http://www.unisdr.org/
http://www.ibhs.org/
http://www.iclr.org/
http://www.gdrc.org/uem/disasters/disenvi/index.html

Other links
http://www.disasterlinks.net/
http://www.intute.ac.uk/sciences/hazards/

Disaster simulation games
http://www.stopdisastersgame.org/en/
http://insidedisaster.com/haiti/experience