

HUMAN DIMENSIONS OF NATURAL HAZARDS WINTER 2023

GEOG 306

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CLASS SCHEDULE

Section	Location	Time	Instructor(s)
GEOG 306 001 [LEC]	B1 271	Tuesdays & Thursdays 11:30 a.m. - 12:50 p.m.	Brent Doberstein bdoberst@uwaterloo.ca
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INSTRUCTOR / TA INFORMATION

Course Instructor

Office Hours: Wednesdays 10-12 noon in EV1-220

Teaching Assistants

- Katherine Allaby: kgallaby@uwaterloo.ca (mailto:kgallaby@uwaterloo.ca) office hours TBC
- Beth Palmer: bmapalmer@uwaterloo.ca (mailto:bmapalmer@uwaterloo.ca) office hours TBC

COURSE DESCRIPTION

Calendar Description for GEOG 306

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.

Prereq: Level at least 2A. Antireq: GEOG 206

Overview

Natural hazards and associated disasters are, in part, a product of inappropriate human modifications or management of the natural landscape. The human dimensions of natural hazards are becoming increasingly obvious: Both Haiti's 2010 and Nepal's 2015 earthquakes caused heavy casualties due in large part to poor building standards, damages from the 2013 Typhoon Haiyan disaster in the Philippines have been linked to inadequate coastal zone planning, and BC's 2021 atmospheric river flooding damages were increased dramatically due to cities and towns being located in

flood-prone areas. It is therefore appropriate that this course focuses 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.

LEARNING OUTCOMES

By the end of this course students should be able to:

By the end of the course, students should be able to:
◆ Understand conceptual & methodological frameworks for the examination of natural hazards
◆ Understand common human dimensions of natural hazards, disasters & disaster risk reduction
◆ Understand the relative risks posed by different types of natural hazards
◆ Be aware of newly-emerging trends in natural hazards knowledge, planning & disaster risk reduction
◆ Be able to compare & contrast natural hazards & disaster risk reduction theory with real-world case studies, and apply knowledge in order to reduce the risks of hazards.

TENTATIVE COURSE SCHEDULE

Week **Topics Covered**
Readings (required=bold/unbolded=optional)

Week 1 (Jan. 10, 12)	<p>INTRODUCTION</p> <p>-Introduction & course overview</p> <p>-In-class survey</p> <p>CONTEXT: HAZARDS & DISASTERS</p> <p>-Definitions, hazard/risk/disaster, hazard research</p> <p>-Classifying hazards</p> <p>-From Hazard to Disaster</p>	<ul style="list-style-type: none"> • Abramovitz https://www.preventionweb.net/files/1849_VL102116.pdf (https://www.preventionweb.net/files/1849_VL102116.pdf) • Ch. 1 (pgs. 3-14) • Ch. 2
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<p>Week 2 (Jan. 17, 19)</p>	<p>DISASTER RISK REDUCTION</p> <p>-Protection vs. Mitigation vs. Adaptation</p> <p>-DRR Toolkit Part 1</p> <p>-DRR Toolkit Part 2</p>	<ul style="list-style-type: none"> • Birkmann et. al. 2010 https://doi.org/10.1007/s11069-008-9319-2 (https://doi.org/10.1007/s11069-008-9319-2) • Ch. 5
<p>Week 3 (Jan. 24, 26)</p>	<p>MASS MOVEMENT HAZARDS</p> <p>-Mass Movement Hazards: (Landslides, Avalanches, Erosion)</p> <p>TECTONIC HAZARDS:</p> <p>-Earthquakes</p>	<ul style="list-style-type: none"> • Ch. 8 • Ch. 6
<p>Week 4 (Jan. 31, Feb. 2)</p>	<p>-Tsunamis</p> <p>-Documentary #1: Japan's Killer Quake https://www.youtube.com/watch?v=WTmOYvQxrkg (https://www.youtube.com/watch?v=WTmOYvQxrkg)</p> <p>-Assignment #1 due: Sunday Feb. 5th (11:59pm)</p>	
<p>Week 5 (Feb. 7, 9)</p>	<p>-Volcanoes</p> <p>-Mt. Merapi, Indonesia case study</p>	<ul style="list-style-type: none"> • Ch.7
<p>Week 6 (Feb. 14, 16)</p>	<p>SEVERE WEATHER HAZARDS</p> <p>-Cyclonic storms</p> <p>-Documentary #2: Sandy - Anatomy of a Superstorm https://www.youtube.com/watch?v=y_JkKSmn1JM (https://www.youtube.com/watch?v=y_JkKSmn1JM)</p> <p>Test #1 (Thursday Feb. 16-20) Online, open book format</p>	<ul style="list-style-type: none"> • Ch. 9

<p>Week 7 (Feb.21, 23)</p>	<p>Reading Week (Feb. 19-23rd)</p> <p>No Classes</p>	<ul style="list-style-type: none"> • Clinton, W. https://www.preventionweb.net/files/2054_VL108301.pdf (https://www.preventionweb.net/files/2054_VL108301.pdf)
<p>Week 8 (Feb.28, Mar.2)</p>	<p>SEVERE WEATHER HAZARDS</p> <p>-Extreme Weather (e.g. winds, heat, lightning, etc)</p> <p>-Wildfire</p>	<ul style="list-style-type: none"> • NY Times. 2022. <i>As Wildfires Grow, Millions of Homes Are Being Built in Harm's Way.</i> https://www.nytimes.com/interactive/2022/09/09/climate/growing-wildfire-risk-homes.html (https://www.nytimes.com/interactive/2022/09/09/climate/growing-wildfire-risk-homes.html) • Ch. 10 (p. 268-272 & p.286-298)
<p>Week 9 (Mar. 7, 9)</p>	<p>-Guest Speaker Panel (details tbc)</p> <p>-Managed retreat for disaster risk reduction</p>	<ul style="list-style-type: none"> • Doberstein, B., et. al. 2019. Protect, accommodate, retreat or avoid (PARA): Canadian community options for flood disaster risk reduction and flood resilience. <i>Natural Hazards</i> volume 98, pages 31–50 https://link.springer.com/article/10.1007/s11069-018-3529-z (https://link.springer.com/article/10.1007/s11069-018-3529-z)

<p>Week 10 (Mar. 14, 16)</p>	<p>HYDROLOGICAL HAZARDS</p> <p>-Hydrological hazards (Floods)</p> <p>-Documentary #3: “Come Hell...BC Under Water”: https://www.cbc.ca/player/play/1978013251624 (https://www.cbc.ca/player/play/1978013251624)</p> <p>-Assignment #2 due: Sunday March 19th (11:59pm)</p>	<ul style="list-style-type: none"> • Ch. 11 & Ch. 12
<p>Week 11 (Mar. 21, 23)</p>	<p>-Hydrological hazards (Drought)</p> <p>-Documentary #4: “God’s Tears“: https://youtu.be/ka3XJGJ_C-o (https://youtu.be/ka3XJGJ_C-o)</p>	
<p>Week 12 (Mar. 28, 30)</p>	<p>-After a disaster: the cycle of recovery & “build back better”</p> <p>-Fostering disaster resilience through DRR</p>	<ul style="list-style-type: none"> • Raymond J. Burby, et. al. 2000. Creating Hazard Resilient Communities Through Land-Use Planning. Natural Hazards Review. May: 99-106 https://ascelibrary.org/doi/10.1061/%28ASCE%291527-6988%282000%291%3A2%2899%29 (https://ascelibrary.org/doi/10.1061/%28ASCE%291527-6988%282000%291%3A2%2899%29)
<p>Week 13 (Apr. 4, 6)</p>	<p>-Climate Change & Hazards</p> <p>- Test #2: online, open book. Saturday April 8-12th</p> <p>-Assignment #3 due: Sunday Apr 9th (11:59pm)</p>	

TEXTS / MATERIALS

Title / Name	Notes / Comments	Required
1. Unnatural Disasters	Abramovitz, J. 2001. Worldwatch Paper No. 158. http://www.worldwatch.org/node/832	Yes
2. Extreme events and disasters: a window of opportunity for change? Analysis of organizational, institutional and political changes, formal and informal responses after mega-disasters	Birkmann, J., et al. 2010. Natural Hazards 55, 637–655 https://doi.org/10.1007/s11069-008-9319-2	Yes
3. Key propositions for Building Back Better.	Clinton, W.J. 2006. www.preventionweb.net/files/2054_VL108301.pdf	Yes
4. As Wildfires Grow, Millions of Homes Are Being Built in Harm’s Way	NY Times. 2022. https://www.nytimes.com/interactive/2022/09/09/climate/growing-wildfire-risk-homes.html	Yes
5. Protect, accommodate, retreat or avoid (PARA): Canadian community options for flood disaster risk reduction and flood resilience	Doberstein, B., et. al. 2019. Natural Hazards volume 98, pages 31–50 https://link.springer.com/article/10.1007/s11069-018-3529-z	Yes
6. Creating Hazard Resilient Communities Through Land-Use Planning	Raymond J. Burby, et. al. 2000. Natural Hazards Review. May: 99-106 https://ascelibrary.org/doi/10.1061/%28ASCE%291527-6988%282000%291%3A2%2899%29	Yes

Optional Readings (VERY useful for Assignment #3): posted on LEARN

1. Smith, K. 2013. Environmental Hazards: Assessing Risk and Reducing Disaster. 6th edition, Routledge: New York, ISBN 978-0-415-68106-3. <https://www.routledge.com/Environmental-Hazards-Assessing-Risk-and-Reducing-Disaster/Smith-Smith/p/book/9780415681063> (<https://www.routledge.com/Environmental-Hazards-Assessing-Risk-and-Reducing-Disaster/Smith-Smith/p/book/9780415681063>) **(there is a weirdly paginated version on LEARN, and physical copies are also available on loan from Brent...ask in class/office hours).**

2. FEMA. 2013. *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards*. FEMA; Dept of Homeland Security. https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf (https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf)

STUDENT ASSESSMENT

Component	Value
Assignment #1 (due Feb. 5th)	20%
Test #1 (Feb. 16-20th): Online, open book format	20%
Assignment #2 (due March 19th)	20%
Test #2 (Apr. 8-12th): Online, open book format	20%
Assignment #3 (due April 9th)	20%

ASSIGNMENTS: Brand new for 2023, there will be a series of 3 “scaffolded” assignments (i.e. assignments that are linked to and build upon each other) that collectively will allow you to produce a significant report that you can add to your portfolio and/or show to future potential employers during a job interview.

ASSIGNMENT #1 (20%): Due February 5th

SUMMARY: Hazard Profile report. A brief “Hazard Profile” tracing all of the natural hazards found in a particular city or region, and listing previous significant hazard events/disasters in that city/region. You can choose whatever city or region appeals to you (e.g. it might be a city/region that you grew up in, hope to visit or live in one day, have family ties to, etc.) but remember that this choice follows you to Assignment #2 and Assignment #3, so choose carefully! Another caution is to choose an appropriately sized city or region...do not choose a city/region that is too small or too large to do justice to the assignment. Another useful approach might be to choose a region that you KNOW has faced significant disasters over the last few decades (e.g. Miami, Houston, New Orleans, Haiti, Calgary, Manila, Toronto, Montreal, Los Angeles, Bali, Japan, Java/Sumatra/Sulawesi, Indonesia, etc). Please feel free to run your idea past either the TAs or Instructor before you commit to a location!

ASSIGNMENT COMPONENTS: To be posted on Learn. If you do not see these posted by January 16th please remind me by email!

ASSIGNMENT #2 (20%): Due March 19th

SUMMARY: Hazard Impact report. Building upon Assignment #1, you will review all of the hazards and disasters that you wrote about in Assignment #1, and then critically assess the hazards facing your region in order to identify the “Top three most impactful hazards in your region”. You will need to explain to the reader the most common ways that “impact” is defined for hazards and disasters (e.g. human fatalities, injuries, displacement, economic damages, duration of recovery, etc) and then make a personal choice as to the way you have chosen to define the “most impactful” hazards in your region. Note that one student might decide that economic impacts are the most important, while another student might decide that human fatalities is the most important measure of impact, while a third student might decide that the numbers of humans displaced is the most important measure of impact. There is no one right answer here, so you will have to justify your choice!

ASSIGNMENT COMPONENTS: To be posted on Learn. If you do not see these posted by February 25th please remind me by email!

ASSIGNMENT #3 (20%): Due April 9th (can hand in much earlier)

SUMMARY: DRR plan. Building upon Assignments #1 and #2, now that you know the top three most impactful hazards affecting your region, you will create a plan identifying a series of promising Disaster Risk Reduction (DRR) strategies for your region. You can research current DRR already being used in your region, but please also consider elements of DRR that might not already be in place. Note that the optional textbook for this course (Keith Smith, PDF

posted on LEARN) has excellent DRR ideas in the second half of each chapter (e.g. If your region faces earthquake risks, look in Chapter 6, pgs. 153-175).

ASSIGNMENT COMPONENTS: To be posted on Learn. If you do not see these posted by March 10th please remind me by email!

Evaluation Policies

- **Assignment deadlines:** Assignments must be handed in by 11:59pm on the date assignments are due
- **Late submissions:** 5% deduction per day will be applied for late assignments. Late assignments may be submitted up until the date that marked assignment grades are released on LEARN (typically about 7-10 days after the original due date). As soon as Assignment marks are released on LEARN, late assignments are no longer accepted. Deductions may be waived if appropriate explanation is provided.
- **Test/assignment/late deduction waivers:** NOTE: a formal doctor's or counsellor's note is NOT required to have a test or assignment waived (let's not burden the healthcare system!). You do have to provide a detailed typed/emailed explanation of why you missed a test or were late in submitting an assignment.
- **Test grading:** online tests will be marked electronically
- **Assignment feedback/grading sheets:** all assignments will be marked electronically and feedback will be posted on LEARN

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:

- 90-100%: Work that shows a high level of initiative and is clearly above and beyond what is expected at a third year level. Referencing, style, grammar/spelling, content and the development of ideas are all superior.
- 80-89%: Work that shows good initiative and is above what is expected at a third year level. Referencing, style, grammar/spelling, content and the development of ideas are all good.
- 70-79%: Work that shows initiative and is about what is expected at a third year level, but one or more problems are evident in referencing, style, grammar/spelling, content and/or the development of ideas.
- 60-69%: 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
- 50-59%: 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.
- 40-49%: 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
- <40: 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.

COURSE 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. videos screened in class) are valid, “testable” materials, so complete notes should be taken for each video screened, and some of these materials are not available on the web! For these reasons, attendance at each lecture is **HIGHLY RECOMMENDED**.

Responding to Student Inquiries (e.g. explaining material, test formats, etc)

If you have course-related questions, I strongly encourage you to either ask question during the class (so all other students can also benefit) or come to see me during my office hours. My email ‘traffic’ gets almost unmanageable at times, so please do not expect a timely response to questions asked via email. For example, an email sent at 2:00am the morning of a test will almost **CERTAINLY** not prompt an answer before the test is held! Also, Geography 306 has 2 teaching assistants who would love to answer any and all of your questions, so please feel free to drop into teaching assistant office hours.

Missed Test:

All tests are mandatory, and thus, every effort should be made to complete each test. The only exceptions to this are those students who have a valid medical reason, personal or family emergency, etc:

- Valid medical reason such as illness or accident. A formal doctor’s or counsellor’s note is **NOT** required to have a test or assignment waived (let’s not burden the healthcare system!). You will however have to provide a **detailed typed/emailed explanation** of why you missed a test or were late in submitting an assignment.
- Significant personal or family emergency, death in the family, etc (with detailed typed/emailed explanation);
- 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 quiz, please contact the instructor as far in advance as possible to discuss alternatives.

If you miss a test for any reason:

1. Communicate in writing (e.g. email) to the instructor the reason you missed the quiz. Please be as detailed as possible.

Useful Hazard & Disaster links (Note: I have not checked all of these recently...some may be out of date)

Realtime Disaster Monitoring & Event Reporting:

<http://reliefweb.int/disasters>

(<http://reliefweb.int/disasters%3Cbr%3Ehttp://earthobservatory.nasa.gov/NaturalHazards/>)

<http://earthobservatory.nasa.gov/NaturalHazards/>

(<http://reliefweb.int/disasters%3Cbr%3Ehttp://earthobservatory.nasa.gov/NaturalHazards/>)

<http://www.emdat.be/disaster-week> ([http://www.usgs.gov/hazards/](http://www.emdat.be/disaster-week%3Cbr%3Ehttp://www.usgs.gov/hazards/))

<http://www.usgs.gov/hazards/> (<http://www.emdat.be/disaster-week%3Cbr%3Ehttp://www.usgs.gov/hazards/>)

<http://earthquake.usgs.gov/earthquakes/map/>

(<http://earthquake.usgs.gov/earthquakes/map/%3Cbr%3Ehttp://www.disastercenter.com>)

<http://www.disastercenter.com>

(<http://earthquake.usgs.gov/earthquakes/map/%3Cbr%3Ehttp://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>

(<http://www.blackwellpublishing.com/journal.asp?ref=0361-3666&site=1>)

Disaster Management and Response www.sciencedirect.com/science/journal/15402487

(<https://r.flems.io/www.sciencedirect.com/science/journal/15402487>)

Disaster Prevention & Management [http://www.emeraldinsight.com/Insight/viewContainer.do?](http://www.emeraldinsight.com/Insight/viewContainer.do?containerType=Journal&containerId=10806)

[containerType=Journal&containerId=10806](http://www.emeraldinsight.com/Insight/viewContainer.do?containerType=Journal&containerId=10806) ([http://www.emeraldinsight.com/Insight/viewContainer.do?](http://www.emeraldinsight.com/Insight/viewContainer.do?containerType=Journal&containerId=10806)

[containerType=Journal&containerId=10806](http://www.emeraldinsight.com/Insight/viewContainer.do?containerType=Journal&containerId=10806))

Environmental Hazards http://elsevier.net/wps/find/journaldescription.cws_home/706537/description

(http://elsevier.net/wps/find/journaldescription.cws_home/706537/description)

Int. Jour. Of Mass Emer. And Disasters <http://www.usc.edu/schools/sppd/ijmed/cumulative.php>

(<http://www.usc.edu/schools/sppd/ijmed/cumulative.php>)

Jour. Of Emergency Management <http://www.pnpco.com/pn06001.html> (<http://www.pnpco.com/pn06001.html>)

Natural Hazards <http://www.springerlink.com/content/0921-030X> (<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 (http://www.nat-hazards-earth-syst-sci.net/volumes_and_issues.html)

Natural Hazards Observer <http://www.colorado.edu/hazards/o/> (<http://www.colorado.edu/hazards/o/>)

Natural Hazards Review <http://scitation.aip.org/nho> (<http://scitation.aip.org/nho>)

Global Environmental Change

http://www.elsevier.com/wps/find/journaldescription.cws_home/30425/description#description

(http://www.elsevier.com/wps/find/journaldescription.cws_home/30425/description#description)

Hazards Research Centres

<http://www.colorado.edu/hazards/> (<http://www.colorado.edu/hazards/>)

<http://www.benfieldhrc.org/> (<http://www.benfieldhrc.org/>)

<http://www.cas.sc.edu/geog/hrl/> (<http://www.cas.sc.edu/geog/hrl/>)

<http://www.aoml.noaa.gov/hrd/> (<http://www.aoml.noaa.gov/hrd/>)

<http://www.ihc.fiu.edu/> (<http://www.ihc.fiu.edu/>)

Latin America/Caribbean

http://www.disaster-info.net/socios_eng.htm (http://www.disaster-info.net/socios_eng.htm)

<http://www.cdema.org/> (<http://www.cdema.org/%3Cbr%3Ehttp://www.eird.org/index-eng.htm>)

<http://www.eird.org/index-eng.htm> (<http://www.cdema.org/%3Cbr%3Ehttp://www.eird.org/index-eng.htm>)

Asia/Pacific

<http://www.adpc.net/> (<http://www.adpc.net/>)

<http://www.pdc.org/iweb/pdchome.html> (<http://www.pdc.org/iweb/pdchome.html>)

<http://www.unisdr.org/asiapacific/asiapacific-index.htm> (<http://www.unisdr.org/asiapacific/asiapacific-index.htm>)

<http://www.adrc.or.jp/top.php> (<http://www.adrc.or.jp/top.php>)

Africa

<http://www.unisdr.org/africa/africa-index.htm> (<http://www.unisdr.org/africa/africa-index.htm>)

<http://www.irinnews.org/webspecials/DR/ISDR-Map-African-Natural-Hazards.pdf>

(<http://www.irinnews.org/webspecials/DR/ISDR-Map-African-Natural-Hazards.pdf>)

Canada

<http://www.publicsafety.gc.ca/prg/em/cdd/index-eng.aspx> (http://www.publicsafety.gc.ca/prg/em/cdd/index-eng.aspx%3Cbr%3Ehttp://ess.nrcan.gc.ca/2002_2006/nher/index_e.php)

http://ess.nrcan.gc.ca/2002_2006/nher/index_e.php (http://www.publicsafety.gc.ca/prg/em/cdd/index-eng.aspx%3Cbr%3Ehttp://ess.nrcan.gc.ca/2002_2006/nher/index_e.php)

USA

<http://www.fema.gov/> (<http://www.fema.gov/>)

<http://www.bt.cdc.gov/disasters/> (<http://www.bt.cdc.gov/disasters/>)

Hazard Mitigation & Disaster Reduction

<http://www.fema.gov/plan/mitplanning/index.shtm> (<http://www.fema.gov/plan/mitplanning/index.shtm>)

<http://www.unisdr.org/> (<http://www.unisdr.org/>)

<http://www.ibhs.org/> (<http://www.ibhs.org/>)

<http://www.iclr.org/> (<http://www.iclr.org/>)

<http://www.gdrc.org/uem/disasters/disenvi/index.html> (<http://www.gdrc.org/uem/disasters/disenvi/index.html>)

Other links

<http://www.disasterlinks.net/> (<http://www.disasterlinks.net/>)

<http://www.intute.ac.uk/sciences/hazards/> (<http://www.intute.ac.uk/sciences/hazards/>)

Disaster simulation games

<http://www.stopdisastersgame.org/en/> (<http://www.stopdisastersgame.org/en/>)

<http://insidedisaster.com/haiti/experience> (<http://insidedisaster.com/haiti/experience>)

<http://environment.nationalgeographic.com/environment/natural-disasters/forces-of-nature/>
(<http://environment.nationalgeographic.com/environment/natural-disasters/forces-of-nature/>)

ASSIGNMENT SCREENING

USE OF AI TEXT-GENERATION SOFTWARE (e.g. ChatGPT)

Note that the use of AI text-generating software (e.g. Chat GPT) is strictly prohibited and constitutes a punishable academic integrity offence if discovered. Note also that AI text-generation detection software is now available for use by TAs and the Instructor (e.g. GPTZero).

NOTICE OF RECORDING

One or more classes in mid-February will be delivered virtually due to the instructor's international travel. Remote lectures will be recorded and posted to LEARN for asynchronous viewing. The dates of these lectures will be confirmed in the coming weeks, but are likely to be Feb. 14th & 16th.

ADMINISTRATIVE POLICY

Intellectual Property:

Students should be aware that this course contains the intellectual property of their instructor, TA, and/or the University of Waterloo. Intellectual property includes items such as:

- Lecture content, spoken and written (and any audio/video recording thereof);
- Lecture handouts, presentations, and other materials prepared for the course (e.g., PowerPoint slides);
- Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); and
- Work protected by copyright (e.g., any work authored by the instructor or TA or used by the instructor or TA with permission of the copyright owner).

Course materials and the intellectual property contained therein, are used to enhance a student's educational

experience. However, sharing this intellectual property without the intellectual property owner's permission is a violation of intellectual property rights. For this reason, it is necessary to ask the instructor, TA and/or the University of Waterloo for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository).

Permission from an instructor, TA or the University is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar courses in subsequent terms/years. In many cases, instructors might be happy to allow distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The intellectual property rights owner deserves to know (and may have already given their consent).

Co-op interviews and class attendance: Co-op students are encouraged to try and choose interview time slots that result in the least amount of disruption to class schedules. A co-op interview does not relieve the student of any requirements associated with that class meeting.

Students will be required to provide copies of their interview schedules (they may be printed from WaterlooWorks) should there be a need to verify class absence due to co-op interviews.

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. The University's guiding principles on academic integrity can be found here: <http://uwaterloo.ca/academicintegrity>. ENV students are strongly encouraged to review the material provided by the university's Academic Integrity office specifically for students: <http://uwaterloo.ca/academicintegrity/Students/index.html>

Students are also expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for their actions. Students who are unsure whether an action constitutes an offense, or who need 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. Students may also complete the following tutorial: <https://uwaterloo.ca/library/get-assignment-and-research-help/academic-integrity/academic-integrity-tutorial>

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: <https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-71>. Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance:

<https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-70>
(<https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-70>)

Within ENV, 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.

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. Any use of automatic text generation software (e.g. ChatGPT, Google translate, Grammarly, etc) is prohibited and its discovery will lead to an immediate academic integrity investigation.

Mental Health: The University of Waterloo, the Faculty of Environment and our Departments/Schools consider students' well-being to be extremely important. We recognize that throughout the term students may face health challenges - physical and / or emotional. **Please note that help is available.** Mental health is a serious issue for everyone and can affect your ability to do your best work. Counselling Services <https://uwaterloo.ca/campus-wellness/> (<https://uwaterloo.ca/campus-wellness/>) is an inclusive, non-judgmental, and confidential space for anyone to seek support. They offer confidential counselling for a variety of areas including anxiety, stress management, depression, grief, substance use, sexuality, relationship issues, and much more.

All students are encouraged to download the WatSAFE app which is available free through the google and iOS app stores. The WatSAFE app provides on- and off-campus contacts for students in distress, including international students, and other information related to campus safety and security.

Religious Observances: Students need to 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 assignments.

Communications with Instructor and Teaching Assistants: All communication with students must be through either the student's University of Waterloo email account or via LEARN. If a student emails the instructor or TA from a personal account they will be requested to resend the email using their personal University of Waterloo email account.

Recording lecture: Use of recording devices during lectures is only allowed with explicit permission of the instructor of the course. If allowed, video recordings may only include images of the instructor and not fellow classmates. Posting of videos or links to the video to any website, including but not limited to social media sites such as: facebook, twitter, etc., is strictly prohibited.

UNIVERSITY POLICY

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. [Check [the Office of Academic Integrity](https://uwaterloo.ca/academic-integrity/) (<https://uwaterloo.ca/academic-integrity/>) for more information.]

Grievance: A student who believes that a decision affecting some aspect of their university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70, Student Petitions and Grievances, Section 4](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70) (<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70>) . When in doubt, please be certain to contact the department's administrative assistant who will provide further assistance.

Discipline: A student is expected to know what constitutes academic integrity to avoid committing an academic offence, and to take responsibility for their actions. [Check [the Office of Academic Integrity](https://uwaterloo.ca/academic-integrity/) (<https://uwaterloo.ca/academic-integrity/>) for more information.] A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate associate dean. For information on categories of offences and types of penalties, students should refer to [Policy 71, Student Discipline](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71) (<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71>) . For typical penalties, check [Guidelines for the Assessment of Penalties](https://uwaterloo.ca/secretariat/guidelines/guidelines-assessment-penalties) (<https://uwaterloo.ca/secretariat/guidelines/guidelines-assessment-penalties>) .

Appeals: A decision made or penalty imposed under [Policy 70, Student Petitions and Grievances](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70) (<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70>) (other than a petition) or [Policy 71, Student Discipline](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71) (<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71>) may be appealed if there is a ground. A student who believes they have a ground for an appeal should refer to [Policy 72, Student Appeals](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-72) (<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-72>) .

Note for students with disabilities: [AccessAbility Services](https://uwaterloo.ca/disability-services/) (<https://uwaterloo.ca/disability-services/>) , located in Needles Hall, Room 1401, 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 AccessAbility Services at the beginning of each academic term.

Turnitin.com: Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, therefore students must be given an alternative (e.g., scaffolded assignment or annotated bibliography), if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin in this course.

It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit alternate assignment.