University of Guelph
Department of Geography, Environment & Geomatics
GEOG*1350 – EARTH: Hazards and Global Change, 0.5 credits
Winter 2022 – Monday, Wednesday, Friday
Time 11:30am-12:20pm – War Memorial (starting Jan 24, 1st 2 weeks via Zoom only)

Instructor: Dr. Jaclyn Cockburn (pronouns: she/her)
Email: jaclyn.cockburn@uoguelph.ca
Office Hours: Wednesday’s 1pm-2:30pm via Zoom or in rm 353 Hutt Building, or by appointment

Public Health & COVID-19

Overall, W22 exists in a stressful public health environment, which will require understanding and compassion from all of us. It is my hope that we will be able to return to in-person learning after the initial semester begins online. Once we start to include in-person learning please keep in mind the following.

It is our shared responsibility to ensure our classroom remains a safe and healthy environment for all of us. Strict compliance with all public health regulations set forth by the Government of Ontario, Wellington-Dufferin-Guelph Public Health, and the University of Guelph is required. Please be sure you are familiar with all the University of Guelph’s COVID-19 policies.

• If you, or someone in your household, is feeling ill, please do not come to campus. I will do the same if necessary. Please follow the most up to date rules on ‘self-isolation’ provided by the Government of Ontario. In the event of my own self-isolation or illness, there may be significant changes to the course based on what I am able to do under these conditions.

• Students who do not comply with public health regulations, including but not limited to social distancing and proper mask wearing (covering nose and chin), will be asked to leave the class immediately. Breaches of public health regulations will be reported to the Student Conduct Support Coordinator, the Chair of the Department of Geography, Environment & Geomatics, and the Associate Dean (Academic) of the College of Social and Applied Human Science. The Campus Police may also be involved.

• Lectures may be cancelled or moved entirely online if I deem there are significant or sustained breaches to public health regulations in the class. This includes proper mask wearing (covering nose and chin). As long as a mask mandate is in place, you should limit eating and drinking in class.

• At any point during the class, you may stop the lecture to inform me of any breaches to public health. Simply raise your hand or stand up and say ‘there is a breach to public health occurring.’ You do not have to identify where or who.

• If you require a short-term accommodation due to COVID-19, please contact me as soon as possible. This will be addressed as per the earlier policy. Longer or more complex accommodation should be addressed to Student Accessibility Services as soon as possible.

• You are strongly encouraged to familiarize yourself with Student Accessibility Services, your academic advising office (e.g., BACO, BSc Advising etc.) and Health Services should you require their assistance during the semester.

• If it becomes necessary to move this course completely online during the semester, all changes will be communicated via CourseLink, and will comply with University of Guelph policies. However, this course has not been designed to be fully remote, so there may be bumps and unforeseen challenges if a transition is needed.

General Description

Of the ten deadliest disasters in the past century, six were due to or related to earthquakes; massive flooding and storms caused the remaining four. Over the last century more than 50 million deaths have been caused by natural disasters. What does this mean? Why does this happen and how are agencies working towards preparedness? This course investigates physical aspects of natural hazards that affect people and society. We will focus on the natural systems and processes that cause floods, earthquakes, volcanoes, landslides, hurricanes,
tornadoes and other natural disasters. The course includes a discussion of major events in the geologic and historical record as well as future hazard potential and how Geographers are working toward understanding these issues and developing strategies for mitigation and adaptation. We look at the risks humans face in different regions, including local hazards, our contribution to geologic hazards, and how we can minimize and cope with future events. In addition to our classroom discussions and lectures we will evaluate hazards that have developed or may develop in southwestern Ontario. Although the probability of the ‘made for a movie’ types of hazards (e.g., earthquakes, volcanic eruptions) is low, there are other types of hazards that need to be taken into consideration with respect to individual and community preparedness in Ontario and other parts of Canada. We will also spend time discussing and analyzing the ways in which risk is assessed and managed by insurance companies and emergency response agencies.

Calendar Description
This course investigates physical aspects of natural hazards that affect people and society and will focus on the natural systems and processes that cause climate variability and change, floods, earthquakes, volcanoes, landslides, hurricanes, tornadoes and other natural disasters. There are no prerequisites, co-requisites or restrictions for this course.

Territorial Acknowledgement
Acknowledging the territory on which we learn and work honours the relationship between lands/waters and the Indigenous ancestors and stewards of them. This acknowledgement is adapted from the University of Guelph Indigenous Resource Centre and Student Life.

The University of Guelph rests on the traditional territory of the Attawanderon people. We therefore acknowledge the Attawanderon people and offer our respect to Anishinaabe, Haudenosaunee and Métis neighbours as the university and community strive to strengthen our relationships with them. We also recognize the significance of the Dish with One Spoon Covenant to this land. The Dish with One Spoon Covenant is a peace agreement made between Indigenous nations before the Europeans arrived. It characterizes our collective responsibility to each other and Mother Earth-we should take only what we need, leave enough for others and keep the dish clean.

Statement on Expectations for Inclusivity
Different perspectives and lived experiences shape who we are and make our communities stronger. I want everyone in our class to feel safe, feel that they belong and that their ideas, perspectives, and lived experiences are important. It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students’ learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups.

Learning Outcomes
This course aims to introduce and enhance the learning outcomes identified by the University of Guelph and Department of Geography, Environment & Geomatics. Specifically, in this course students will:
• Develop a comprehensive breadth of understanding of the core concepts and principles that dictate Earth hazards. Students will evaluate the Earth as an integrated system by examining dynamic flows, interactions and exchanges at different spatial and temporal scales.
• Critically and independently recognize, synthesize and evaluate diverse sources of knowledge, arguments and approaches pertinent to exploring elements of geoscientific problems
• Appreciate and begin to reflect critically on the importance of holistic, integrative human-environment perspectives.
• Investigate complex real-world challenges using appropriate concepts, methods, and tools from the geographical sub-disciplines.
• Recognize and identify the societal relevance of geographical knowledge and apply it to real world human-environment issues.
• Value respectful, responsible, and just community engagement and demonstrate active citizenship when addressing human-environment issues.

Overview of Course Content and Organization
Our course is scheduled such that there are 3 lectures each week. As per the Dec 22, 2021 announcement, we will begin the semester online (details below). Following a return to campus, we will meet in-person in War Memorial for our lectures. Using the technology that is available, lectures in War Memorial will also be live-streamed. Lectures will include in-class activities, multi-media presentations, and group discussions. Each week students will complete an online quiz based on the lecture and assigned readings for that week, students are responsible for preparing and completing these quizzes in the timeframe stipulated. There are two assignments during the term. Please refer to the materials related to these assignments for more details and deadlines.

Lectures will be recorded, will be made available within 24 hours of the lecture (likely sooner) and will remain available for 7 days. This is a synchronous course, in order to be successful, you need to stick with the course schedule and pace.

Course Content Includes:

• Science as a way of knowing
• Plate Tectonics, Earthquakes and Volcanoes
• Tsunamis
• Weathering, Slope Stability and Mass Movements, Subsidence
• Severe Weather: Thunderstorms, Tornadoes and Hurricanes
• Rivers and Flooding
• Coastal Erosion and Processes
• Climate Change: past, present and future
• BIG EVENTS → Meteoroid Influx & Mass Extinction Events

Learning Services for First Year Courses
Although many of you may not be first year students, because this course is designated as a first-year course there are additional resources available to you. Learning resources for first-year students at the Library and Learning Commons. They offer free services to help you succeed in first year courses at the University of Guelph.
These opportunities include:

- meeting with a peer helper to talk about study strategies or your writing assignments
- attending Supported Learning Groups
- getting assistance finding journal articles and books
- registering for academic workshops

For more information, please visit the Library website or ask me to direct you to someone at the Library and Learning Commons. Library website → www.lib.uoguelph.ca

Textbook

*Canadian Physical Geography Perspectives on Natural Hazards, Climate Variability and Change*

This year is the official launch of an Open Educational Resource (OER) developed specifically for this course. It is free, designed specifically for GEOG*1350 and publicly available.

URL: https://books.lib.uoguelph.ca/canadiannaturalhazardsclimatechange.

CourseLink Page and UofG Email/ID

There is a course webpage on CourseLink. To access this resource, use your central account ID and password. This is the same login ID and password that is used to access your University of Guelph email and WebAdvisor. CourseLink can be accessed from the University’s homepage.

Evaluation (select the scheme that works for you by the end of classes on April 8, 2022)

**Scheme A (if you do not select a scheme by April 8, this is the scheme you will be evaluated on):**

The final grade will be assessed from weekly review quizzes (10%), two assignments (15% each, 30% total), and two tests spaced throughout the term (60%). Quizzes and tests are based on information presented and discussed in lectures, assigned readings and assignments. The first test (25%) is in week 7 and the final test (35%, cumulative) is scheduled during the university exam period. In summary:

- **Weekly Review Quizzes** 10%
- **Assignments** 30%
- **Tests** 60%

**Scheme B:**

The final grade will be assessed from two assignments (15% each, 30% total), and two tests spaced throughout the term (70%). You will still have access, and are encouraged to complete the weekly review quizzes, but the score on the quizzes will not count toward your final grade, thus the test section of your evaluation is weighted more heavily. Weekly review quizzes and tests are based on information presented and discussed in lectures, assigned readings and assignments. The first test is in week 7 (30%), and the final test (40%, cumulative) is scheduled during the university exam period. In summary:

- **Assignments** 30%
- **Tests** 70%
Students with a documented conflict for any test need to see me at least two weeks prior to arrange an alternative time, there is no guarantee that this will be accommodated, but ensuring that you address the issue several weeks in advance will certainly assist the process.

**Weekly Review Quizzes – worth 10% in the default evaluation scheme**
The weekly review quizzes are an incredible opportunity for students to review and ‘test’ themselves on the relevant material at a relatively frequent pace. The quizzes in total are worth 10% of the final grade in the class (default scheme). The quizzes are used to incentivize engagement with the course material one more time. So, if you skim the readings before class, attend class and take helpful notes along the way, read the assigned readings, review your notes each week that is approximately six points of engagement with the material. Adding the quiz makes it seven points. I think these points of engagement with the material are vital to an in-depth and comprehensive understanding of complex concepts in GEOG*1350. The quizzes might feel like extra work – and they should – because the whole point was to get you to engage with the material one more time – research on student learning and success shows that more frequent engagement leads to better performance. However, if you think it will be too much for your schedule you can opt to not have them count toward your final grade. Furthermore, the quiz questions help me to gauge student comprehension and usually reflect the most important or challenging ideas and concepts covered during that week. Finally – quiz questions are often reused on the exams – so in case you needed one more reason to pay attention to them, they will likely help you out with the tests.

**Assignments – 15% each, 30% total**
These assignments are an opportunity for you to demonstrate to us that you understand key concepts. More details about the assignments will be posted to CourseLink at the end of week 1. Prior to submitting your assignment you must complete the

**Tests – Midterm Test & Final Test (Exam)**
There are two tests in this course, a midterm in week 7 and a final exam (it is cumulative) scheduled during the final exam period by the university. These assessments will be completed online using the CourseLink quiz tool. The midterm will be conducted during class time. Collaboration is not permitted for these assessments. Depending on the grading scheme you select the midterm is worth 25% (default) or 30% of your final grade, and the final exam is worth 35% (default) or 40% of your final grade. Failure to pass one of both assessments may lead to failure of the course.

**Turnitin**
In this course we use Turnitin integrated with the CourseLink Dropbox tool to detect potential plagiarism, unauthorized collaboration, and/or copying as part of the ongoing efforts to maintain academic integrity at the University of Guelph. All materials submitted to the Dropbox will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting inappropriate use. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site. A major benefit of using Turnitin is that students will be able to educate and empower themselves in preventing academic misconduct. In this course you may screen your own assignments through Turnitin as many times as you wish before the due date. You will be able to review reports that show you exactly where you have properly and improperly referenced outside source materials in your assignment. Please contact me if you have questions or concerns about this software.
Online Behaviour
Inappropriate online behaviour will not be tolerated. Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor, teaching assistants or fellow students
- Using obscene or offensive language online
- Copying or presenting someone else's work as your own
- Adapting information from the Internet without using proper citations or references
- Buying or selling term papers or assignments
- Posting or selling course materials to course notes websites
- Having someone else complete your assessments
- Completing a quiz for/with another student when collaboration is not permitted
- Stating false claims about lost quiz answers or other assignment submissions
- Threatening or harassing a student or instructor online
- Discriminating against fellow students, instructors and/or TAs
- Using the course website to promote profit-driven products or services
- Attempting to compromise the security or functionality of the learning management system
- Sharing your username and password
- Recording lectures without the permission of the instructor

Key Dates
Assignment Due Dates: Submitted to CourseLink Dropbox by 11:59 pm
Assignment 1 – Friday February 11, 2022
Assignment 2 – Friday March 25, 2022

TEST Dates:
Midterm – 11:30am-12:20pm Wednesday March 2, 2022 – via CourseLink Quiz Tool
Final Exam (yes, it is cumulative) – 7pm-9pm Saturday April 23, 2022 – via CourseLink Quiz Tool (part of the final exam period)

Teaching Assistants in GEOG*1350 – W22
Our course is supported by several Teaching Assistants (TAs) this semester (more info on CourseLink). Their primary role in our course is to support assessment (marking some assignments and tests), and from time to time will support in-class discussions and activities as required. Marking is randomly assigned, so the person that marks Assignment 1 may not be the person that marks Assignment 2. If you have questions about your assignment before you submit it – post those to the Discussion Board on CourseLink and/or see me during office hours.

Student Responsibilities
It is in your best interest as a student to attend lectures, complete assignments and readings. Late assignments will be penalized at the rate of 25% per day. Students whose assignments are late because of a valid medical reason, family emergency or other reason accepted by me will not be penalized. It is expected that you are respectful of each other, the teaching assistants and the course instructor.
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture Topic(s)</th>
<th>Reading and Notes</th>
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| 1    | Class overview, quizzes, exams, assignments  
      | Ways of knowing and Geographic Thought  
      | Natural Disasters - overview         | Chapter 1                          |
| 2    | Hazards and Risk  
      | Geomatics and Hazards  
      | Plate Tectonics and Earth’s structure | Chapter 1 & 2                      |
| 3    | Earthquakes and faults  
      | Earthquake predictions and Case Studies  
      | Ground motion and damage control     | Chapter 3                          |
| 4    | Volcanoes – types, products, forces  
      | Hazards and perceived risks  
      | Volcanic environments and case studies | Chapter 4                          |
| 5    | Tsunamis  
      | Alaskan, Indonesian and Sendai tsunamis  
      | Weathering and slopes (ch 5)         | Chapter 6  
      | Assignment 1 Due Fri Feb 11          |
| 6    | Weathering, slope stability & mass wasting  
      | Subsidence – karst landscapes, clay hazards, permafrost hazards | Chapter 5 cont                      |
| 7    | Monday  
      | Time permitting midterm review  
      | Wednesday – MIDTERM – Covers everything since week 1  
      | See info on Course Outline and CourseLink  
      | Friday  
      | Atmospheric Processes Intro | Midterm  
      | Wed Mar 2  
      | 11:30am-12:20pm  
      | Chapter 8 cont          |
| 8    | Energy & heat transfer, Earth’s energy balance  
      | Atmospheric composition & structure  
      | Weather Processes & Hazardous Weather | Chapter 8                           |
| 9    | Fluvial Environments  
      | Water cycle and river channels  
      | How rivers and floodplains work  
      | Urban vs Rural watersheds | Chapter 7                           |
| 10   | Coastal environments and hazards  
      | Wave energy and processes  
      | Changes along a coast due to waves  
      | Typical landforms and relation to hazards | Chapter 9  
      | Assignment 2 Due Friday Mar 25      |
| 11   | Past Climate Variability  
      | Global climate dynamics -> cycles in Earth’s climate  
      | Mass extinctions & BIG events       | Chapter 10                          |
| 12   | Recent Climate Variability – Anthropogenic Changes  
      | Hazards associated with climate change  
      | Minimizing impacts of cc  
      | Time permitting final exam review | Chapter 10 cont                      |

*The schedule may change or be adjusted depending on our progress*
How to succeed in this course

I believe success is possible in anything you set your mind to, therefore starting this class and each task associated with it with an engaged, positive and excited attitude puts you well on your way to an excellent experience. Any semester can be a challenge, rest assured I am going to do my best to help you to succeed, but you need to want to succeed in order for it to work.

There are some other things that will also help you to succeed. Come to class prepared to participate; ask questions; complete your assignments, read them over, read the questions, did you answer and address all the issues? When you are proud of your assignment, hand it in. Talk to me about your assignments; before you hand them and after you get feedback on them. Discussing issues often makes the point and the issue clearer than just considering it once. Learning and comprehending concepts is not done through memorization, I rarely test memory, I want to know that you understand and can relate the concept back to me or to someone else. However, in order to do these things, you need to have a set of tools that often include vocabulary, so these tools will be important to your success. Have fun, I always remember fun things, and events that were mediocre or uninteresting I easily forget. If you come with the right attitude, I will do my best to make this a fun, interesting and exciting class.

The not so small, small print. Please read and understand the following University-wide policies

E-mail Communication

As per university regulations, all students are required to check their <@uoguelph.ca> e-mail account regularly: e-mail is the official route of communication between the University and its students.

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the undergraduate calendar for information on regulations and procedures for Academic Consideration.

Drop Date

The last date to drop one-semester courses, without academic penalty, is April 8, 2022. For regulations and procedures for Dropping Courses, see the Undergraduate Calendar.

Copies of out-of-class assignments

Keep reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Student Accessibility Services (SAS) as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 56208 or email SAS@uoguelph.ca or see the Student Accessibility Services website.

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, Winter 2022 – GEOG 1350 – Earth: Hazards and Global Change
staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar.

Recording of Materials
Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Resources
The Academic Calendars are the source of information about the University of Guelph’s procedures, policies and regulations, which apply to undergraduate, graduate and diploma programs.

Disclaimer
Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the COVID-19 website and circulated by email.

Illness
The University will not require verification of illness (doctor's notes) for the fall 2021 or winter 2022 semesters.