a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

Earth, Ocean and Atmospheric Sciences
2020 – 2207 Main Mall
Vancouver, BC, V6T 1Z4 Canada

EOSC_V 114: The Catastrophic Earth, Natural Disasters
Fall 2024 In Person Learning

Instructors:	**This is a team-taught course with many instructors – see Canvas**
Administrator:	**Dr. Lucy Porritt**
Email:	lporritt@eoas.ubc.ca
Website:	https://canvas.ubc.ca/courses/124105
Class times:	**M/W/F Section 101 at 11am SCRF 100, Section 102 at 1pm SWNG 221**
TA's:	**See Canvas**

Land Acknowledgement

We would like to acknowledge that the University of British Columbia, Point Grey campus, is located on the traditional, ancestral and unceded territory of the xwməθkwəy̓əm (Musqueam) people. Your hometown may also be located on the traditional, ancestral, unceded territories of other First Nations. Take a moment to look up your home town and where you are currently living https://native-land.ca/ and reflect upon this, as we work together to discover more about the catastrophic Earth and its natural disasters.

Academic Calendar Entry

An introduction to causes and physical characteristics of disasters such as volcanic eruptions, earthquakes, tsunamis, hurricanes, storm surge, thunderstorms, tornadoes, landslides, wind waves, meteor impacts, mass extinctions. No background in Science or Mathematics is required.

Course Format

EOSC 114 sections 101 and 102 are the face-to-face versions of the course. As such, you will meet in person at the regularly scheduled (Monday, Wednesday, Friday) class times to attend live lectures from the instructors, with opportunities to participate in class activities and discussions with your instructors and your peers. For these sections, you must be able to attend most of the regularly scheduled lectures and complete in-class activities and iClickers to gain participation grades. **Lectures will not be recorded.**

EOSC 114 section 99A is the distance education version of the course, covering the same materials, with the same homework and final exam. In this version, you will study at your own pace using online notes, with regular quizzes and discussions to focus and enhance your learning. **Please note that face-to-face classes will NOT be recorded.** ***If you are unable to join the face-to-face classes in sections 101/102 due to your schedule, please register for section 99A***

The Canvas website for the course contains required online homework readings and quizzes, as well as the materials for this course. To access this information, login to Canvas using your Campus-Wide Login (CWL) and then click on EOSC 114 101/102 and look in the Modules tab for the current module. If you do not have a CWL, go to http://www.it.ubc.ca/cwl and request one. If you have a CWL and you are registered for this course, but you don't see this course listed, email The Administrator (Dr. Lucy Porritt) lporritt@eoas.ubc.ca and include EOSC 114 and your CWL in your message.

There is no required textbook for this course, we will use a mix of websites, articles and videos in addition to the course lecture materials, all materials are accessible through Canvas.
If you prefer textbooks – the recommended reading is Natural Disasters 12th Edition by Patrick Leon Abbott, from McGraw-Hill Publishing. https://www.mheducation.ca/higher-education/earth-and-environmental-science/geology/hazards-natural-disasters . Other similar textbooks may be useful.
****iClicker Student is required for this course**** https://www.iclicker.com/

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Course overview, content and objectives
This course is about connecting you to the natural world, providing an understanding of the processes that cause natural disasters and, more importantly, that can help you survive them.
By the end of this course, for earthquakes, volcanoes, landslides, storms, waves, and meteor impacts you will be able to:

1. Describe how the natural disasters work.
2. Locate the dangerous places where they have often occurred.
3. Describe the ways scientists observe and monitor natural disasters.
4. Explain why it is hard to forecast natural disasters.
5. Describe what you and your community can do to prepare for natural disasters.
6. Discuss how these natural disasters relate to human-induced climate change.

Your teaching team will strive to:
1. Empower you to be a survivor.
2. Enable you to approach new challenges insightfully.
3. Sharpen your observations of nature.
4. Stimulate your excitement in our planet.

Criteria for assessing student comprehension of course material (i.e. grades) are listed below:

iClicker Performance Question Responses (see below)		4%
iClicker Bonus for Correct Responses (see below)		2%
Assignments (see below)		15%
Class Project		6%
Lecture midterm exams	3 x 10 %	30%
Lecture final exam		45%
Total		**102%**
Your course grade will be truncated to be no greater than 100%		

Note: The final written lecture exam is a TEST and NOT a learning experience. As such, permission to review your final exam is NOT routinely given.

Grading Practices
Faculties, departments, and schools reserve the right to scale grades in order to maintain equity among sections and conformity to University, faculty, department, or school norms. Students should therefore note that an unofficial grade given by an instructor might be changed by the faculty, department, or school. Grades are not official until they appear on a student's academic record.

iClicker Performance: For each iClicker question you can gain points for answering (4) and points for being correct (2) with a maximum total for each question (6). At the end of term, we add up your points earnt and divide the result by 80% of the total points available. This iClicker ratio is applied to calculate the total marks out of 6% towards your final grade. Your grade reflects the number of questions answered with a bonus if you answered them correctly. As we divide by 80% of the total available marks - don't worry if you miss a few questions or the odd one or two classes.
Example A: you participated in 80% or more clicker questions during the term, but got them all wrong, then you would earn 4 iClicker Performance marks but no Bonus marks.

Example B: You missed some classes but participated in 70% of the iclicker questions, and you got 50% of them right. Your iClicker performance marks would be: (4 marks + 0.5* 2 marks) * 70 / 80 = 4.375 marks.

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Tentative Course Outline – subject to change

Week	Instructors	Topics	Online Homework	Special events
Week 1	Lucy Porritt	Sept 2: **Labour Day Holiday** Sept 4: Introduction - Fragile Systems Sept 6: Fragile Systems		
Week 2	Lucy Porritt / Doug McCollor	Sept 9: Fragile Systems Sept 11: Storms Sept 13: Storms	Homework 1, Background Knowledge**,** due **Sept 15**.	
Week 3	Doug McCollor	Sept 16: Storms Sept 18: Storms Sept 20: Storms	Homework 1, Part 2 due **Sept 22** and Homework 2, Storms **Sept 9-22**.	**Add/Drop Sept 16**
Week 4	May Ver	Sept 23: Waves Sept 25: MIDTERM 1 Sept 27: Waves	Project Part 1 – Quiz on previous years map due **Sept 29**	Mid-term 1 Review session: **Sept 23 5-7pm LIFE 2201**
Week 5	May Ver	Sept 30: **University closed National Day for Truth and Reconciliation** Oct 2: Waves Oct 4: Waves	Homework 3, Waves **Sept 23-Oct 6.**	
Week 6	May Ver / Simon Peacock	Oct 7: Waves Oct 9: Earthquakes Oct 11: Earthquakes	Project Part 2 – Storms or Waves event due **Oct 13**	
Week 7	Simon Peacock	Oct 14: **Thanksgiving Holiday** Oct 16: Earthquakes Oct 18: Earthquakes	Homework 4, Earthquakes **Oct 7-Oct 20.**	
Week 8	Simon Peacock / David Sasse	Oct 21: Earthquakes Oct 23:MIDTERM 2 Oct 25: Landslides		Mid-term 2 Review session: **Oct. 21 5-7 pm LIFE 2201**
Week 9	David Sasse	Oct 28: Landslides Oct 30: Landslides Nov 1: Landslides	Homework 5, Landslides **Oct 21-Nov 3**	
Week 10	David Sasse	Nov 4: Volcanoes Nov 6: Volcanoes Nov 8: Volcanoes	Project Part 3 – Earthquake, Landslide or Volcano event due **Nov 10**	
Week 11	David Sasse	Nov 11: **Mid Semester Break** Nov 13: **Mid Semester Break** Nov 15: Volcanoes	Homework 6, Volcanoes **Nov 4-Nov 17**	
Week 12	David Sasse / Mitch D'Arcy	Nov 18: Volcanoes Nov 20: MIDTERM 3 Nov 22: Impacts		Mid-term 3 Review session: **Nov. 18 5-7pm LIFE 2201**
Week 13	Mitch D'Arcy / Lucy Porritt	Nov 25: Impacts Nov 27: Impacts Nov 29: Impacts	Homework 7, Impacts **Nov 18-Dec 1**	
Week 14	Lucy Porritt	Dec 2: Fragile Systems 2 Dec 4: Fragile Systems 2 Dec 6: Fragile Systems 2	Project Part 4 – Quiz on your class map due **Dec 8**	Impacts Review session: **TBD**

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Assignments: Online quizzes/homework will be administered and automatically graded using Canvas. They are based around assigned guided readings, which you should complete before starting the quiz. Be aware: these quizzes have specific deadlines! There will be 7 assignments throughout the term and **only your top 5 out of 7 will count towards your final grade**, so if you miss one or two for whatever reason that is OK. A good tip would be to complete the topics you are most interested in. Quiz extensions are not generally allowed. Homework will become available at the start of the learning module, for more information on quiz open/close dates please see the CANVAS site.

Class Project: You will contribute towards a natural hazards map to be built and displayed anonymously in Google Maps. Project work will be carried out in small steps of roughly an hour every two weeks. We will build a compilation map based on the events you are interested in and/or that have impacted you and your family. Grades are obtained from two event descriptions submitted as an online quiz (4/6) and two short online quizzes based around a previous map and the map you create (2/6).

Missed Deadlines / Midterms
Make-up of assignment or midterms missed due to illness or other reasons is solely at the discretion of the Administrator (Dr. Lucy Porritt). It is each student's responsibility to inform the Administrator as soon as possible if/why they cannot submit their work at the scheduled time, so that the Administrator can decide if the work will be accepted and/or how the work will be. We do not give extra make-up work, so please maintain strong study activities during the term to help maximize the grade you earn. ***Life can be chaotic and does not always go to plan. In the event that you get sick or you have unexpected challenges, and you find yourself struggling, please contact Dr. Lucy Porritt as soon as possible.***

Missed Classes

- Remember that you can earn 100% of the iClicker participation grades by answering 80% of the questions – so missing a few classes will not affect your iClicker grade
- Make a connection early on in the term to other students in the class. You can help each other by sharing notes.
- Consult the class resources on Canvas – all lecture slides will be posted
- Use the discussion board for help
- Drop in on our TA's in their office hours – they can help explain materials and get you back to speed. See Canvas Announcements for times and location.
- **You do not need to let us know if you miss one class. However, if you miss a significant amount of classes please email Lucy Porritt lporritt@eoas.ubc.ca to discuss how we can help you catch up.**

Final Exam
Specific UBC Academic Concession regulations apply to the **Final Exam**; if you miss or will miss a final lecture exam due to conflicting responsibilities or unforeseen events; see a Faculty-level Advisor ASAP. See the UBC Calendar for details.

Graduate Teaching Assistants (**TAs**) will form an essential part of your learning experience in class. They will be present in some lectures helping with in-class activities. In addition, they have drop in office hours where you can ask questions about the lecture content, review your midterms, and have general questions answered. They will also be answering your questions on the discussion board. Please don't be afraid to come and chat to them, ask them about their research and career pathways. Office hour times and location will be announced in Canvas.

Instructors: This is a team-taught course with different instructors teaching different modules of the course. Please email the Administrator (Dr. Lucy Porritt) with all questions concerning the course administration,

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accommodations, missed exams etc. Please do not email the individual instructors with your questions, go to the TA's first.

Academic Integrity
The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President's Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

A more detailed description of academic integrity, including the University's policies and procedures, may be found in the Academic Calendar at
http://www.calendar.ubc.ca/vancouver/?tree=3,286,0,0

Equity and Inclusion
The classroom (or online space) is a learning environment that we will cultivate together, to support each other and provide an equitable and inclusive learning space for everyone. All communications with each other, your TA's and instructors should be thoughtful and respectful. Communicate with Lucy Porritt if you have specific requests or concerns for which she could be a resource. These could include:

- A different name or set of pronouns you would like us / our class to use
- Different learning needs (e.g. if you experience anxiety, mental illness, or any life circumstance for which you could use additional time or support, please let me know how we can best support you)
- Concerns about any class-related interactions that lead to feelings of exclusion or marginalization (this includes any circumstance in which we as the instructors could have dealt with a situation better).

We are a diverse group of individuals, connected by many things – one of which is this class, and we should all feel welcome here and have a sense of belonging to the group.

Student Support
UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious, spiritual and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available here.
https://senate.ubc.ca/policies-resources-support-student-success

We encourage you to participate and look for meaningful connections between your life and the course material. Don't be afraid to make mistakes and ask lots of questions. Your teaching team is here to help you learn and be successful in your goals for this course.