

F23 GEOG 3020: Global Environmental Change

Provisional course outline

Instructor

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Land acknowledgement

The university of Guelph, and our classroom, resides on treaty land and territory of the Mississaugas of the Credit. This is the home of many past, present and future First Nations, Inuit and Metis people. The Dish with One Spoon is an agreement between Hodinöhsö:ni', Anishinaabeg and their allied nations to live peaceably on the lands throughout what is now known as the Great Lakes Region. The circle at the centre is a dish with a beaver's tail, indicating that they will have one dish and what belongs to one will be shared among all. This land acknowledgement is a recognition of collective responsibility to hold governments and colonial forces to account, to seek redress and healing for injustice. Learn more [here](#)

Disclaimer:

Schedule of lecture topics and assigned readings may change. Any such changes will be announced via CourseLink and/or class email. Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

Course Description:

This course examines the human/social dimensions of global environmental change: i.e., how we influence and how we are impacted by environmental changes that are occurring at the global scale. The course focuses on climate change but we also discuss other kinds of global environmental change: e.g., global land use changes, biodiversity loss, and their interplay with global socioeconomic

processes. Emphasis of the course is on the concepts and applications that help us understand unprecedented environmental change and identify barriers and enablers to sustainable pathways.

This course is divided into three main, interrelated, sections. The first section, “What is global environmental change?” explores the scale and extent of human dimensions of global environmental change, focusing on key concepts (i.e. teleconnections, double exposure, historical legacies, trade-offs, unintended consequences, social-ecological systems) that allow us to understand how local and global processes interact. The second section, entitled, “Uneven pathways” will focus further on understanding how these global environmental changes affect particular people and places differently. Key concepts discussed in this section include multiple exposures, uneven development and vulnerability, resilience, adaptation and the need for sustainable *and* just transformations. The final section called “What to do?”, will focus on different leverage points for and approaches to governance (e.g. sustainable development goals; the doughnut approach; climate decolonization; harnessing insights from past practices), from the international to the local, to manage GEC and move towards sustainability transformations. Particular attention will be paid to issues of power, equity, differing visions and approaches in the path to resilience and sustainability.

The major course project is a small-group collaboration where the final product is to develop your own proposal of a sustainability seed, an innovative project that helps us achieve progress towards Sustainable Development Goals, taking into account local and global processes (inspired by a modified doughnut approach). Workshops will provide students with the time and support they need to execute these projects effectively.

Anticipated Learning Outcomes:

1. To understand what is Global Environmental Change and its impacts on human well-being
2. To get familiar with key concepts (e.g., vulnerability, trade-offs, teleconnections, transformations) needed to understand the complex and often interrelated dimensions of Global Environmental Change
3. To develop your ability to think of global environmental change issues in terms of interconnected social AND ecological systems linking local and global processes
4. To improve research, reading and writing skills to develop critical thinking and the ability to produce evidence-based analyses

5. To hone your collaboration skills which are often essential for interdisciplinary, issue-oriented research

Course readings & lecture slides

There is no textbook for the class. Weekly assigned readings for this course are a mix of journal articles, book chapters and reports. Sometimes short videos or podcasts will replace a reading. All the assigned readings will be available on CourseLink prior to the lectures. Students should complete the readings **before** class & insights from the readings will be part of class exams and assignments. Students will be provided with advance notice for any changes to required readings. Expect that you will read ~ 2-6 articles (or equivalent in book chapters or other media) per week (equivalent to 1-2 readings per class).

Note: some of the readings might be challenging, especially to students unfamiliar with the topics. It is not my expectation that you will obtain a perfect understanding of the reading, my expectation is that you will do your best to engage with the material and focus on key ideas and concepts. I will spend time in class unpacking the key concepts and contributions from the readings.

Lecture slides will be posted after the class. If you cannot make up the class, you are strongly encouraged to find someone to share notes since the slides do not convey all the information provided in class.

Class schedule (subject to change with notice)

Week	Date	Topics & Activities	Readings & Responsibilities
1	Fri Sept 9	Introduction & course overview	----
2	Mon Sept 12	The Anthropocene	Folke, C., Polasky, S., Rockström, J. et al. Our future in the Anthropocene biosphere. <i>Ambio</i> 50, 834–869 (2021). https://doi.org/10.1007/s13280-021-01544-8 Read short blogspot https://www.stockholmresilience.org/research/planetary-boundaries.html
	Wed Sept 14	Climate change – a wicked problem	IPCC 2022 WII p1-11; Read WRI blogpost https://www.wri.org/insights/ipcc-climate-report

	Fri Sept 16	Who's impacted? Vulnerability and (mal)Adaptation	IPCC 2022 WII p 11-33 Thomas, Kimberley, et al. "Explaining differential vulnerability to climate change: A social science review." <i>Wiley Interdisciplinary Reviews: Climate Change</i> 10.2 (2019): e565.
3	Mon Sept 19	Double exposures	O'Brien, Karen L., and Robin M. Leichenko. "Double exposure: assessing the impacts of climate change within the context of economic globalization." <i>Global environmental change</i> 10.3 (2000): 221-232. Putting Global Environmental Change in perspective O'Brien 2013
	Wed Sept 21	Dealing with GEC, what to do? An intro	Bennett, Elena M., et al. "Bright spots: seeds of a good Anthropocene." <i>Frontiers in Ecology and the Environment</i> 14.8 (2016): 441-448. Read about the 17 SDGs, https://sdgs.un.org/goals
	Fri Sept 23	Group project description	Kate Raworth's introduction to downscaling the doughnut approach https://www.youtube.com/watch?v=YCqGf7T9ABo Read downscaling the doughnut methodological guide & consult Amsterdam case study
4	Mon Sept 26	In-class test 1	<i>Covers all in class and reading material to date</i> Self-assessment template uploaded by the instructor on courselink
	Wed Sept 28	Teleconnections & systems	Adger, W. Neil, Hallie Eakin, and Alexandra Winkels. "Nested and teleconnected vulnerabilities to environmental change." <i>Frontiers in Ecology and the Environment</i> 7.3 (2009): 150-157. Lade et al. 2020 https://www.nature.com/articles/s41893-019-0454-4
	Fri Sept 30	Group work	Task: continue working on part 1 of group assignment
5	Mon Oct 3	Deforestation	Geist, Helmut J., and Eric F. Lambin. "Proximate Causes and Underlying Driving Forces of Tropical Deforestation Tropical forests are disappearing as the result of many pressures, both local and regional, acting in various combinations in different geographical locations." <i>BioScience</i> 52.2 (2002): 143-150. Wrathall, D. J., Devine, J., Aguilar-González, B., Benessaiah, K., Tellman, E., Sesnie, S., ... & Dávila, A. (2020). The impacts of cocaine-trafficking on conservation governance in Central America. <i>Global Environmental Change</i> , 63, 102098. Group assignment part 1 due, uploaded on courselink at 5pm
	Wed Oct 5	Covid-19 pandemic	Readings TBD
	Fri Oct 7	Group work	Feedback on part 1 & Start working on part 2 of group assignment

6	Mon Oct 10	No class	
	Wed Oct 12	Resilience, adaptation, transformation	Pelling, Mark. <i>Adaptation to climate change: from resilience to transformation</i> . Routledge, 2010.[book chapter] Pathways approach: Wise, Russell M., et al. "Reconceptualising adaptation to climate change as part of pathways of change and response." <i>Global environmental change</i> 28 (2014): 325-336.
	Fri Oct 14	Group work	Task: continue on part 2 of group assignment
7	Mon Oct 17	How to transform?	Abson, David J., et al. "Leverage points for sustainability transformation." <i>Ambio</i> 46.1 (2017): 30-39. O'Brien, Karen, and Linda Sygna. "Responding to climate change: the three spheres of transformation." <i>Proceedings of transformation in a changing climate</i> 16 (2013): 23.
	Wed Oct 19	Changing values and ways of thinking	Read Inner Development goals Degrowth and postgrowth – see video by Jennifer Hinton
	Fri Oct 21	Group work	Task: continue on part 2 of group assignment
8	Mon Oct 24	Changing practices and technologies	Circular economies – read circularity gap report 2022
	Wed Oct 26	Changing political systems and structures	Brundiers, Katja, and Hallie C. Eakin. "Leveraging post-disaster windows of opportunities for change towards sustainability: A framework." <i>Sustainability</i> 10.5 (2018): 1390. Herrfahrdt-Pähle, Elke, et al. "Sustainability transformations: socio-political shocks as opportunities for governance transitions." <i>Global Environmental Change</i> 63 (2020): 102097. Part 2 of group assignment due by 5pm (courselink upload)
	Fri Oct 28	Group work	Group work: start working on part 3
9	Mon Oct 31	In-class test 2	Mix of multiple choice & short questions
	Wed Nov 2	Actors for transformations- International/ National	Readings TBD
	Fri Nov 4	Group work	Group work: continue working on part 3
10	Mon Nov 7	Actors for transformations- Cities and communities	Hobbie, Sarah E., and Nancy B. Grimm. "Nature-based approaches to managing climate change impacts in cities." <i>Philosophical Transactions of the Royal Society B</i> 375.1794 (2020): 20190124.
	Wed Nov 9, 2022	Actors for transformations –	Hinton, J. B. (2020). Fit for purpose? Clarifying the critical role of profit for sustainability. <i>Journal of political ecology</i> , 27(1), 236-262.

		Businesses	
	Fri Nov 11	Group work	Task: continue working on part 3
11	Mon Nov 14	Actors for transformations – individuals and civil society	Environmental justice Atlas https://notanatlas.org/maps/the-environmental-justice-atlas/ read Temper et al. 2018 Decolonizing climate Part 3 of group assignment due by 5pm (courselink upload)
	Wed Nov 16	Pathways to where? For whom and by whom?	Play the game SurviveTheCentury OR https://unesdoc.unesco.org/ark:/48223/pf0000246073 Scoones, Ian, et al. "Transformations to sustainability: combining structural, systemic and enabling approaches." <i>Current Opinion in Environmental Sustainability</i> 42 (2020): 65-75.
	Fri Nov 18	Group work	Group work: critical review of another groups' final product
12	Mon Nov 21	Group work presentations	Presentations of students' projects & discussion
	Wed Nov 23	Group work presentations	Presentations of students' projects & discussion
	Fri Nov 25	Group work presentations	Presentations of students' projects & discussion Peer-review of another group's project due by 5pm (courselink upload)
13	Mon Nov 28	Group work presentations Take home exam revealed	Presentations of students' projects & discussion
	W Nov 30	Course conclusion	Colloff et al. 2021 https://www.sciencedirect.com/science/article/pii/S146290112100174X Self-assessment uploaded to courselink due by 5pm (courselink upload)
	Fri Dec 2	Take home exam due	Take-home uploaded to Courselink by 5pm Exams uploaded thereafter will be deducted an initial 50% and an additional 25% for every 24 hours thereafter

Notes: **Schedule of lecture topics and assigned readings may change. Any such changes will be announced via CourseLink and/or class email. Students are responsible for paying careful attention and staying organized when those changes are made. Course material will be posted on courselink **

Course Assignments (See schedule above, subject to change)

In-class tests [2 x 15%] = **30%**. There are two in-class tests that cover reading and in-class material. The tests will each feature multiple choice and short answer/fill in the blank. Please refer to the class schedule for dates and information. Students must attend the tests in-person; tests may only be written after the fact with valid documentation.

Major course project [3 parts, 5%, 20% and 10% respectively] = **35%**

A collaborative group project where the final product is a short report and video about your own sustainability initiative and how it contributes to progress towards Sustainable Development Goals. A full session will be devoted to explaining the project, and instructions will be uploaded through CourseLink.

The group project will be divided in three parts. In the first part, you will be tasked with brainstorming and developing an initial idea of a sustainability initiative that you would set up to address a global environmental change issue (2 pages). In the second part, your group will need to explain succinctly what are the existing social and ecological issues that your sustainability initiative is addressing, linkages between local and global and what would be needed for the idea to scale up further. This assessment will need to provide evidence-based arguments to support the analysis (6 pages). In part 3, the group will need to create a short 2-3min video presentation of their report, explaining what is their proposed sustainability idea, how it will contribute to progress towards SDGs locally and globally and how it may further scale up. The presentation must clearly and succinctly articulate take-home messages from the report for your core audience. More details will follow in an assignment summary sheet posted on CourseLink.

Peer-review of group project = 10%

Each group will have to write a constructive peer-review of another group's final product: what works, what doesn't work and why.

Self-evaluation: 10%

Your experience and learning in this course, and its collective success, will depend on everyone keeping up with readings, attending classes and being a good team member through the duration of the course project.

How it works: You will complete and upload a self-assessment end of November. The self-assessment will be uploaded end of September to give you the time to reflect on it. You may download the full self-assessment template from CourseLink at your leisure; however, I advise that you consult it early in the semester and that you track the number of meetings your group has, how many you

attend, and the and quality/quantity of your group contributions. As part of the assessment you will answer a few short answers and assign yourself a grade out of 10. The self-assessments must be completed and sent to Prof. Benessaiah on Nov 30th; failure to submit will mean an automatic 0/10). Prof. Benessaiah with the help of the TAs will personally review each self-assessment and follow-up with individuals if there are any major questions or discrepancies between their in-class observations through the semester and the self-assigned grade.

Take-home exam = 15%

The take-home will feature two or three questions; each are to be answered in 500 words. We will discuss take-home question topics in the last month of the semester and the exam questions and more specific instructions will be revealed on November 28th. Doing required readings and attending lectures/taking notes will give students the necessary knowledge base from which to develop accurate and well-supported answers on the take-home exam. Please see class schedule for take-home due date.

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

Final grades will be classified as follows:

Grade	%	Grade	%	Grade	%	Grade	%	Grade	%
A+	90-100	B+	77-79	C+	67-69	D+	57-59	F	0-49
A	85-89	B	73-76	C	63-66	D	53-56		
A-	80-84	B-	70-72	C-	60-62	D-	50-52		

Instructor Policy Statements

Academic Integrity. Students are expected to undertake this course with honesty and integrity, and to understand what plagiarism is and how to avoid it. Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. If you have uncertainty about how to avoid plagiarism in your writing, please refer to the Academic Calendar, the university-produced tutorial (<https://academicintegrity.uoguelph.ca/plagiarism>) and/or see the course TA, a university librarian, or the instructor. Plagiarism and other types of misconduct will not be tolerated, and any instances will be treated seriously.

Communication. Please check your university email account and the 'news' section of our Courselink page once every 1-2 business days. Any important information arising throughout the semester will be communicated by these means and the university mandates that students must check them. The instructor and TA will do their best to respond to emails within 1-2 business days. Emails sent after 3pm on Friday will not be responded to until at least the following Monday, and questions with answers that can be found in course documents will receive short replies (e.g., "please see course syllabus"). Students must be respectful and use professional language when emailing the instructor or TA.

Project submission, grading and grade reviews, and monitoring your courselink gradebook. It is the student's responsibility to ensure that they are clear on when, where, and in what format projects are due, to track when in-class activities will occur, and in the case of assessments submitted via courselink, to double-check that the upload has worked successfully and that your uploaded files are not corrupt. When the instructor or TA encounters a corrupt or incorrect file during grading, they will contact the student and offer a chance to re-send; however, late deductions from the original due date will apply. For the group project, a penalty of 10% of the total project grade will be deducted when the deadline is missed; an additional 10% deduction will be made every 24 hours thereafter, including Saturdays and Sundays. Students who encounter problems due to a medical or personal reason should speak to the instructor as soon as possible (ideally on or before the due date). A note and/or other documentation may be required.

It is the student's responsibility to check their courselink class gradebook weekly to ensure that all grades are entered and accurate. If any concerns arise with regards to grades or grading, the student must immediately visit instructor office hours or request an appointment. Requests to review or revisit grades must be made within 10 days after they are released in the gradebook; thereafter, it is likely that the instructor will deny requests and that the grade will stand as final.

University Policy Statements

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 (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. See the undergraduate calendar for information on regulations and procedures for Academic Consideration

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 Student Accessibility Services (SAS) as soon as possible. For more information, contact SAS at 519-824-4120 ext. 56208 or visit the [SAS 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, 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.

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.

Drop Date. The last date to drop one-semester courses is Friday, December 2nd, 2022

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.

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 Undergraduate Calendars are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.

Covid-19

The Covid-19 pandemic is not over. It may be fair to say that we are in a different phase and/or that the risks for many people, especially fully vaccinated individuals, have lessened. However, risks - of (re)infection and of negative long-term health outcomes - remain for all of us. For people with frequent or intense patterns of exposure (e.g., staff in or frequent visitor to healthcare settings) and/or certain types of home, care-giving or other family circumstances and/or those who are immunocompromised or unable to receive the vaccine, the risk of (re)infection and negative health outcomes remain very high. **One way that everyone in this class can contribute to making our learning environment safer and more equitable is to choose to wear a mask when we are together inside (i.e., in the classroom and in any instances of in-person meetings or office hours).**

For University of Guelph policy statements and updates on Covid-19, **including the request that anyone who feels sick stay home**, please see: <https://news.uoguelph.ca/covid-19/>. As of September 8th, 2022, the recommendations from OPH were: “ If you are experiencing symptoms of COVID-19 such as fever, cough, or runny nose, stay home from school, work and social events until your fever is gone and symptoms are improving, get a rapid antigen test or, if eligible, a PCR test. Wear a mask for 10 days after and avoid non-essential visits to high-risk individuals and settings.” Let the instructor and/or TA know of your situation.

Starting in September, Hospitality Services will have rapid tests available for students at the checkout counter of various locations across campus, including: Chef's Kitchen in the University Centre; Creelman Hall; Starbucks in the library; the Bookstore; and wayfinding stations in Branion Plaza and Creelman Plaza during Orientation Week. Rapid tests and vaccination shots will also be available from Student Health Services.