This course provides foundational understanding in the social dimensions and drivers of environmental issues. Our goal is to understand how some of the world’s most pressing environmental issues - climate change, biodiversity loss, water pollution, and so on - have their roots in social structures and human decisions. We will achieve this goal by integrating environmental science and the study of biophysical processes with social science and the study of institutions, human behaviour, and technological change. The course is best described in three parts. First, we review basic concepts that will help us to think clearly about human-environment relationships and human impact on environment. Second, we will explore a range of key issues around resource use and environmental degradation, with particular emphasis on food, energy, and water systems. Here, we will contrast issues and management approaches in various countries around the world, but with emphasis on Canadian and North American examples. Third, we will consider some of the strategies that can be pursued in order to reduce human impact on environment and in so doing provide an introduction to ideas in environmental governance and environmental justice.

### Anticipated Learning Outcomes

- Foundational knowledge of the social drivers that underpin environmental issues
- Integration of social science & environmental science perspectives on environmental issues
- Ability to explain landscape features and landscape changes in relation to social change
- Synthesis and communication of diverse sources of knowledge to help understand a specific, real-world, place-based environmental issue

### Course Textbook & Resources


- You must purchase the textbook with the Mastering Package – a new version at the bookstore will come with this. Make sure you get the version with the following number: ISBN 13: 9781323909362
- If you purchase the book used, you will need to purchase “Mastering Environmental Science” as a stand-alone product (details provided in class).
<table>
<thead>
<tr>
<th>WEEK</th>
<th>LECTURE TOPIC</th>
<th>READINGS (READ BEFORE CLASS!!)</th>
<th>CONCEPTS &amp; ISSUES (Subject to change)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 6</td>
<td>Course introductions&lt;br&gt;Are we in the age of Anthropocene? The science behind the stories</td>
<td>• Pgs. 510-518 (chapter only available in custom edition);&lt;br&gt;• Chapter 2 (“Earth’s systems”);</td>
<td>Geographic scale; Anthropocene; anthropogenic climate change</td>
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<tr>
<td>Jan 13</td>
<td><em>Training Session for Assignment 1</em>&lt;br&gt;An overview of the underlying drivers of human impact on environment</td>
<td>• Pgs. 3-16 (‘Our Island, Earth’ to end of ‘Ecological Footprints’);</td>
<td>I=PxAxT; political economy; environmental ethics; technology revolutions; externalities and ‘spatial fixes’</td>
</tr>
<tr>
<td>Jan 20</td>
<td>Producing edible environments: connecting our food choices to the landscapes around us</td>
<td>• Ch. 5 (‘Soil Resources’): pgs 130-148&lt;br&gt;• Ch. 6 (‘Agriculture &amp; Food’)</td>
<td>Land-use and land-cover change; soil degradation; resource types (public, club, common-pool, private);</td>
</tr>
<tr>
<td>Jan 27</td>
<td>How we reformulate Earth’s systems to satisfy our energy demands&lt;br&gt;Part 1: Fossil fuels</td>
<td>• Ch. 12 (‘Fossil Fuels’);&lt;br&gt;• Ch. 11 (‘Air Pollution’)</td>
<td>Production chains; unconventional fossil fuels; externalities and ‘spatial fixes’</td>
</tr>
<tr>
<td>Feb 3</td>
<td>How we reformulate Earth’s systems to satisfy our energy demands&lt;br&gt;Part 2: Alternatives to fossil fuels</td>
<td>• Chapter 13</td>
<td>Energy transitions; land use intensity of energy production; local vs. global environmental impacts</td>
</tr>
<tr>
<td>Feb 7</td>
<td></td>
<td>SUBMIT ASSIGNMENT 1 NO LATER THAN 5PM, VIA COURSELINK DROPBOX</td>
<td></td>
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<tr>
<td>Feb 10</td>
<td>Water everywhere and not a drop to drink? The hydrological cycle as a social system</td>
<td>• Chapter 2 again (Earth’s systems)&lt;br&gt;• Ch.9 (‘Freshwater Systems’)</td>
<td>Closed vs. open systems; resource use and entropy; point source vs. non-point source pollution</td>
</tr>
<tr>
<td>Feb 17</td>
<td></td>
<td>NO CLASS</td>
<td></td>
</tr>
<tr>
<td>Feb 24</td>
<td>From e-waste to plastic pollution: environmental implications of the changing fabric of everyday life</td>
<td>• Chapter 14 (‘Waste’)</td>
<td>Product life-cycles; waste vs. pollution; municipal waste systems; electronic waste management</td>
</tr>
<tr>
<td>Mar 2</td>
<td>What should a forest look like? Biodiversity and different ways of ‘valuing’ the natural environment</td>
<td>• Chapter 7 (Conservation): pgs. 196-220&lt;br&gt;• Chapter 8 (Forests): pgs. 232-251</td>
<td>Economic and ecological value of nature; biodiversity; invasive species</td>
</tr>
<tr>
<td>Mar 7</td>
<td></td>
<td>APPROXIMATE DATE OF THE MIDTERM (Covering weeks 1-7)</td>
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<tr>
<td>Date</td>
<td>Topic</td>
<td>Reading/Resource</td>
<td>Notes</td>
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<tr>
<td>March 9</td>
<td>Who’s impact and who’s nature? Part 1: An introduction to <strong>environmental justice</strong></td>
<td>• Ch. 15 (‘Environmental Ethics’)</td>
<td>Environmental justice; social justice and the IPAT framework; ‘sacrifice zones’; critical look at NIMBYism</td>
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<tr>
<td>March 16</td>
<td><strong>SUBMIT ASSIGNMENT 2 NO LATER THAN 5PM, VIA COURSELINK DROPBOX</strong></td>
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<tr>
<td>March 16</td>
<td>Who’s impact and who’s nature? Part 2: Case studies in <strong>environmental justice</strong></td>
<td>• TBD – stay tuned</td>
<td>Mining; nuclear waste; electronic waste</td>
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<tr>
<td>March 23</td>
<td><strong>Common</strong> Earth and collective action: re-thinking the role of social institutions in human impact on environment</td>
<td>• TBD – stay tuned</td>
<td>Corporate social responsibility; environmental non-governmental organizations (ENGOs); Environmental regulation and law; international treaties</td>
</tr>
<tr>
<td>March 30</td>
<td>Can we buy our way out of environmental problems? <strong>Market-based approaches</strong> to reducing human impact on environment</td>
<td>• Pgs. 488-504 (from ‘Environmental Ethics’ chapter)</td>
<td>Internalizing externalities – cap and trade and taxes; green labeling and green technology; transformation</td>
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<tr>
<td>TBD</td>
<td><strong>FINAL EXAM</strong></td>
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</table>
Methods of Evaluation

<table>
<thead>
<tr>
<th>Component</th>
<th>Deadline</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment 1</td>
<td>Friday February 7, 5pm</td>
<td>10%</td>
</tr>
<tr>
<td>Mid-term exam</td>
<td>TBD</td>
<td>25%</td>
</tr>
<tr>
<td>Assignment 2</td>
<td>Monday, March 16, 5pm</td>
<td>25%</td>
</tr>
<tr>
<td>In-class participation</td>
<td>Throughout lectures (via Learning Catalytics)</td>
<td>15%</td>
</tr>
<tr>
<td>Final exam</td>
<td>TBD</td>
<td>25%</td>
</tr>
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</table>

NOTE: you will receive more detailed instructions for the Assignments in follow-up documents in class and via Courserlink. Structure of the exams is TBD and will be communicated in class.

Asking for Help

Should you require clarification on any aspect of the course, please pursue the following, in order:
1. Check the Course Syllabus
2. Ask in class (your peers may benefit from clarification)
3. Ask a classmate
4. Check the “Get Assistance” link from the Library: http://www.lib.uoguelph.ca/get-assistance
5. Go to a TA’s office hours, email TA
6. Go to an Instructor office hours, email Instructor

Mastering Environmental Science & Learning Catalytics Teaching Platform

As part of your purchase of the textbook for this course, you will be provided with a set of virtual homework assignments that you can complete on your own time in preparation for the mid-term and the final examination. These are not graded. In addition, as a way to facilitate engagement in a large class setting, this class will use the Learning Catalytics teaching platform. This platform allows an instructor to pose questions to the group, and to summarize and visualize responses. Students respond to questions through their cell phone, tablet, or laptop. The instructor will use Learning Catalytics to assign participation grades for the course. There is a cost associated with this platform, but it is relatively cheap and the cost matches the value students will derive from this. Note that the platform requires you to bring a digital device to class (cell phone, tablet, laptop). If you do not own one of these devices, or feel comfortable bringing it to class, then please see the instructor and alternative arrangements will be made.

REGISTRATION FOR THESE PLATFORMS

You will need
Access to Courserlink
An email address (preferably your University of Guelph account)
Your Mastering Environmental Science student access code (you can purchase this in the bookstore or online)

How to Register
Login to your Courserlink course
Select the Pearson widget
Create your Pearson account or sign in to an existing Pearson account
Enter your access code when requested by the system
Please Note: You do not need a course ID to register for this course. You must register directly through your Courselink page and not through Pearson.

**Student Technical Support**

Your best (and quickest) path to resolve technical issues is to contact technical support (https://support.pearson.com/getsupport/s/contactsupport). They have access to your user account and can quickly see what might be going on.

When you contact them please include the following information:

1. Your username
2. OS (Windows or Mac)
3. Browser (preferred browser is Chrome)
4. Exactly what you are trying to open.
5. Error message (if any) that appears when you try to open it.
6. Tell them your course is integrated into a D2L platform

**Learning Resources for First-year Students at the Library**

The Library and Learning Commons offer free services to help you succeed at the University of Guelph. At the Library, you can:

- Get feedback on your writing
- Get assistance finding journal articles and books
- Fine-tune your time management skills
- Develop new study strategies
- Attend Supported Learning Groups (SLGs)
- Learn about citation and reference styles
- And more!

Visit the Library website to learn more about our workshops, online guides, individual appointments, and other services: www.lib.uoguelph.ca

**Student Responsibilities**

You are required to attend all lectures and do the assigned readings. Assignments must be submitted on time in the appropriate online dropbox via Courselink. Late assignments will be penalized at the rate of 10% per day, and will not be accepted (i.e., will receive a grade of 0) after three full days. Students whose assignment is late because of valid medical reason, family emergency, or other reason accepted by the course instructor will not be penalized. A note from a physician or from Counseling Services (x53244) may be required. Only under very specific and rare occurrences will computer challenges be accepted as a reason for an extension to the due-date. We are only able to make accommodations if we are aware of your situation, so please keep the lines of communication open as early and often as possible.

Make-up tests will only be made available in the event of illness or some other legitimate and verifiable emergency. The make-up time and location will be negotiated between the instructor / TA and the student(s).

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.

Counselling Services
The University of Guelph can be a challenging environment. Counselling Services provides a wide range of strategies to help you do your best during your time here at UofG. At Counselling Services you can find help with everything from Stress Management, to Academic Support, to Mental Health, to Emergencies/Crisis Mitigation. For more information about their services or to book an appointment, please call them at (519) 824-4120 ext.53244, visit them in University Centre - Level 3 South, or visit their website.

Course Notes
Limited lecture notes will be posted online. Any notes posted will be available on CourseLink (in the “Content” section of the webpage), normally by 4pm the day before any given lecture. It is recommended that you print off these notes ahead of class and bring these so you can add the remaining content (discussion notes, off-the-cuff examples given in class, etc.). Students missing lectures must get their lecture notes from a friend or another student in class. Lecture notes will not be distributed in printed form and do not replace hand written notes.

Laptop use in class
Students are expected to access course material only while in-class. Anybody found accessing the Internet for other purposes (e.g. checking email, visiting non-course sites, playing on-line games, etc.), or using laptops off-line for non-course purposes will be asked to leave the class.
University of Guelph Policy Statements

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 [or the teaching assistant in the case of the proposal or essay] in writing, with your name, id#, and e-mail contact. Where possible, this should be done in advance of the missed work or event, but otherwise, just as soon as possible after the due date, and certainly no longer than one week later. Note: if appropriate documentation of your inability to meet that in-course requirement is necessary, the course instructor, or delegate, will request it of you. Such documentation will rarely be required for course components representing less than 10% of the course grade. Such documentation will be required, however, for Academic Consideration for missed end-of-term work and/or missed final examinations. See the undergraduate calendar for information on regulations and procedures for Academic Consideration.

Drop Date
The last date to drop one-semester Winter 2020 courses, without academic penalty, is Friday, April 3, 2020. For regulations and procedures for Dropping Courses, see the Undergraduate Calendar.

Copies of out-of-class assignments
Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Academic Integrity Statement and 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.

In this course, your instructor will be using Turnitin, integrated with the CourseLink Dropbox tool, to detect possible plagiarism, unauthorized collaboration or copying as part of the ongoing efforts to maintain academic integrity at the University of Guelph. All submitted assignments will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism.
of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site.

In this course, a submission must be within the 0-20% range of ‘unoriginal material’ (i.e., 80-100% original material) in order for the assignment to be graded without penalty. 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 see and print reports that show you exactly where you have properly and improperly referenced the outside sources and materials in your assignment. Only the most recently submitted file to the dropbox folder will be retained and put forth for grading; all previous submissions will be deleted automatically from the dropbox folder.

University Policy on Academic Misconduct
Academic misconduct, such as plagiarism, is a serious offence at the University of Guelph. Please consult the Undergraduate Calendar, for offences, penalties and procedures relating to academic misconduct.

Student Accessibility Services
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 as soon as possible.

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