Sessional Lecturer: Mark Hathaway, PhD, School of the Environment

Office Hours: Wednesdays from 2 to 3 PM online: Please sign up on Quercus for an appointment

E-mail: mark.hathaway[at]utoronto.ca (e-mail is my preferred method of communication)

Teaching Assistants:

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Tutorial Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rebecca McMillan, Lead TA</td>
<td>rebecca.mcmillan[at]mail.utoronto.ca</td>
<td>TUT0103</td>
</tr>
<tr>
<td>Soha Aria</td>
<td>soha.arial[at]mail.utoronto.ca</td>
<td>TUT0101, TUT0201</td>
</tr>
<tr>
<td>Ellyse Winter</td>
<td>ellyse.winter[at]mail.utoronto.ca</td>
<td>TUT0102, TUT0202</td>
</tr>
</tbody>
</table>

Note: In general, you can expect an answer to e-mail inquiries within 48 hours. Specific questions regarding assignments should be addressed to your TA. Requests for extensions (made at least 48 hours before the due date & time) should also be submitted to the lead TA.

Important: To speed processing, please put “ENV222” somewhere in the e-mail subject line.

Course Description

Analysing perils such as rapid climate change, biodiversity loss, stratospheric ozone depletion, ocean acidification, land system changes, and key nutrient cycles, Rockström et al. (2009) observe that we have already exceeded a number of key boundaries that delineate the safe operating space for humanity on the planet—particularly biodiversity loss and climate change—and that we are rapidly approaching the limits in a number of other areas such as ocean acidification.

After thoroughly reviewing the current evidence, Ehrlich & Ehrlich (2013) conclude that our current global civilisation is threatened by collapse unless we undertake concerted action to address the most serious problems threatening the well-being of the entire Earth community. Meanwhile, social and economic inequality continues to grow.

Overall, our response to the key challenges threatening the well-being—and even survival—of human societies and living ecosystems seems far weaker than the situation requires (Crompton, 2010), despite the fact that promising policies, technologies, and social innovations to address the ecological crisis exist.

ENV222 explores the concept and practice of sustainability by integrating scientific, technological, economic, political, psychological, historical, and ethical perspectives. The course begins by analyzing the challenges posed by the ecological crisis, including its historical roots. It then goes on to explore and evaluate a variety of approaches, strategies, and actions—at a personal, local, national, and global scale—that could move us towards authentic sustainability.

Course Learning Outcomes

By the end of this course, students will be able to:

1. Describe and understand some of the key threats and challenges posed by the ecological crisis and analyse how these are interrelated.
2. Explain why many of the key challenges being faced could be described as “wicked problems” and why it is necessary to adopt an inter (or trans) disciplinary approach to understand and address them.
3. Describe and analyse how technological, political, economic, psychological, perceptual, and ethical factors have contributed to the genesis of the ecological crisis, including historical perspectives.
4. Describe and analyse the nature of sustainability, describe some key characteristics of sustainability (including its technological, political, economic, and ethical dimensions), and envision what kinds of transformations might be necessary to achieve sustainability in practice.
5. Describe, analyse, and assess approaches that have been adopted to date to address the ecological crisis and analyse and assess some possible strategies to achieve sustainable human societies and to regenerate ecosystems.

**Course Organisation**

**Teaching and Learning Philosophy**

In this course, it is assumed that all of us (teachers and students) will learn from each other and that students will engage actively with the course readings, lectures, discussions, and assignments. While lively discussion and probing questions are always encouraged, it is also assumed that each person will treat others with respect. Students are expected to do all required (core) readings, attend lectures and tutorials, engage in appropriate practices and methods for assignments, and think critically. Critical thinking may be demonstrated by:

- articulating a clear understanding of key course concepts;
- applying these concepts appropriately to specific questions and new contexts;
- putting forth logical arguments backed by appropriate course materials (readings and lectures), examples, and evidence;
- making connections between different concepts and perceiving broader patterns; and
- seeking out the concrete implications for values, policies, and actions.

**Electronic Devices Policy**

During class and tutorial time, you are strongly encouraged to use your computers or tablet only for watching the class, taking notes, and online student interactions.

**Classroom Response System: Acadly**

Attendance and active participation in all classes are an essential part of this course. To facilitate your participation in a relatively large, lecture-based class, we will be using the (free) Acadly classroom response system in class. You will be able to submit answers to in-class questions using your laptop or your iOS or Android smartphones and tablets. Attendance for each class will also be taken using Acadly. If this is impossible for you due to an accessibility or related issue, please contact the course instructor. Acadly may also be used in tutorials. There is no cost for using Acadly.

To find out more about Acadly, go to [https://www.acadly.com/](https://www.acadly.com/). Links to the iOS and Android apps are included at the bottom of the page. You may either use your phone/tablet during lecture with Acadly, or switch between Zoom and Acadly as required during lectures on your computer. You should receive an invitation to join Acadly before the course begins. If you joined the course late, or if you did not receive an invitation, please contact the course instructor.

**Use of Quercus (Portal/Learning Management System)**

It is your responsibility to check Quercus frequently (at least once a week). You must have a mail.utoronto.ca (or @utoronto.ca) email address indicated on ACORN to properly receive messages from the course instructor through Quercus. Please note that all written assignments will be submitted through Quercus. It is your responsibility to ensure that your written assignments are uploaded properly. Please make sure the confirmation page appears after submitting your assignments and, if possible, make a copy of the confirmation page (“print” to a pdf document and save).

**Tutorials**

Each student will attend nine tutorials (during weeks 2-7 & 9-11). Please check and confirm your tutorial group on Quercus under People, seeking out your section number. Tutorials provide students an opportunity to discuss the course subject matter in a smaller group as well as to prepare for course assignments, quizzes, and exams. Each tutorial will be led by one of the teaching assistants. Attendance is required to ensure adequate preparation for exams and papers and active participation will also be part of your participation grade. If you are unable to attend due to extenuating circumstance, please write your TA to arrange an alternative form of participation.
Evaluation

The grades for the course will be based on the following percentages for each activity:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Marks</th>
<th>Maximum Possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation (see details below)</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Quizzes (2 online quizzes, 10% each):</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Reading Review (due date depends on your tutorial group)</td>
<td></td>
<td>8%</td>
</tr>
<tr>
<td>Reading Review Responses (due date depends on your tutorial group)</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>Assignment #1: Due October 24</td>
<td></td>
<td>25%</td>
</tr>
<tr>
<td>Assignment #2 (Final assessment): Due December 12</td>
<td></td>
<td>25%</td>
</tr>
</tbody>
</table>

**Participation (20%)**

Students are expected to attend all course lectures and tutorials and to participate actively in tutorial discussions and activities. Lecture participation marks will be based on both attendance and active participation in online surveys. As well, students may earn participation marks by participating in the (anonymous) mid-term course evaluation.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Marks</th>
<th>Maximum Possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture attendance and participation</td>
<td>1.0/class</td>
<td>12.0</td>
</tr>
<tr>
<td>Tutorial Participation (9 tutorials)</td>
<td>1.0/tutorial</td>
<td>9.0</td>
</tr>
<tr>
<td>Mid-term Course Evaluation (due Oct. 22)</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Final Course Evaluation Certification</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Additional Participation Activities</td>
<td>(see below)</td>
<td>4.0</td>
</tr>
<tr>
<td>Maximum Total Possible:</td>
<td></td>
<td>20.0</td>
</tr>
</tbody>
</table>

**Bonus Participation Marks**

Bonus participation activities are an opportunity to earn additional participation marks, particularly useful if you miss a lecture or tutorial. Below is a partial list of bonus participation activities—but additional opportunities may become available over the course of the term and be announced via Quercus.

- **Lecture Discussion**: If you miss a lecture, you may post a comment on the lecture discussion board to make up the missed lecture marks.

- **Webinar Videos**: Watch selected videos of webinars related to the course and earn 1.0 participation marks by posting a brief review on the online forum created for the event. Guidelines for the review will be posted in the forum.

**Online Quizzes (2 x 10% each)**

There will be two multiple choice online quizzes accessible via Quercus, one covering the lectures and readings of weeks 1-6 of the course and second covering weeks 7-11. Each quiz will open on a Friday at Noon and close the following Monday at Noon. **You may attempt each quiz three times**, seeking to improve your responses each time. **Only the best of the three attempts will count.** Each time you attempt the quiz, the questions are drawn from a question bank, so new questions may appear each time.

The first quiz takes place from October 29-November 1 and the second from December 3-6. You are permitted to refer to your notes, posted lecture slides, and readings while taking the quiz, but each attempt is time-limited.

**Reading Reviews and Responses**

Each student will submit one reading review and one reading review response during the term. Reviews and responses will be assigned according to your tutorial group. Reviews should be submitted online via Quercus using the assignment function AND then posted to the corresponding discussion forum. Responses need only be posted in the forum. See the information posted on Quercus for more details.
Please note that length and late penalties for reading reviews are different from those for assignments. Reviews submitted late will be penalized at a rate of 10% per day while those running over the maximum length will be penalized at the rate of 5% for each additional ten words. (i.e. A reading review 1-10 words over the limit receives a 5% length penalty, 11-20 words over a 10% penalty, etc.). Reading reviews cannot be submitted more than three days late. Reading responses must in all cases be under 150 words and must be submitted on time to receive full marks.

**Assignments**

There will be two written assignments, each a maximum of 1400 words excluding the reference list. Details of each assignment will be posted on Quercus along with a rubric detailing the criteria for evaluation. Assignments will be due at 11:59 PM on the dates listed below:

<table>
<thead>
<tr>
<th>Assignment #1:</th>
<th>Sunday, October 24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment #2:</td>
<td>Sunday, December 12</td>
</tr>
</tbody>
</table>

**Ouriginal**

Normally, students will be required to submit their course assignments, reading reviews, and responses to Ouriginal for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Ouriginal reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University’s use of the Ouriginal service are described on the Ouriginal web site.

If a student does not wish to participate in Ouriginal, the student MUST advise the lead TA at least three weeks before the assignment due date as alternate arrangements for screening the assignment must be arranged. (Normally, this will entail the submission of rough notes and drafts along with their final assignment.)

**Late and Length Penalties for Assignments**

Please follow the length guidelines for each assignment carefully. A 2% penalty for up to the first 100 words over the maximum length will be deducted from the assignment (i.e. from 1 to 100 words over the limit) and 5% for each additional 100 words (101 to 200 over, etc.). (Note that penalties for reading reviews and responses are different as noted above.)

Late papers will be assessed a 3% reduction of the value of the assignment per day late, unless previously negotiated with the lead TA or with the submission of an ACORN absence self-declaration form. (Please inform the lead TA if you have submitted a declaration of absence form.) Unless previously negotiated, late papers will only be accepted for one week after the due date. Papers later than this will not be assessed. Please do not leave potential issues to the last minute to discuss with the lead TA.

If assignments are submitted late because of medical reasons, you must submit an online absence declaration on ACORN. (The declaration is available on ACORN under the Profile and Settings menu.) 

*After submitting the verification of illness form, let the lead TA know how long you anticipate you will not be able to engage in schoolwork due to illness.*

“Life Happens” extensions: If you need to submit an assignment a few days late because of conflicting deadlines, extenuating circumstances, etc., you may request (before the assignment is due) a “life happens” extension without further explanation by writing the lead TA. Each student is entitled to a total of five days of “life happens” extensions that may be used separately (single days) or in blocks of 2-5 days. Please be careful to use these wisely. (It is probably best to only use 1-2 of these days at a time.)

**Remarking Policy**

If a student believes that their assignment has not been fairly assessed, they should first read all the comments (both in the text and terminal comments) and consult the assignment rubric. If, after reviewing these, the student would like to request a reassessment, they should write their TA – *within one week of receiving their assignment grade* – with a written justification explaining why the assignment should be reassessed. The TA will then consider the request and remark if they believe this is justified. If the student is still not satisfied, they may appeal the grade to the head TA (or, if the head TA is their TA, the course instructor), but must submit a written rationale to do so.
Course Texts and Required Readings
All course texts will be available online via Quercus. In some cases, to access electronic journal articles and some book chapters, you will need to log into the University of Toronto library.

Note: Students are expected to read all core readings. Recommended and optional readings are included for those who wish to explore a theme in more depth. Non-core readings will not be covered in course quizzes (unless the material is covered in course lectures), but may be helpful in understanding key ideas, writing your assignment papers, and answering any bonus quiz questions.

The list of readings included in the syllabus may be modified somewhat during the course – please consult Quercus for an up-to-date list of core, recommended, and optional readings.

Please read selectively, choosing the readings and key parts of reading most useful for your own learning. A set of guidelines for reading are posted on Quercus.

Course Lectures: 10 AM to Noon via Zoom
Course lectures will take place live online via Zoom on Wednesdays from 10 AM to Noon Toronto Time. A recording of the lecture will be made available within 24 hours of the class.

Course attendance will be taken using the free Acadly classroom response system and participation in Acadly surveys will count as part of your participation mark for each class.

If you are miss a class, you may make up for missed participation marks (a maximum of three times/term) by posting to the class reflections forum on Quercus.

Course Outline and Weekly Readings

Week 1 (September 15): Course Introduction
Learning Outcomes
• Students will gain an overview of the course and have a clear understanding of expectations for participation, assignments, and evaluation.
• Students will be able to define and understand some key concepts such as ecology, environment, and the Anthropocene.
• Students will begin to reflect on and develop an understanding of the nature of the ecological crisis, including problems related to poverty and inequality, resource depletion, and waste accumulation.

Core Readings (read all of the following)

Recommended Readings

Week 2 (September 22): The Ecological Crisis – Scientific and Technological Dimensions
Learning Outcomes
• Students will gain an understanding of key ecological challenges as “wicked problems” and begin to reflect on the importance of an inter/transdisciplinary approach to understand and address these.
• Students will gain a clearer understanding of the scientific dimensions of key ecological problems including the concept of planetary boundaries (and the nature of each of these) as well as the interrelationship between key ecological challenges.
• Drawing on systems theory, students will explore the nature of feedback loops and how these influence ecological changes.
Core Readings (read all of the following)
Hansen, James (2012). Why I must speak out about climate change. TED talk: https://www.ted.com/talks/james_hansen_why_i_must_speak_out_about_climate_change

Recommended Readings

Optional Readings

Week 3 (September 29): The Ecological Crisis – Political, Economic, and Social Dimensions

Learning Outcomes
- Students will be able to analyse and understand the connection between economic growth, corporate organisation, finance, monoculture, and domination and the ecological crisis (including its social dimensions) as well as some of the assumptions underlying the dominant global economic system.
- Students will analyse the relationship between population, affluence/consumption, and technology in generating ecological impacts (I=PAT).
- Students will learn how ecological footprints can be used to understand the relative impact of different nations and social classes.
- Students will understand more clearly the political challenges posed by the ecological crisis and continue to deepen the analysis of population, affluence, technology, and ecological impact.
- Students will analyse in more detail the concept of the Anthropocene as well as some alternative ways to understand our current epoch in light of an analysis of relative consumption and economics.

Core Readings (read all of the following)

Recommended Readings

Optional Readings

Week 4 (October 6): The Ecological Crisis – Ethical and Psychological Dimensions

Learning Outcomes
- Students will gain a clearer understanding of how values and perceptions (or worldviews) affect human-nature interactions as well as some factors that may have contributed to a more anthropocentric worldview.
• Students will be able to describe some ethical frameworks including deep ecology, ecofeminism, social ecology, and spiritual-religious perspectives.
• Students will come to understand some of the key psychological and perceptual challenges may impede actions addressing key ecological problems.

**Core Readings (read all of the following)**

**Recommended Readings**

**Optional Readings**

**Week 5 (October 13): Historical Perspectives: Agriculture, Food Production, and Land Use**

**Learning Outcomes**
• Students will be able to describe and analyse how changes in food production transformed human-nature relations and contributed to the current ecological crisis.
• Students will gain a clearer understanding of the impacts of modern industrial agriculture on ecosystems as well as how such agriculture may contribute to social inequality.
• Students will continue to deepen their understanding of the Anthropocene or Capitalocene.

**Core Readings (read all of the following)**

**Recommended Readings**

**Optional Readings**
Week 6 (Oct. 20): Historical Perspectives: Energy, Industrialisation, and Consumerism

Learning Outcomes
- Students will be able to describe and analyse how changes in the use of energy and the industrial revolution transformed human-nature relations and contributed to the current ecological crisis.
- Students will gain a clearer understanding of the nature and genesis of consumerism as well as how consumerism contributes to ecological destruction.

Core Readings (read all of the following)

Recommended Readings

Optional Readings

Week 7 (Oct. 27): Clean Production, Ecomodernisation, Geoengineering, & Ecotechnology

Learning Outcomes
- Students will be able to analyse and assess the possibilities and limitations of technological innovations including clean production and ecomodernisation.
- Students will be able to analyse the challenges and possible solutions to the problems posed by plastics.
- Students will more clearly understand the possibilities, potential problems, and ethical questions evident in geoengineering.
- Students will be able to analyse the possibilities and implications of creating more durable and sustainable goods.
- Students will understand the principles of ecologically sustainable technology and biomimicry.

Core Readings (read all of the following)

Recommended Readings

Optional Readings
The Biomimicry Toolbox: https://toolbox.biomimicry.org/ (Read the introduction and the four core concepts)


**Learning Outcomes**

- Students will gain a basic understanding of ecological economics including its critique of growth, GDP, and hidden externalities.
- Students will be able to analyse and assess the possibilities and limitations of market-based solutions to ecological problems, particularly the use of carbon pricing mechanisms to re-internalise the costs of carbon pollution.
- Students will assess the advantages, limitations, and challenges of more radical economic transformations including bioregionalism and economic degrowth.

**Core Readings (read all of the following)**


**Recommended Readings**


**Optional Readings**


**Reading Week: Nov. 7-13**

**Week 9 (Nov. 17): Governance, Policy Approaches, Sustainability, and Regeneration**

**Learning Outcomes**

- Students will gain a clearer understanding of the history of international environmental policymaking, including the challenges of creating effective, binding agreements.
- Students will be able to explain how questions of ecological justice and global economics affect international environmental negotiations.
Students will be able to explain and critique the concept of sustainable development, understand essential elements of sustainability, and explain the concept of regeneration and what it might entail in practice.

**Core Readings (read all of the following)**


**Recommended Readings**


**Optional Readings**


TED Talk by Christiana Figueres – Executive secretary of the United Nations Framework Convention on Climate Change (UNFCCC), who led the recent COP 21 climate talks in Paris. [https://www.ted.com/talks/christiana_figueres_the_inside_story_of_the_paris_climate_agreement](https://www.ted.com/talks/christiana_figueres_the_inside_story_of_the_paris_climate_agreement)


**Week 10 (Nov. 24): Individual and Collective Action**

**Learning Outcomes**

- Students will gain an understanding of both the importance and limitations of individual behaviour changes to promote sustainability as well as some of the challenges of motivating such change.
- Students will be able to analyse the challenges and potential effectiveness of collective action to promote sustainability at a community and social movement level.
- Students will be able to explain some of the goals and strategies employed by a number of pro-environmental social movements such as 350.org, Project Drawdown, and Extinction Rebellion.

**Core Readings (read all of the following)**


Project Drawdown: [https://www.drawdown.org/solutions](https://www.drawdown.org/solutions) (spend some time browsing the different solutions in the different sectors – look towards the bottom of the page for the links)

**Recommended Readings**


Optional Readings

**Week 11 (Dec. 1): Shifting Values & Worldviews, Creating Models of Regeneration**

**Learning Outcomes**
- Students will be able to explain some theories of social change and be able to classify different kinds of transformative action applying these frameworks.
- Students will gain a preliminary understanding for both the importance and challenges of shifting values and worldviews.
- Students will become familiar with and analyse a variety of initiatives seeking to create living models of regenerative sustainability.

**Core Readings (read all of the following)**

**Recommended Readings**

**Optional Readings**

**The Earth Charter Initiative:** [http://www.earthcharterinaction.org/content/](http://www.earthcharterinaction.org/content/)
**The Work that Reconnects Network:** [http://workthatreconnects.org/](http://workthatreconnects.org/)

**Week 12 (Dec. 8): Course Conclusion and Final Evaluation**

**Learning Outcomes**
- Students will reflect on and integrate their leaning to date regarding the ecological crisis and its causes as well as possible ways to address this crisis.

**Other Administrative Issues**

**Accessibility Needs and Services**
The University of Toronto is committed to accessibility. The office of Accessibility Services at U of T provides a range of services to students with disabilities to help them meet their educational objectives. In conjunction with Accessibility Services, the course instructor and teaching assistant would like to ensure the inclusion and full participation of everyone in the course. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: [http://studentlife.utoronto.ca/accessibility](http://studentlife.utoronto.ca/accessibility). As well, if there are things that we can do to facilitate your learning, or that we need to know as members of the teaching team, please contact the instructor during the first few weeks of the course.
Academic Integrity and Plagiarism
Academic integrity is fundamental to learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the U of T degree that you earn will be valued as a true indication of your individual academic achievement, and will continue to receive the respect and recognition it deserves.

Familiarise yourself with the University of Toronto’s Code of Behaviour on Academic Matters (http://www.governingcouncil.utoronto.ca/policies/behaveac.htm). It is the rule book for academic behaviour at the U of T, and you are expected to know the rules. Potential offences include, but are not limited to:

In papers and assignments:
- Using someone else’s ideas or words without appropriate acknowledgement.
- Copying material word-for-word from a source (including lecture and study group notes) and not placing the words within quotation marks.
- Submitting your own work in more than one course without the permission of the instructor.
- Making up sources or facts.
- Including references to sources that you did not use.
- Obtaining or providing unauthorised assistance on any assignment including
  - working in groups on assignments that are supposed to be individual work,
  - having someone rewrite or add material to your work while “editing”.
- Lending your work to a classmate who submits it as his/her own without your permission.

On tests and exams:
- Using or possessing any unauthorised aid, including a cell phone.
- Looking at someone else’s answers
- Letting someone else look at your answers.
- Misrepresenting your identity.
- Submitting an altered test for re-grading.

Misrepresentation:
- Falsifying or altering any documentation required by the University, including doctor’s notes.
- Falsifying institutional documents or grades.

You can get further guidance on academic integrity at: www.artsci.utoronto.ca/osai/students

To remind you of these expectations, and help you avoid accidental offences, I will post an Academic Integrity Checklist with each assignment on Quercus. By submitting your assignment, you confirm that you have read the checklist and affirm that its statements are true.

The University of Toronto treats cases of academic misconduct very seriously. All suspected cases of academic dishonesty will be investigated following the procedures outlined in the Code. The consequences for academic misconduct can be severe, including a failure in the course and a notation on your transcript. If you have any questions about what is or is not permitted in this course, please do not hesitate to contact me. If you have questions about appropriate research and citation methods, seek out additional information from me, or from other available campus resources like the U of T Writing Website. If you are experiencing personal challenges that are having an impact on your academic work, please speak to me or seek the advice of your college registrar.

University of Toronto Writing Centres
Students having difficulty with writing skills, or those who would simply like to improve their ability, are encouraged to visit the writing centre affiliated with their college at U of T. The writing centres offer free individual tutoring, group workshops, and other resources. For more information, see the U of T website (http://students.utoronto.ca/Academic_Resources/Writing_Centres.htm).