

School of the Environment, University of Toronto
Course Syllabus: ENV 222: Pathways to Sustainability
Fall 2021 • Online Synchronous Delivery

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:

Name	E-mail	Tutorial Sections
Rebecca McMillan, Lead TA	rebecca.mcmillan[at]mail.utoronto.ca	TUT0103
Soha Aria	soha.aria[at]mail.utoronto.ca	TUT0101, TUT0201
Ellyse Winter	ellyse.winter[at]mail.utoronto.ca	TUT0102, TUT0202

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/>. 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:

Participation (see details below)	20%
Quizzes (2 online quizzes, 10% each):	20%
Reading Review (due date depends on your tutorial group)	8%
Reading Review Responses (due date depends on your tutorial group)	2%
Assignment #1: Due October 24	25%
Assignment #2 (Final assessment): Due December 12	25%

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

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

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:

Assignment #1:	Sunday, October 24	Assignment #2:	Sunday, December 12
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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)

Ehrlich, P. R., & Ehrlich, A. H. (2013). Can a collapse of global civilization be avoided? *Proceedings of the Royal Society B: Biological Sciences*, 280(20122845), 1-9.

Hathaway, M. & Boff, L. (2009). *The Tao of liberation: Exploring the ecology of transformation*. (pp. 1-22). Maryknoll, NY: Orbis Books.

Recommended Readings

Brown, L. R. (2009). *Plan B 4.0: Mobilizing to save civilization*, pp. xi-27. New York, NY: W. W. Norton & Company, Inc.

MacDonald, D. (2015). Human capacity, self-interest and moral restraint: Attempting to understand the ecological crisis. Paper delivered at the 2015 annual conference of the Environmental Studies Association of Canada, June 2, 2015, University of Ottawa.

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)

- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin III, F. S., Lambin, E.,... Schellnhuber, H. J. (2009). Planetary boundaries: Exploring the safe operating space for humanity. *Ecology and society*, 14(2), 32.
- 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

- Ehrlich, P. R., & Ehrlich, A. H. (2004). Chapter 5: Technology matters. In *One with Nineveh: Politics, consumption, and the human future*, pp. 138-180. Washington, DC: Island Press.

Optional Readings

- Brown, V. A., Harris, J. A., & Russell, J. Y. (Eds.). (2010). *Tackling wicked problems through the transdisciplinary imagination*, pp. 3-21, 26-30. London, UK: Routledge.
- Hulme, Mike (2009). Chapter 3: The Performance of Science. In *Why we disagree about climate change: Understanding controversy, inaction and opportunity*. Cambridge: Cambridge University Press. pp. 72-108.

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)

- Hathaway, M. & Boff, L. (2009). *The Tao of liberation: Exploring the ecology of transformation*, pp. 22-61. Maryknoll, NY: Orbis Books.
- Carter, Neil (2007). Chapter 7: The environment as a policy problem. In *The politics of the environment: Ideas, activism, policy*. Cambridge: Cambridge University Press. pp. 174-181.

Recommended Readings

- Meyer, William B. (1996). Chapter 2: Changes in population and society. In *Human impact on the Earth*, pp. 22-50. Cambridge, UK: Cambridge University Press.
- Hartley, D. (2016). Anthropocene, Capitalocene, and the problem of culture. In Altvater, E., Crist, E., Haraway, D., Hartley, D., Parenti, C., & McBrien, J. *Anthropocene or capitalocene? Nature, history, and the crisis of capitalism* pp. 154-184. Oakland, CA: PM Press. Retrieved from <http://ebookcentral.proquest.com>
- Battersby, S. (2017). Can humankind escape the tragedy of the commons? *Proceeding of the National Academy of Sciences*, 114(1), 7-10.

Optional Readings

- Marten, G. G. (2010). Chapter 2: Population and feedback systems. *Human ecology: Basic concepts for sustainable development*, pp. 14-25. London, UK: Routledge.
- Steffen et al (2018). Trajectories of the Earth system in the Anthropocene. *Proceedings of the National Academy of Sciences*, 115(33), 8252-8259.

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 that may impede actions addressing key ecological problems.

Core Readings (read all of the following)

- Markowitz, E. and Shariff, A. 2012. Climate change and moral judgment. *Nature Climate Change*, p.243-247.
- Orr, D. (2006). The trial. *Conservation Biology*, 20(6), 1570-1573.
- Hempe, M. (2014). Ecoliteracy: Knowledge is not enough. *State of the World 2014: Governing for Sustainability* pp. 41-52. Washington, DC: Worldwatch Institute.
- Attfield, Robin (2003). Chapter 1: Environmental problems and humanity. In *Environmental Ethics*, pp. 1-30. Cambridge, UK: Polity Press.

Recommended Readings

- Merchant, C. (2008). Introduction. *Ecology: Key concepts in critical theory*, pp. 15-39. Humanity Books.
- Scharper, S. (2013). From sustainable development to sustainable liberation: Toward an Anthro-harmonic ethic. In S. Appolloni (Ed.), *For Earth's sake: Toward a compassionate ecology* (pp. 180-199). Toronto, ON: Novalis.

Optional Readings

- Capra, F. (1996). Deep ecology - A new paradigm. Chapter 1 of *The web of life: A new scientific understanding of living systems* (pp. 3-13). New York, NY: Anchor Books.
- Marten, G. G. (2010). Chapter 9: Perceptions of nature. *Human ecology: Basic concepts for sustainable development*, pp. 121-135. London, UK: Routledge.

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)

- Marten, G. G. (2010). Chapter 10: Unsustainable human-ecosystem interactions. *Human ecology: Basic concepts for sustainable development*, pp. 136-156. London, UK: Routledge.
- Hathaway, M. (2016). Agroecology and permaculture: Addressing key ecological problems by rethinking and redesigning agricultural systems. *Journal of Environmental Studies and Sciences*, 6(2), 239-250. doi: 10.1007/s13412-015-0254-8
- Moran, E. F. (2006). Chapter 2: The way things were... *People and nature: An introduction to human ecological relations*, pp. 26-56. Malden, MA: Blackwell Publishing.

Recommended Readings

- Shiva, V. (2015). Women and biodiversity feed the world, not corporations and GMOs. *Common Dreams*: <https://www.commondreams.org/views/2015/05/20/women-and-biodiversity-feed-world-not-corporations-and-gmos>
- Burney, D. A., & Flannery, T. F. (2005). Fifty millennia of catastrophic extinctions after human contact. *Trends in Ecology & Evolution*, 20(7), 395-401. doi:10.1016/j.tree.2005.04.022
- Sutton, M. Q., & Anderson, E. N. (2010). Chapter 9: Intensive agriculture. *Introduction to cultural ecology*, pp. 251-289. Plymouth, UK: AltaMira Press.

Optional Readings

- Barje, T. and Erlandson, J. 2013. Looking forward, looking back: Humans, anthropogenic change, and the Anthropocene. *Anthropocene* 4(2013): 116-121.
- Moore, Jason W. (2017) The Capitalocene, Part I: On the nature and origins of our ecological crisis, *The Journal of Peasant Studies*, 44:3, 594-630, DOI: [10.1080/03066150.2016.1235036](https://doi.org/10.1080/03066150.2016.1235036)
- Malm, A., & Hornborg, A. (2014). The geology of mankind? A critique of the Anthropocene narrative. *The Anthropocene Review*, 1(1), 62-69. <https://doi.org/10.1177/2053019613516291>

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)

Ponting, C. (2007). Chapter 12: The second great transition. *A new green history of the world*, pp. 265-293. London, UK: Vintage.

Mokyr, J. (1990). Chapter 6: The later nineteenth century, 1830-1914. *The lever of riches: Technological creativity and economic progress*, pp. 113-148. Oxford, UK: Oxford University Press.

Assadourian, Erik (2010). The rise and fall of consumer culture. In Eric Assadourian (ed.), *State of the world – Transforming cultures: From consumerism to sustainability*. New York: WW Norton. Retrieved from <http://www.worldwatch.org/files/pdf/Chapter%201.pdf>

Recommended Readings

Trentmann, F. 2016. How humans became ‘consumers’: A history. *The Atlantic*, November 28, 2016. (<https://www.theatlantic.com/business/archive/2016/11/how-humans-becameconsumers/508700/>).

Nye, David E. (2006). Chapter 6. Sustainable abundance, or ecological crisis? In *Technology matters: Questions to live with*, pp. 87-108. Cambridge, MA: MIT Press.

Optional Readings

Smart, Barry (2010). Consuming: Historical and conceptual issues. In *Consumer Society: Critical Issues and Environmental Consequences*, pp. 1-29. London, UK: Sage.

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)

Mol, A. and D. Sonnenfeld (2000). Ecological modernisation around the world: An introduction. *Environmental Politics* 9(1): 1-14.

Corner, A., & Pidgeon, N. (2010). Geoengineering the climate: The social and ethical implications. *Environment: Science and Policy for Sustainable Development*, 52(1), 24-37. doi: 10.1080/00139150903479563

Hathaway, M. (2015). The practical wisdom of permaculture: An anthropoharmonic phronesis for an ecological epoch. *Environmental Ethics*, 37(4), 445-463.

Recommended Readings

Foster, J. (2012). The planetary rift and the new human exemptionalism: A political-economic critique of ecological modernization theory. *Organization & Environment*, 25(3), 211-237. doi:10.1177/1086026612459964

Optional Readings

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

International Institute for Sustainable Development (2013). Cleaner production: https://www.iisd.org/business/tools/bt_cp.aspx [Short, one-page overview]

Milanez, B., & Bührs, T. (2007). Marrying strands of ecological modernisation: A proposed framework. *Environmental Politics*, 16(4), 565-583. doi:10.1080/09644010701419105

Thorpe, Beverley (1999). Citizen’s guide to clean production.

https://www.researchgate.net/publication/260399703_Citizen's_Guide_to_Clean_Production

McMahon, J. (2018). Chinese company says it will soon cross \$100 battery threshold, slaying the gasoline car. *Forbes*, December 4, 2018.

Gomez, Isabella (2018). Recycling isn't going to stop plastic from destroying the Earth. *Teen Vogue*, December 20, 2018.

Butler, Sarah (2018). Is fast fashion giving way to the sustainable wardrobe? *The Guardian*, 29 December 2018.

Kopnina, Helen (2018). Circular economy and cradle to cradle in educational practice. *Journal of Integrative Environmental Sciences*, 15:1, 119-134, DOI: 10.1080/1943815X.2018.1471724[[p]]Week 8 (Nov. 3): Market Solutions, Steady-State Economics, Bioregionalism, & Degrowth

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)

Daly, Herman E. (2007). *Ecological economics and sustainable development, selected essays by Herman Daly*, pp. 9-31. Cheltenham, UK: Edward Elgar Publishing, Inc.

Cato, Molly (2012). Visioning the bioregional economy. In *The Bioregional Economy*, pp. 21-39. London, UK: Routledge.

Recommended Readings

Redcliff, Michael (2010). The transition out of carbon dependence: The crisis of environment and markets. In M. Redcliff and G. Woodgate (eds.), *The international handbook of environmental sociology (2nd edition)*, pp. 121-135. Cheltenham, UK: Edward Elgar Publishing, Inc.

Martínez-Alier, Joan (2012). Environmental justice and economic degrowth: An alliance between two movements. *Capitalism Nature Socialism* 23(1): 51-73.

Eisner, M. (2007). Chapter 8: From greed to green. In *Governing the Environment: The transformation of environmental regulation*, pp. 135-151. Boulder, CO: Lynne Rienner Publishers.

Optional Readings

Falkner, Robert (2009). Chapter 1: Global firms in international environmental politics. In *Business Power and Conflict in International Environmental Politics*. New York: Palgrave Macmillan. pp. 3-15.

Davidson, Eric A. (2000). Chapter 9. May We Live in Interesting Times. *You Can't Eat GNP: Economics as if Ecology Mattered*. Cambridge: Mass.: Perseus. pp. 185-216.

Ahmed, Nafeez (2018). This is how UN scientists are preparing for the end of capitalism. *The Independent*, 12 September 2018. https://www.independent.co.uk/news/long_reads/capitalism-un-scientists-preparing-end-fossil-fuels-warning-demise-a8523856.html

World Bank Group. 2017. *State and trends of carbon pricing*. Executive Summary, p. 8-13. <https://openknowledge.worldbank.org/bitstream/handle/10986/29687/9781464812927.pdf>

Goodman, M.K., and Boyd, E. (2011). A social life for carbon? Commodification, markets and care. Editorial. *The Geographical Journal*, 177 (2), 102-109.

Hachadourian, Araz (2017). The 150-mile wardrobe: A solution for one of the world's most polluting industries. *Yes! Magazine*, December 19, 2017.

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 policy-making, 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)

Speth, J. G. & Hass, P. M. (2006). Chapter 6: Paths to the future: A second attempt at global environmental governance? In *Global Environmental Governance*, pp. 125-150. Washington, DC: Island Press.

Wahl, D. C. (2016). *Designing regenerative cultures*. pp. 15-18, 39-49, 251-254. Axminster, UK: Triarchy Press.

Recommended Readings

Meadowcroft, James (2012). Greening the state?" In Paul F. Steinberg and Stacy D. VanDeveer, *Comparative Environmental Politics: Theory, Practice and Prospects*. Cambridge, Mass: MIT Press. pp. 63-87.

Orr, D. W. (1993). Love it or lose it: The coming biophilia revolution. In S. R. Kellert & E. O. Wilson (Eds.), *The biophilia hypothesis* (pp. 415-440). Washington, DC: Island Press.

Optional Readings

Munsch, Mathieu (2017). As the climate clock strikes midnight, it's time to look to the morning. In *Bright Green: Independent media for a radical, democratic, green movement*. <http://bright-green.org/2017/07/22/as-the-climate-clock-is-strikes-midnight-its-time-to-look-to-the-morning/>

Klein, Naomi (2018). Capitalism killed our climate momentum, not "human nature." *The Intercept*, August 3, 2018. <https://theintercept.com/2018/08/03/climate-change-new-york-times-magazine/>

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

Vogler, John (2008). Environmental issues. In John Baylis, Steve Smith, and Patricia Owens (eds.) *The Globalization of World Politics: An Introduction to International Relations*, pp. 350-368. Oxford, UK: Oxford University Press.

Levin, K., Cashore, B., Bernstein, S., & Auld, G. (2012). Overcoming the tragedy of super wicked problems: constraining our future selves to ameliorate global climate change. *Policy sciences*, 45(2), 123-152. doi: 10.1007/s11077-012-9151-0

Cobb, J. B. (2012). Sustainable urbanization. In I. Leman-Stefanovic & S. B. Scharper (Eds.), *The natural city: Re-envisioning the built environment* (pp. 191-202). Toronto, ON: University of Toronto Press.

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)

Hinton, E. & Goodman, M. (2010). Sustainable consumption: Developments, considerations and new directions. In M. Redcliff and G. Woodgate (eds.), *The international handbook of environmental sociology (2nd edition)*, pp. 245-261. Cheltenham, UK: Edward Elgar Publishing, Inc.

Harper, Charles L. (2001). Chapter 9: Environmentalism: Ideology, action and movements. *Environment and Society: Human Perspectives on Environmental Issues*, pp. 345-384. Upper Saddle River, NJ: Prentice Hall.

Project Drawdown: <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

Westley, F., Patton, M. Q., & Zimmerman, B. (2007). *Getting to maybe: How the world is changed*, pp. 19-53. Toronto, ON: Vintage Canada.

Tallullah, Tegan (2018). Why we can't rely on individuals to fix climate change. *The Climate Lemon* <https://theclimatelemon.com/individual-collective-fixing-climate-change/>

Optional Readings

Elgin, Duane (2006). Voluntary simplicity and the new global challenge. In N. Haenn and R. Wilk (eds.) *The environment in anthropology: A reader in ecology, culture, and sustainable living*, pp. 458-468. New York, NY: NYU Press.

Hackel, L. & Sparkman, G. (2018). Reducing your carbon footprint still matters. *Slate*, October 26, 2018.

<https://slate.com/technology/2018/10/carbon-footprint-climate-change-personal-action-collective-action.html>

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)

Homer-Dixon, T. (2006). Chapter 9: Cycles within cycles. *The upside of down: Catastrophe, creativity, and the renewal of civilization*, pp. 207-234. Washington, DC: Island Press.

Escobar, A. (2018). Chapter 5: Design for transitions. *Designs for the pluriverse: Radical interdependence, autonomy, and the making of worlds*, pp. 137-164. Durham, NC: Duke University Press.

Quilley, S. (2012). Resilience through relocalization: Ecocultures of transition? *Ecocultures Working Paper: 2012-1*. University of Essex, UK. URL: <http://www.ecocultures.org/wp-content/uploads/2012/02/Quilley-2012-1.pdf>.

See also: Earlier articles on permaculture and bioregionalism.

Recommended Readings

Marten, G. G. (2010). Chapter 4: Ecosystems and social systems as complex adaptive systems. *Human ecology: Basic concepts for sustainable development*, pp. 42-59. London, UK: Routledge.

Optional Readings

Meadows, D. H. (1999). Leverage points: Places to intervene in a system. Hartland, VT: The Sustainability Institute.

Poland, B. et al (2018). The emergence of the transition movement in Canada: Success and impact through the eyes of initiative leaders. *Local Environment*. <https://doi.org/10.1080/13549839.2018.1555579>

The Earth Charter Initiative: <http://www.earthcharterinaction.org/content/>

The Work that Reconnects Network: <http://workthatreconnects.org/>

Transition Towns: <http://www.transitionnetwork.org/> or <http://www.transitionus.org>

Permaculture: <http://www.permaculture.org.uk/> or <http://permacultureprinciples.com/>

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

Learning Outcomes

- Students will reflect on and integrate their learning 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>. 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).