



School of the Environment
UNIVERSITY OF TORONTO

**ENV 221H1-S Multidisciplinary Perspectives on the Environment
Summer 2017**

Lectures: 2-4 pm Monday & Wednesday, Earth Sciences Bldg (5 Bancroft Ave), Room B142

Tutorials: 1-2 pm Monday; noon-1 pm & 1-2 pm Wednesday, Earth Sciences Bldg, Room 4000
in selected weeks (see below)

Instructor: Professor David Pond

Office: Woodsworth College, main floor lobby next to Second Cup

Office Hour: hour before class or by appointment

Phone: 647-515-1957

E-Mail: david.pond@utoronto.ca

(please indicate the course code in the subject line of your e-mail)

Grading:

Test #1: Class #4 on July 17 (15%)

Test #2: Class #8 on July 31 (15%)

Short Essay #1 due: July 21 before midnight (10%)

Short Essay #2 due: August 8 before midnight (10%)

Note: penalty for late essays is a deduction of 2 marks per calendar day from your essay mark out of 100

Tutorials: 15%

Exam in August 15-18 exam period: 35%

Final Drop Date without Academic Penalty: July 31

What This Course is About:

This course introduces students to the multidisciplinary study of environmental problems. We begin with a discussion of some of the main themes in how social scientists understand and interpret the environment.

We then explore two case-studies, drawing on a variety of academic disciplines, including economics, political science, history, law, philosophy, geography, and cultural anthropology.

By the end of this course, students should be able to grasp the interdisciplinary nature of environmental studies. Students should also have a deeper understanding of the issues under discussion. Finally, students should be able to appreciate the intractable nature of environmental problems in the real world of policy-making.

Readings:

There is no textbook you are required to purchase. Instead, the readings for this course are accessible through the Blackboard site.

Blackboard:

This course employs a Blackboard website (also known as the Portal), where you will find the course outline, lecture slides, essay assignments, and all supplementary material. To access the ENV 221H website go to <http://portal.utoronto.ca> and log in using your UTORid and password. If you need information on how to activate your UTORid and set your password for the first time, please go to www.utorid.utoronto.ca. Once you have logged in to the Portal, look for the My Courses box, where you will find the link to the ENV 221H website.

Staying in touch:

I welcome e-mail queries and comments. All UofT students are required to have a valid UTOR e-mail address. It is your responsibility to maintain your UofT e-mail address in good working order. The University expects you to correspond with me through your official UofT e-mail address, and not through a commercial e-mail account. For clarification see the University's *Policy on Official Correspondence with Students*, available on the following website: <http://www.governingcouncil.utoronto.ca/policies> (under "C").

Failure to receive important class announcements and messages from me because of a faulty e-mail account (for example, an account which screens out my e-mails as junk mail; bounced messages because of overloaded caches; a virus on your computer) are not legitimate excuses.

You are responsible for ensuring that your UofT email address is properly entered in the ACORN/ROSI system. For assistance see <http://www.rosi.utoronto.ca/policy.php>.

Forwarding your utoronto.ca email to a Hotmail, Gmail, Yahoo or other type of e-mail account is not advisable. In some cases, messages from utoronto.ca addresses sent to Hotmail, Gmail or Yahoo accounts are filtered as junk mail, which means that e-mails from me may end up in your spam or junk mail folder. Therefore, if it is your practice to forward your UofT e-mails to a commercial account, it is advisable to regularly check your spam and junk mail folders.

It is strongly advised that you load your two essays onto TurnItIn using your UofT e-mail account, and not a commercial e-mail account. (The essay assignments are discussed below).

Feel free to phone me if needed. If you are going to leave a message on my cellphone (647-515-1957), please identify yourself and the course you are taking.

Accessibility Needs:

The University of Toronto is committed to accessibility. 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>.

It is important to note that the rules and policies set out in this course outline apply to all students taking this course.

Tutorials:

The tutorial time-slots are as follows:

| Tutorial Groups | Time-Slot | Location |
|------------------------|---------------------|-------------------------|
| Group #1: | Monday 1-2 PM | Earth Sciences, Rm 4000 |
| Group #2: | Wednesday Noon-1 PM | Earth Sciences, Rm 4000 |
| Group #3: | Wednesday 1-2 PM | Earth Sciences, Rm 4000 |

Earth Sciences: 5 Bancroft Avenue

The tutorial schedule for the term is as follows:

| Class # | Date | Tutorial Group |
|----------------|--------------|--------------------------------|
| 3 | Weds July 12 | Tutorial #1 for Groups 2 & 3 |
| 4 | Mon July 17 | Tutorial #1 for Group 1 |
| 6 | Mon July 24 | Tutorial #2 for Group #1 |
| 7 | Weds July 26 | Tutorial #2 for Groups #2 & #3 |
| 8 | Mon July 31 | Tutorial #3 for Group #1 |
| 9 | Weds Aug 2 | Tutorial #3 for Groups #2 & #3 |
| 10 | Weds Aug 9 | Tutorial #4 for Groups #2 & #3 |
| 11 | Mon Aug 14 | Tutorial #4 for Group #1 |

All students are to participate in tutorials. Tutorials give students the opportunity to meet regularly in small groups to discuss readings, ideas raised in lectures, and course assignments.

Your tutorial grade is based on a combination of attendance and contributions to tutorial discussions. Please note that attendance alone will not guarantee a good tutorial grade. Students who attend diligently but do not make meaningful contributions to the discussion do better than students who do not attend at all, but not as well as students who attend diligently and make meaningful contributions.

If the name you commonly use varies from your name as recorded by ACORN, let the TA know. Keep in mind that the class list we use for recording marks is the list generated by ACORN.

Your TA will keep a formal attendance record. If you are concerned that the TA has failed to record your name properly, the time to bring this to his/her attention is NOW, not weeks later or at the end of term. Do not come to me weeks after a tutorial was held and claim the TA failed to record you as present. I cannot adjudicate questions about attendance or what may or may not have happened in a tutorial weeks after the event.

Do not show up at the end of a tutorial and expect the TA to give you credit for attendance. If you missed a tutorial for what you believe is a legitimate reason (such as a documented medical or family issue), bring this to the attention of the TA *as soon as possible*. Note, to the attention of the TA, not to me. We reserve the right to determine what are legitimate reasons for missing tutorials.

The medical/family excuse policy is designed to support students who encounter an unexpected problem once the term is underway, which causes them to miss the occasional tutorial. However, if you have a chronic problem which causes you to miss tutorials consistently, week in and week out, your tutorial mark will suffer. Remember: your tutorial mark is a combination of attendance and participation. If you do not attend, you cannot participate. Students who do not attend are missing their opportunity to improve their participation mark.

Please do not come to me at the end of term and request an opportunity to do make-up work to compensate retroactively for missed tutorials. There is no provision for students to do extra work or assignments to make up for missed tutorials or low grades in tutorials. I emphasize that this policy applies to all students.

Students sometimes need to switch between tutorial time-slots to accommodate changes in their personal schedule after the summer term is underway. It can be difficult for the TA to keep track of students who do not stay in the time-slot to which they have been assigned. If you do for some reason wish to switch tutorial time-slots in mid-term, the onus is on you to make sure the TA formally notes this.

The topics to be discussed will be announced via e-mail and Blackboard in advance of the tutorial date. This is another reason to keep your e-mail address up to date and in good functioning order.

Your TA runs the tutorials, marks the essays and Test #2. I mark Test #1 and the exam.

Your TA is: Mark Horsburgh (mark.horsburgh@utoronto.ca). Mark is a PhD candidate in Forestry. He is an experienced TA in the School of the Environment.

Most of you should already be allotted into one of three tutorial time-slots on ROSI/ACORN, for Monday or Wednesday. Once classes begin, we will assign any remaining students to a specific time-slot.

The Essay Assignments:

There are two short essay assignments, related to themes discussed in the course. These will be explained in detail in a separate hand-out. The text of each of your essays should be no longer than 600 words (this total excludes foot- or endnotes and the bibliography/references).

TurnItIn.com:

Normally, students will be required to submit their course essays to TurnItIn.com 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 TurnItIn.com 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 TurnItIn.com service are described on the TurnItIn.com web site. A short guide on how to use TurnItIn.com is posted on the Blackboard site.

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| <p>Website: http://turnitin.com Class ID: 15611640 Enrolment Key: sandykoufax1</p> |
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If a student does not wish to participate in TurnItIn, the student **MUST** advise me immediately, as you will be required to agree to alternate arrangements for vetting your work, as well as to an alternate method for submitting your essays for marking. Such arrangements could include some or all of the following: submission of your drafts, rough work and notes; submission of photocopies of the sources you used; submission of the URLs of all sources you used in your research.

Students who do not wish to participate in TurnItIn are *strongly advised* to carefully read the section below headed "Handing In Your Essays."

Plagiarism:

Plagiarism is a serious offence and will be dealt with accordingly.

It is important that you familiarize yourself with U of T's policies and procedures. Consult:

- “How Not to Plagiarize” at <http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize>
- “Academic Honesty” at <http://life.utoronto.ca/get-smarter/academic-honesty.htm>
- “Rights + Responsibilities” at <http://life.utoronto.ca/get-help/rights-responsibilities.htm>
- “Code of Behaviour on Academic Matters” at <http://www.utoronto.ca/academicintegrity>

Your essays will be marked on the assumption you have read this section of the outline. Plagiarism is cheating. It is considered a serious offence against intellectual honesty and intellectual property. Penalties for an undergraduate can be severe. At a minimum, a student is likely to receive a “0” mark for the assignment or test in question. But a further penalty is often assessed, such as a further reduction from the course mark or placing a permanent notation of the incident on an academic record.

It is essential that you understand what plagiarism is and that you do not commit it. In essence, it is the theft of the thoughts or words of others, without giving proper credit. You must put others' words in quotation marks and cite your source(s). You must give citations when using others' ideas, even if those ideas are paraphrased in your own words. Plagiarism is unacceptable in a university.

The University of Toronto provides a process that faculty members must initiate when they suspect a case of plagiarism. A faculty member may not mark an assignment or assess a penalty if he or she finds evidence of plagiarism – the matter must be reported. The Director of the School, or Dean, will assess the penalty.

The following are some examples of plagiarism:

- Submitting as your own an assignment written by someone else.
- Quoting an author without indicating the source of the words.
- Using words, sentences, or paragraphs written by someone else and failing to place quotation marks around the material and reference the source and author. Using either quotation marks or reference alone is not sufficient. Both must be used!
- Adapting an author's ideas or theme and using it as your own without referencing the original source. All sources used must be properly cited.
- Using false citations or references.
- Seeking assistance from a friend or family member in respect to work you claim as your own.

If you are not sure whether you have committed plagiarism, it is better to consult me or the TA rather than risk discovery and be forced to accept an academic penalty.

It is also unacceptable to hand in the same essay in two different courses. You cannot submit an essay in this course for which you have already obtained credit in a previous course, without my express permission ahead of time.

You can also consult the Academic Success Centre (<http://www.asc.utoronto.ca/index.htm>), and one of the Writing Centres on campus (<http://www.writing.utoronto.ca/writing-centres>).

As the passage above indicates, there are many forms of plagiarism. In my experience, the most common form of plagiarism is the failure to use quotation marks. So to repeat: all wording in your essays which is copied from another source must be in quotation marks.

Handing in Your Essays:

In this course, student essays are formally submitted by mounting them on TurnItIn.

When you upload your essay to TurnItIn.com, the program automatically records the time and date you do this. On the day an essay is due, you have the entire day to submit your essay without incurring a late penalty:

- The first essay is due July 21. You have until 11.59 PM on this day to mount your essay on TurnItIn without incurring a late penalty.
- The second essay is due August 8. You have until 11.59 PM on this day to mount your essay on TurnItIn without incurring a late penalty.

You do not submit a paper copy. Papers will not be accepted by fax, e-mail or other electronic means, unless specifically permitted by me beforehand. Do not submit your essays to the TA, in either paper form or via e-mail. The TA is not authorized to formally accept essays.

If you decline to use TurnItIn (*and* warned me well in advance), you submit your essay directly to me via e-mail by these deadlines.

If you created your essay in separate files on your computer, make sure you merge them into a single file before uploading your essay to TurnItIn.com. Please upload your essay in 'doc' format, not 'txt.' Do not use PDF to mount your essay on TurnItIn.

Do not try to mount more than one version of your essay on TurnItIn. If you have problems mounting your essay, do not keep trying! Instead, contact me.

Some common sense is in order here. If you do not receive your essay mark back when everybody else does, the time to inquire as to what happened to your essay is right then, not weeks later. When you mount your essay on TurnItIn, you should receive a receipt via e-mail. If you do not, the time to look into this omission is right NOW, not at the end of the course.

Please Note:

You are strongly advised to keep your essay drafts and notes until you receive your essay mark. You should always retain your own copy of your submitted essays. Students are also strongly advised to back up the electronic version of their essays, to disks or to an external hard drive. You should keep these items separate from your laptop.

Please be advised that computer/e-mail malfunctions, computer theft or failure to connect to the Internet are not legitimate excuses for handing in an essay late. *Never* leave your laptop unguarded anywhere on campus.

Extensions on the Essay Deadlines:

The essays may be submitted after the deadlines, with the late penalty outlined in the grading scheme on page one applying. In order to submit a late essay without a penalty, an extension from me must be obtained.

Extensions will be granted for the essays only in cases of *documented* medical problems or of *documented* family emergencies.

If you need an extension you must ask me (not the TA) for it as soon as possible. I am very unlikely to grant a request long after the due date for the essay.

Feel free to approach me in class or during office hours to request an extension. However, all requests must be formally submitted in writing (by e-mail), with the requested time-period

stated. An extension is formally granted by me in writing, with the time-period indicated. Extensions are for fixed time periods. There is no such thing as an open-ended extension.

For a medical excuse I need the original medical note (not a photocopy) on U of T's Verification of Student Illness or Injury form. This form is available at: <http://www.illnessverification.utoronto.ca>. It is also available on the Blackboard site.

Remember, I am not under any obligation to grant an extension. I am not under any obligation to accept automatically any medical note you submit as valid. The medical note should establish that the physician examined and diagnosed you at the time of your illness, not after the fact. If you submit a falsified or altered medical note you are liable to penalty.

You cannot get a medical excuse after the essay is due and you have already missed the due date. The purpose of the extension policy is to assist students facing an imminent deadline. Once the essay deadline has passed, the rationale for an extension expires.

There is only one exception to this rule: if your medical note is dated *before* the due date of the essay. Only under this condition, will I entertain an application for an extension after the due date for the essay has passed.

If your extension runs out and you still have not submitted your essay, your extension has expired. Your late penalty will resume on the day after your extension expired, and will continue until the date you do submit your essay.

This policy applies to all students taking this course.

Submitting a Late Essay after Classes End:

Our last class is August 14. The last day of classes in all courses on the St. George campus this summer is also August 14. Exams start the next day. Only in exceptional circumstances will permission be granted to submit a late essay after August 14. To emphasize: do not assume you can submit your essay after August 14. Permission must be sought, and granted.

In order to submit a late essay after classes end without penalty, you need to obtain a medical extension before August 14. In other words, do not ask for an essay extension after classes in this course are over on August 14.

If you plan to submit a late essay after classes end for the summer term, with or without an extension, *it is extremely advisable* that you warn me (not the TA) it is coming. If you do not warn me, I have no reason to assume it is coming. If I am warned, I will make a special effort to watch TurnItIn for it.

Missing a Test:

Students who miss a test because of *documented* medical problems or family emergencies *may* be entitled to write a makeup test. The standard of documentation required is the same as for essay extensions (see above).

Writing a makeup test is a privilege, not a right. There is no point showing up for a makeup test without the U of T medical certificate properly filled out. (You may of course, submit your medical certificate before the makeup test date). Without submission of the medical certificate (or other appropriate document), you will not be admitted to the makeup test.

Students should notify me (not the TA) as soon as possible that they will be missing a test. After the date of a missed test, you have *one week* to ask if it is possible to write a makeup test.

The Faculty of Arts & Sciences' policy regarding makeup tests is set out in the "Rules and Regulations" section of the *2017-18 Calendar*, available at <https://fas.calendar.utoronto.ca/rules-regulations#marks> (see "Missed Term Tests").

Missing the Final Exam:

In summer courses, students occasionally book a vacation in advance, only to discover later when the exam schedule is released that the exam date conflicts with their planned holiday. They then approach me seeking permission to write the exam on an alternate day that fits their vacation schedule. Do not do this! I have NO authority to schedule private exams for students. The Registrar has authority over the scheduling of all exams.

Students who miss or are unable to write the final examination should consult their Registrar immediately.

A Note on Marking:

Feel free to contact me at any time to discuss the requirements of this course. I will conduct a review in class before each of the tests and the exam. These reviews will be included in the lecture slides posted on Blackboard. Once all test marks have been returned, an answer-key to each of the tests will be posted on Blackboard. After the final marks have been submitted, an answer-key to the exam will be posted on Blackboard.

If you are unhappy with the mark you received on one of the tests, your first step should be to compare your test answers to the answer-key posted on Blackboard. After that you may come to the marker for a discussion. The marker will either be me or the TA, Mark Horsburgh. You should initiate any such discussion no later than two weeks after receiving your marked test.

If you are unhappy with the mark you received on an essay, your first step is to discuss it with the TA marker. You should do this as soon as possible after receiving your essay mark. It is advisable to submit to the TA marker a written response to the comments on your essay. If you are unhappy with the TA marker's reply, then you may appeal to me. However, you must have a substantive reason for appealing your essay mark. You should submit to me a written response to the TA marker's comments. Keep in mind that an appeal to me is not a request for a re-grade of your essay. Instead, you are expected to persuade me why I should adjust the mark you received from the TA marker.

Remember, on any appeal of an essay mark to me from the initial TA marker, there will be one of three results: your mark may stay the same; it may go up; or it may go down.

Please Note:

You are entitled to the mark your work merits. You are not entitled to the mark you think you personally deserve, or you need in order to achieve your personal goals such as getting into a professional program or graduate school, staying in university, raising your mark in the course to the next letter grade level, maintaining your GPA at a certain level, retaining a scholarship or other funding source, etc. Therefore, please do not lobby me to raise your mark simply because you want a higher mark.

Complaining to me about your marks (including your final mark) simply because you do not like them and want a higher mark is a waste of your time.

There is no provision for students to do extra work or assignments to make up for low grades on any of the assignments in this course, including the tests, the essays, or tutorials. All students are evaluated under the same marking criteria on page one.

All marking in this course follows the criteria and grid prescribed by the Faculty of Arts & Sciences, as follows:

GPA Equivalency Chart

| Percentage | Letter Grade | Grade Point Value * | Grade Definition | |
|------------|--------------|---------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 90-100 | A+ | 4.0 | Excellent | Strong evidence of original thinking; good organization; capacity to analyze and synthesize; superior grasp of subject matter with sound critical evaluations; evidence of extensive knowledge base. |
| 85-89 | A | 4.0 | | |
| 80-84 | A- | 3.7 | | |
| 77-79 | B+ | 3.3 | Good | Evidence of grasp of subject matter, some evidence of critical capacity and analytic ability; reasonable understanding of relevant issues; evidence of familiarity with literature. |
| 73-76 | B | 3.0 | | |
| 70-72 | B- | 2.7 | | |
| 67-69 | C+ | 2.3 | Adequate | Student who is profiting from his/her university experience; understanding of the subject matter; ability to develop solutions to simple problems in the material. |
| 63-66 | C | 2.0 | | |
| 60-62 | C- | 1.7 | | |
| 57-59 | D+ | 1.3 | Marginal | Some evidence of familiarity with subject matter and some evidence that critical and analytic skills have been developed. |
| 53-56 | D | 1.0 | | |
| 50-52 | D- | 0.7 | | |
| 0-49 | F | 0.0 | Inadequate | Little evidence of even superficial understanding of subject matter; weakness in critical and analytic skills; with limited or irrelevant use of literature. |

* The grade point values above apply to marks earned in **individual courses**; grade point averages (SGPAs/AGPAs/CGPAs) are weighted sums of the grade points earned (see below), and thus do not necessarily correspond exactly to the scale above.

Source: Faculty of Arts & Sciences *Calendar 2017-18*, “Grading Regulations” (<https://fas.calendar.utoronto.ca/rules-regulations#marks>)

The Lecture Schedule:

The topics covered in the weekly lectures are listed below along with the required readings. The readings are accessible through the Blackboard site. All lecture notes will be posted on the Blackboard site after a topic has been covered. It is possible that a small number of additional required readings (for example, a topical media article) will be added to the Blackboard site as the course progresses.

Of course, attendance at lectures is not mandatory. However, please remember that it is in the lectures that I cover the material you will be tested on, prepare students for the exam, respond to student questions and concerns, and make important announcements. Students who regularly miss lectures do so at their own risk.

WEEKLY LECTURE SCHEDULE:

Class One, July 5: Introduction to Course & Essay Reviews & Thinking about the Environment *started*

Class Two, July 10: Thinking about the Environment *continued*

Readings for Classes #2 & #3:

- Eric Neumayer, *Next Stop Environmental Paradise?* (London School of Economics 2001)
- John DeGraff, “Are There Limits to Limits?” & Roger Pielke Jr., “What Does It Mean To Be Anti-Growth?,” *Earth Island Journal* (Spring 2014), pp. 46-48 (on p. 48, DeGraff is the left-hand column & Pielke is the right-hand column)
- Gary Marchant & Karen Bradshaw, “The Short-Term Temptations and Long-Term Risks of Environmental Catastrophism,” *56 Jurimetrics Journal* (Summer 2016), pp. 345-366
- Simon Nicholson, “The Birth of Free-Market Environmentalism,” *46 Journal of Interdisciplinary History* (2016), pp. 421-433
- Elinor Ostrom, et al., “Revisiting the Commons: Local Lessons, Global Challenges,” *Science*, 9 April 1999, pp. 278-282
- Kostas Bithas, “Sustainability and externalities: Is the internalization of externalities a sufficient condition for sustainability?,” *70 Ecological Economics* (2011), pp. 1703-1706

Class Three, July 12: Review for Test #1 & Thinking about the Environment *concluded*

Class Four, July 17: Test #1 in classroom (first hour) & Climate Change *started* (second hour)

Readings:

- Tony Eggleton, *A Short Introduction to Climate Change* (2013), chapter 4; Frank Incropera, *Climate Change: A Wicked Problem* (2016), chapters 4 & 5 (summations of the basic science)
- Spencer Weart, “The Development of the Concept of Dangerous Anthropogenic Climate Change,” in Dryzek, et al., *The Oxford Handbook of Climate Change and Society* (2012)
- Will Steffen, “A Truly Complex and Diabolical Policy Problem,” in Dryzek, et al., *The Oxford Handbook of Climate Change and Society* (2012)

Class Five, July 19: Climate Change *continued*

Readings:

- Michael Cleland, et al., *Where Next on Climate Change? Reflections on the 20th Anniversary of the 1992 Rio Conference* (Canada West Foundation, May 2012)
- *Paris Climate Change Conference 2015* (UK House of Lords Briefing Note, 22 Dec. 2015)
- David J.C. MacKay, “Price carbon – I will if you will,” *Nature* (15 Oct. 2015), pp. 315-316
- Andrea Baranzini, et al., “Carbon pricing in climate policy: seven reasons, complementary instruments, and political economy considerations,” *8 WIREs* (July/August 2017), pp. 1-17

Short Essay #1 due July 21

August Exam Schedule posted July 21

Class Six, July 24: Climate Change *continued*

Readings for Classes #6 & #7:

- Daniel Sarewitz, “Does climate change knowledge really matter?,” 2 *WIREs* (July/August 2011), pp. 475-481
- Sheila Jasanoff, “Technologies of Humility,” *Nature* (1 Nov. 2007), p. 33.
- Mike Hulme, “Moving Beyond Climate Change,” *Environment Magazine* (May/June 2010), pp. 15-19
- Stephen Battersby, “Can humankind escape the tragedy of the commons?,” *PNAS* (3 Jan. 2017), pp. 7-10
- Mike Hulme, “(Still) Disagreeing about Climate Change: What Way Forward?,” 50(4) *Zygon* (Dec. 2015), pp. 893-905
- Leigh Phillips, “Why eco-austerity won’t save us from climate change,” *The Guardian*, 4 November 2015
- MJ Kelly, “Lessons from technology development for energy and sustainability,” 3 *MRS Energy & Sustainability: A Review Journal* (2016), pp. 1-13
- Breakthrough Institute, *Adaptation for a High-Energy Planet* (March 2016)

Class Seven, July 26: Review for Test #2 & Climate Change *concluded*

Class Eight, July 31: Test #2 in classroom (first hour) & Biodiversity *started* (second hour)

Readings:

- Arne Mooers, et al., “Science, Policy and Species at Risk in Canada,” 60 *BioScience* (Nov. 2010), pp. 843-849
- *Scientific American*, “What is the point of preserving endangered species that have no practical use?” (21 Oct. 1999)
- Will Steffen, et al., “The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?,” 36 *Ambio* (Dec. 2007), pp. 614-621
- Will Steffen et al., “The trajectory of the Anthropocene: The Great Acceleration,” 2(1) *The Anthropocene Review* (2015), pp. 81-98
- Gerardo Ceballos, et al., “Accelerated modern human-induced species losses: Entering the sixth mass extinction,” 1 *Sciences Advances* (2015), pp. 1-5

Final Drop Date: July 31

Class Nine, August 2: Biodiversity *continued*

Readings for Classes #9 to #11:

- Peter Kareiva, et al., “Domesticated Nature: Shaping Landscapes and Ecosystems for Human Welfare,” *Science*, 29 June 2007, pp. 1866-1869
- Stewart Brand, “Rethinking Extinction,” *Aeon Magazine*, April 21, 2015
- Shawn Regan, “Environmentalism Without Romance,” *PERC Reports* (Summer 2016), pp. 6-9
- Brian Cook & Angeliki Balayannis, “Co-Producing (a Fearful) Anthropocene,” 53(3) *Geographical Research* (Aug. 2015), pp. 270-279

Short Essay #2 due August 8

Class Ten, August 9: Exam Review & Biodiversity *continued*

Class Eleven, August 14: Biodiversity *concluded*

FINAL EXAM during Exam Period August 15-18