

POL487H1  
The Planet's Last Frontiers  
Spring 2023  
Tuesdays 12PM-2PM

Instructor: Prof. Jessica Green  
Office: Sidney Smith, 3031  
Office Hours, Wednesdays 12-2  
(Please sign up on Quercus)

### **Course Description**

This course will examine the law, politics and environmental challenges surrounding three parts of the Earth that belong to no one (i.e. *res nullius*): Antarctica, the high seas (and a variety of associated environmental issues), the Arctic and outer space. We ask several questions related to each of these areas:

- 1) What environmental threats do they face?
- 2) How have these threats been addressed – both through international environmental law, and other policy approaches?
- 3) Have these approaches been successful, and why or why not?

The course will consist of four parts. First, we review the history and mechanics of international environmental law to understand the tools available to manage these areas. Next, we investigate each of the three areas in detail, looking both at general issues of management as well as specific cases. Each geographic area will start with a discussion of the environmental aspects: what's there, why we care about it and how it's currently managed. We will then turn to the legal and political responses.

The course will also emphasize research. You will be required to write a research proposal as the final major product for the class. To prepare you for this, we will also read work about research and research design. We will discuss your work as a group as it progresses over the course of the semester.

### **Course Format**

This class will be run in a seminar-style format. Doing the readings and ***coming prepared to discuss them*** is essential.

### **Learning Objectives**

By the end of the semester, you should:

- Be able to identify the major environmental and social issues facing the planet's last frontiers.
- Understand the different types of actors involved and their contributions to solutions or inaction.

- Be able to explain the political challenges and legal approaches to international cooperation on transboundary environmental problems.

### **Readings**

Since this is a seminar, doing the readings is an essential component to the success of the course. **You are expected to do ALL of the readings each week.**

All readings will be available electronically either on the Internet or through Quercus. **UofT-e** means they are available through the library website. When possible, I will link them through the Library Course Reserves on Quercus; these will be indicated by **LRL**. **Quercus** means they are available in the readings module on the Quercus site for the class, uploaded as PDFs.

### **Course Assignments, Due Dates and Grading**

The main assignment in this course will be a research paper on the topic of your choice, related to the Planet's Last Frontiers. This is discussed further in the Assignments document on Quercus.

There will be a number of interim assignments and class time discussions to help you in this process. These are all detailed in the "Assignments" document in the Class documents module.

The details of each assignment are detailed in the document "Assignments" available on the Quercus.

1. Literature Review (10%)
2. Final powerpoint presentation (15%)
3. Final research paper (40%)
4. Discussion questions and responses (10%)
5. Take home term test (25%)

### **Policies and Expectations**

- In this course, you can expect that I will strive to be fair, respectful, responsive and open-minded.
- In return, I ask you to be respectful of your classmates and of me, be prepared and on time for class, and meet deadlines for assignments.
- I expect that everyone will attend and participate actively in class. Active participation includes both contributing your ideas (questions, comments, analyses, insights) and listening to the contributions of others (without distraction).
- **Accessibility:** Students who require special arrangements should contact the Student Accessibility Services at (416) 978 8060; [accessibility.services@utoronto.ca](mailto:accessibility.services@utoronto.ca). Some students find that they must wait to contact and secure approval from Accessibility Services: in these cases, **you should still contact me in advance**, to let me know you

might require accommodations for assignments.

### **Attendance**

Attendance is mandatory. I understand that under the current circumstances, everyone is operating under different, and sometimes unexpected constraints. If you are sick, please do not come to class. If you contact me ahead of time, I will try to make arrangements to stream the class in the event that you are unwell. This is the only circumstance under which I will stream the class.

### **Quercus**

As indicated above, many materials will be available electronically through the U of T library, in the Readings module as a pdf, or through the Library Course Reserves menu option in Quercus.

***Please do not contact me if you are experiencing technical difficulties with Quercus.*** Consult the Help menus, especially [the one for students](#). You may also contact: lme.migration@utoronto.ca

### **Deadlines and late penalties**

**All deadlines are final.** For each day an assignment is late, there will be a 3% reduction in your grade. I may make exceptions under extenuating circumstances, such as illness or family emergency. However, these will require documentation. If there are other issues that you think may affect your ability to turn in assignments on time, I suggest you contact me *as early as possible*. I am **not** inclined to give extensions to those who ask the night before.

### **Email and communication**

I will hold weekly **IN PERSON** office hours on Wednesdays, and I will be very glad to meet with you at those times to discuss readings, lectures, assignments, essays, and more. If you cannot make my office hours, please email me and we can find another time. **You must sign up for office hours using the course calendar on Quercus.** If you would like to meet online, that is fine too; please just let me know.

I have also listed my email address in the contact information at the start of the syllabus; however, please consider several things when reaching out to me by email:

- **Please check (and double-check) that the answer to your query is not in the syllabus before you contact me with questions.**
- You are expected to write from your University of Toronto email account. If you write from another email account (Hotmail, Gmail, Yahoo, etc.), I might not answer.
- I generally use email to address simple yes/no questions and to make arrangements about logistics; if you have any substantive concerns, please come to my office hours.
- I will do my best to respond to your messages, but please don't expect a rapid response. I will not be responding daily to emails about the class and will not check my email on evenings and weekends. As such, please plan ahead if you need to reach out to me.
- If you write to request an extension or accommodation the night before an assignment is due, I am unlikely to accommodate your needs or offer assistance.

- Please treat emails as a professional form of communication; I expect proper grammar, sentences, and greetings and sign-offs in your messages, and you can expect the same from me. Please include a greeting, and please address me as Prof. Green. A sign-off is also appropriate (“sincerely,” “thanks,” “cheers,” followed by your name).

## **Legal**

**Please read the policy on [academic integrity](#).** Plagiarism results in failure in the class.

**Academic dishonesty is a serious offense that can result in loss of credit, suspension, and possibly expulsion from the university. *All suspected cases of academic dishonesty will be reported.***

Plagiarism includes:

- copying sentences or fragments from any source without quotes and references
- not citing a source used in your papers
- citing internet information without proper citation
- presenting someone else’s work as your own
- *inadvertently* copying verbatim from any source.

**In many cases, plagiarism is a mistake rather than a deliberate act. If you have questions about what constitutes plagiarism, please come talk to me.**

### Jan 10: Introduction and overview

- Read excerpt from *Green Mars*, by Kim Stanley Robinson. **Quercus**.
- [How to read a journal article](#)

### Jan 17: A crash course in international environmental law

Questions: Why do we have international environmental law? What does IEL look like?

- Hardin, Garrett. 1968. The Tragedy of the Commons. *Science* 162: 1243–1248. Available [here](#).
- Mildenberger, Matto. 2019. The Tragedy of the Tragedy of the Commons. *Scientific American*. Available [here](#)
- Ostrom, Elinor, Joanna Burger, Christopher Field, Richard Norgaard, and David Policansky. 1999. Revisiting the Commons: Local Lessons, Global Challenges. *Science* 284(5412): 282–287. Available [here](#)
- Barrett, Scott. 2010. *Why Cooperate? The Incentive to Supply Global Public Goods*. Oxford ; New York: Oxford University Press. Introduction. **UofT-e / LRL**
- Bodansky, Daniel. 2010. *The Art and Craft of International Environmental Law*. Cambridge, MA: Harvard University Press. Chap 1. **UofT-e / LRL**.
- Read the [Stockholm Declaration on the Human Environment](#) and [the Rio Declaration on Environment and Development](#)

### Jan 24: The Antarctic Treaty System

Questions: What are the key provisions of the Antarctic Treaty, and how are they notable? What are the other agreements in the “Antarctic Treaty System” and what issues do they address?

- Read the [Antarctic Treaty](#). **What are the key provisions in the treaty?**
- Arnold, Rudolph. 1975. “The Common Heritage of Mankind as a Legal Concept.” *The International Lawyer* 9(1): 153-58. **Quercus**
- Scully, Vincent. 2011. “The Development of the Antarctic Treaty System.” In Paul Berkman et al. eds. *Science Diplomacy: Antarctica, Science and the Governance of International Spaces*. Available [here](#)
- Miller, Denzil. 2011. “Sustainable Management in the Southern Ocean: CCAMLR Science.” In Paul Berkman et al. eds. *Science Diplomacy: Antarctica, Science and the Governance of International Spaces*. Available [here](#).
- Yao, Joanne. 2021. An international hierarchy of science: conquest, cooperation, and the 1959 Antarctic Treaty System. *European Journal of International Relations* 27 (4). SAGE Publications Ltd: 995–1019. **UofT-e / LRL**. (You can skip the section “Science, Hierarchy and international order, on pp. 997-1002)

### Jan 31: The Antarctic Treaty System

Questions: What are some of the major challenges facing the ATS? How are they being address? With what success?

- O'Reilly, Jessica. 2017. *The Technocratic Antarctic*. Ithaca: Cornell University Press. Introduction (through page 13), Chaps 1-2. **LRL / UofT-e**
- Carey, Peter W. 2022. "Is it time for a paradigm shift in how Antarctic tourism is controlled?" *Polar Perspectives*, No. 1. Available [here](#)
- Joyner, Christopher. 2011. "Potential Challenges to the Antarctic Treaty." In Paul Berkman et al. eds. *Science Diplomacy: Antarctica, Science and the Governance of International Spaces*. Available [here](#)
- Hong, Nong. 2021. China and the Antarctic: Presence, policy, perception, and public diplomacy. *Marine Policy* 134: 104779. **UofT-e / LRL**
- Brooks, Cassandra M., Larry B. Crowder, Lisa M. Curran, Robert B. Dunbar, David G. Ainley, Klaus J. Dodds, Kristina M. Gjerde, and U. Rashid Sumaila. 2016. Science-based management in decline in the Southern Ocean. *Science* 354 (6309): 185–187. **UofT-e / LRL**

### **Feb 7: How to write a research paper**

Readings TBA

### **Feb 14: The Oceans: Fisheries**

How do we manage the world's fisheries? How does the principle of sovereignty work on the high seas? Is sustainable fishing possible?

- **READ THIS FIRST:** Mendenhall, Elizabeth. 2019. "The Ocean Governance Regime" in Paul Harris, ed. *Climate Change and Ocean Governance*. Cambridge: Cambridge University Press. **UofT-e / Quercus**
- Articles 87 and 116-120 of UNCLOS, available [here](#)
- Peruse the overview State of World Fisheries and Agriculture 2020, paying special attention to figures. Available [here](#). **Which findings jump out at you the most, and why?**
- Barkin, J. Samuel, and Elizabeth R. DeSombre. 2013. Do we need a global fisheries management organization? *Journal of Environmental Studies and Sciences* 3 (2): 232–242. **LRL / UofT-e**
- DeSombre, Elizabeth. 2010. Flags of Convenience and Property Rights on the High Seas. In Robin Allen et al. eds. *Conservation and Management of Transnational Tuna Fisheries*. **UofT-e / Quercus**
- Joyner, Christopher and Alejandro Alvarez von Gustedt. 1996. The Turbot War: Lessons for the Law of the Sea. *International Journal of Marine and Coastal Law*. 11(4): 425-58. **Quercus**

### **Feb 21: NO CLASS, READING WEEK**

### **Feb 28: The Oceans: IUU Fishing and Transshipment**

How can IUU Fishing be effectively addressed? Can non-state actors make a difference?

- DeSombre, Elizabeth. 2006. *Flagging Standards*. Cambridge: MIT Press. **Read Chapter 4: Of Ships and States: The Evolution of Flags of Convenience. Quercus.**
- Agnew, David J. et. al. 2009. Estimating the Worldwide Extent of Illegal Fishing. *PLOS One* 4(2). Available [here](#)
- Boerder, Kristina, Nathan A. Miller, and Boris Worm. 2018. Global hot spots of transshipment of fish catch at sea. *Science Advances* 4 (7): eaat7159. **UofT-e / LRL**
- Osterblom, Henrik, et. al. 2014. Reducing Illegal Fishing in the Southern Ocean: A Global Effort. *Solutions* 4(5): 72-9. Available [here](#)
- Le Gallic, Bertrand and Anthony Cox. 2006. An economic analysis of IUU fishing: Key drivers and possible solutions. *Marine Policy* 30 (689-95). **UofT-e / LRL**

### **Mar 7: Mining the seabed**

Questions: Is the Seabed common heritage of mankind? How is it regulated? How does prospecting work, and who benefits?

- For background on what deep sea mining is, watch this [short video](#). For a different view, watch [this one](#).
- Lodge, Michael. 2016. “The Deep Sea Bed” In Donald Rothwell et al. eds, *The Oxford Handbook of the Law of the Sea*. Oxford: Oxford University Press. **UofT-e / LRL**
- Blanchard, Catherine, Ellycia Harrould-Kolieb, Emily Jones, and Michelle L. Taylor. 2023. The current status of deep-sea mining governance at the International Seabed Authority. *Marine Policy* 147: 105396. **UofT-e**
- Collins, Richard and Duncan French. 2019. “A Guardian of Universal Interest or Increasingly Out of its Depth?” *International Organizations Law Review*. 1-31 **Quercus**
- Lipton, Eric. 2022. Secret Data, Tiny Islands and a Quest for Treasure on the Ocean Floor. *New York Times*. Available [here](#)
- Read about Deep Green [here](#) and [here](#)
- Read about the Solwara project in Papua New Guinea [here](#)

### **EMERGING FRONTIERS**

#### **March 14: The Arctic**

Questions:

- Read this excellent overview of Arctic issues by the Council on Foreign Relations [here](#)
- [Young, Oran. 2019. Is it time for a reset in Arctic governance? Sustainability 11, 4497. Available here](#)
- Byers, Michael. 2009. *Who Owns the Arctic?* Chaps 1 & 3-5. **UofT-e**
- Optional: skim the Arctic Council brochure [here](#)

*Speaker: Gwendolyn Culver, Special Assistant, Minister of Northern Affairs (and former student of this class!)*

#### **Mar 21: Space**

Questions: Do we need a space treaty? A moon treaty? Why? How should space and the moon be governed?

- Skim the [Outer Space Agreement](#)
- Skim the [Moon Agreement](#)
- Read this [brief history](#) of COPUOUS and about [UN Space for All](#)
- Read about [Moon Express](#), and watch this [short video](#) from its founder Naveen Jain
- Read this [short piece](#) about where the Moon treaty is headed
- Brehm, Andrew. 2015. Private Property in Outer Space. 33 *Wis. Int'l L.J.* 353. **Quercus**
- Klinger, Julie Michelle. 2018. *Rare Earth Frontiers: From Terrestrial Subsoils to Lunar Landscapes*. Illustrated edition. Ithaca: Cornell University Press. Chapter 6. **UofT-e / LRL**
- Peruse the [Lunar Registry](#) website. Especially [here](#)

### **MAR 28: Seasteading**

- Milman, Oliver. 2021. Seasteading – a vanity project for the rich or the future of humanity? *The Guardian*. Available [here](#).
- Peruse the website of the [Seasteading Institute](#), especially [this page](#).
- Bell, Tom W. 2017. *Your Next Government? From the Nation State to Stateless Nations*. Cambridge: Cambridge University Press. Read Chapter Section 1.6, Case Study #3: Seasteads. **UofT-e / LRL**

Guest Speaker: Prof. Tom Bell, Chapman University.

### **APR 4: Review**