

POL487H1  
The Planet's Last Frontiers  
Fall 2021  
Mondays 12PM-2PM (online)

Instructor: Prof. Jessica Green  
Office: Sidney Smith, 3031  
Office Hours, Wednesdays 2-4  
(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. Thus, doing the readings 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 (5%)
2. Preliminary Outline (5%)
3. Final powerpoint presentation (10%)
4. Final research paper (40%)
5. Précis and accompanying discussion questions (15%)
6. 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 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**

Although we will meet virtually, attendance is still mandatory. I understand that under the current circumstances, everyone is operating under different, and sometimes unexpected constraints. Please try to attend every class. I would appreciate if you keep your cameras on but recognize that this isn't always possible.

### **Quercus**

As indicated above, many materials will be available either in the Readings module, or 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 online 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.**

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.**

### **Sept 13: Introduction and overview**

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

### **Sept 20: 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](#).
- Mildemberger, 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. Chapter 1. **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](#)

### **Sept 27: 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**
- The Development of the Antarctic Treaty System. Available [here](#)
- Peterson, MJ. 1980. “Antarctica: The Last Great Land Rush on Earth.” *International Organization* 34(3): 377-403 **LRL / 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](#)

### **Oct 4: 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**
- Verbitsky, Jane. 2013. “Titanic Part II? Tourism, uncertainty and insecurity in Antarctica in Brady, Anne Marie (ed.) 2013. *The Emerging Politics of Antarctica* Abingdon: Routledge. Chapter 11. **LRL / Quercus**
- 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](#)
- Shaw, Justine, et al. 2014. “Antarctica’s Protected Areas are Inadequate, Unrepresentative and at Risk.” *PLOS One* 12(6): e1001888. **Uof T-e/Quercus**
- The Guardian, “Antarctica’s tourism industry is designed to prevent damage, but can it last?” Available [here](#)

Guest Speaker: [Prof. Jessica O’Reilly](#), Indiana University

### **Oct 11: NO CLASS, THANKSGIVING**

**Oct 18: We will use class time this week to discuss papers. In lieu of readings, you will exchange research questions and preliminary research with a classmate working on a related topic. I will also have short in-class meetings with each of you.**

### **Oct 25: 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?

- 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**
- 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**
- Read this brief overview of the provisions and performance of the Fish Stocks Agreement. Available [here](#).
- Green, Jessica and Bryce Rudyk. 2020. Closing the High Seas to Fishing: A club approach. *Marine Policy*. 115 (May). **U of T-e / LRL**.

### **Nov 1: The Oceans: IUU Fishing and Transshipment**

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

- 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**
- Ewell, Christopher, Sarika Cullis-Suzuki, Mikaela Ediger, John Hocevar, Dana Miller, and Jennifer Jacquet. 2017. Potential ecological and social benefits of a moratorium on transshipment on the high seas. *Marine Policy* 81: 293–300. **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**

### **Nov 8: NO CLASS, READING WEEK**

### **Nov 15: The Deep Sea: Mining and Bioprospecting**

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](#).
- Scharf, Michael. 2013. “The Truman Proclamation on the Continental Shelf” In Michael Scharf, *Customary International Law in Times of Change*. **UofT e / LRL**
- 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**
- Kim, Rakhyun E. 2017. Should deep seabed mining be allowed? *Marine Policy* 82: 134–137. **UofT-e**
- Jaeckel, Aline, Jeff A. Ardron, and Kristina M. Gjerde. 2016. Sharing benefits of the common heritage of mankind – Is the deep seabed mining regime ready? *Marine Policy* 70: 198–204. **UofT-e / LRL**
- O’Kruk, Amy. 2019. “The new frontier: deep-sea mining” *Globe and Mail*. Available [here](#)
- Read about Deep Green [here](#) and [here](#)
- Read about the Solwara project in Papua New Guinea [here](#)

*Guest Speaker: Conn Nugent, formerly of The Ocean Foundation*

## EMERGING FRONTIERS

### Nov 22: The Arctic

Questions:

- Hamilton, Neil. “The Arctic Governance Challenge.” In Pierre Jacquet et al. eds. *Oceans: The New Frontier*. New Delhi: TERI Press. Chapter 11, available [here](#)
- Read this excellent overview of Arctic issues by the Council on Foreign Relations [here](#)
- Read about the Arctic Council [here](#)
- Byers, Michael. 2009. *Who Owns the Arctic?* Chaps 1-5. **Materials to be uploaded**

### Nov 29: 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](#)

*Guest Speaker: Prof. [Michael Byers](#), University of British Columbia*

**Dec 6: Review**