

**University of Toronto Scarborough**  
**Department of Physical and Environmental Sciences**  
**ESTD18H3 2022 Environmental Studies Seminar Series**

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TA: Ichha Kohli, [ichhakaur.kohli@mail.utoronto.ca](mailto:ichhakaur.kohli@mail.utoronto.ca)

Lecture Weds 3-5 pm, Zoom : <https://utoronto.zoom.us/j/83369756300> Passcode:112267

Office hours: Tuesdays 9-11 am. Zoom:<https://utoronto.zoom.us/j/82739964718>

Passcode:824259

### **Course Description**

The general aim of this course is to introduce students to the practical application of environmental scientific knowledge. This will be accomplished through a structured set of guest lecture(s)\seminar(s) that highlight the real-world application of science. In this way we seek to unpack the functional role that science plays in environmental problem solving.

The *ideal* of problem solving, presumes access to a great deal of information not only regarding the environmental threats to which society must respond to, but the nature of the society itself: how threats are perceived, and the response mechanisms that are available to society. Much of this information is uncertain due to a lack of data, methodological and computational limitations, as well as theoretical and epistemological constraints. The task is further complicated by communication gaps that exist between researchers who produce scientific information, and the intended users of that knowledge who themselves produce *knowledge*.

Environmental problem solving or planning therefore represents what has been referred to as a complex or *wicked* problem (Rittel and Webber 1973) which cannot be solved in a complete sense (Lindblom 1959) but must rather be *coped* with (Roberts 2000) or *muddled* through (Lindblom 1959). In other words environmental problem solving is incredibly challenging, involving many human dimensions for which coherent knowledge may be lacking, and for which science may offer competing knowledge claims (Beck 1992).

In such a complex working environment one of the critical means by which 'solutions' may be identified and mobilized is through contact with researchers and practitioners directly involved with environmental decision making. Yet without the critical skills to assess and contextualize the information presented in such an intimate forum, the audience has little chance of comprehending the full implications of the speaker's message, leading to misinterpretation or misguidance. In this course we seek to address this risk by providing students with skills to critique and assess information generated in such forums.

## Course Objectives

Upon completion of this course, students will have an enhanced sense of the different, yet complementary perspectives on the environment, sustainability, environmental problems and solutions to be found in the natural and social sciences. Broad course objectives include an awareness of the following fundamental themes associated with environmental problem solving:

1. **Decision Making and Uncertainty:** It is critical that students first comprehend the fundamental complexity and interconnectedness of environmental issues, and the challenges this poses for policy development and decision-making. Whether defined as wicked, complex or hyper-complex, the first step in understanding the nature of human interaction with the environment is an awareness of the uncertainty surrounding environmental issues, and the role that science plays in filling these gaps.
2. **Persuasion:** Complex environmental issues are typically associated with competing knowledge claims, as evident in the issue of *climate change*. Though strongly supported by a majority of scientists, the plausibility of human-induced *climatic change* is still vigorously disputed. In such cases, scientists and their advocates may find themselves in a position where they must defend scientific results, and their implications for decision making. While it is commendable that scientists serve society in this way, it is equally important that audiences are able to assess competing knowledge claims.
3. **Practical Science Application:** One of the best ways to understand the full nature of environmental issues can be derived from firsthand accounts of environmental problem solving.

At an individual level, particular skills will be fostered to deal with the differences in perspectives and interests that are part of environmental problem solving. These skills include how to listen; how to practice an intentional reflexive stance (i.e., learning to take your own reasons, beliefs and passions with a pinch of salt); and how to handle difficult conflicting perspectives. Students will leave the course with specific skills including:

- Critical thinking across disciplines: identifying, explaining and synthesizing key concepts learned in class;
- Dialogical skills: explaining, assessing and articulating their own and others' perspective on environmental issues;
- Reflexivity: noticing, articulating and working with one's thought processes, emotions and reactions in the context of reading, writing, and dialogue;
- Demonstrating what they have learned through writing: summarizing, analyzing, assessing and synthesizing class readings and films.

## Required Readings

There are no specific required readings other than those related to the completion of the two assignments. Students are nevertheless, responsible for the lecture content including the TED talks and that associated with guest speaker's presentation(s), the final exam. In this regard, students should make notes and bring their notes to the final exam.

### **Class Attendance**

Because of the nature of this course, class participation is strongly recommended and will be assessed as part of your mark.

### **Grading Scheme**

In this course you will have 3 major assignments (*marks for the three assignments total 65%*) and a final exam during the exam period (35%):

- The first assignment entails the selection and critical evaluation of an environmentally oriented TED talk of your choosing. 25%
  - Team presentation and facilitated discussion of TED talks variable dates
  - Individual report DUE: **Feb 16<sup>th</sup> 2022**
- The second assignment will entail the assessment of TED talks. 10%
  - Each student is expected to assess the TED Talks presented in class, except their own team's Ted Talk
  - Individual assessments DUE: **March 31<sup>st</sup> 2022**
- The third assignment will entail the contextualization of a guest speaker's seminar. 30%
  - DUE: **April 6<sup>th</sup> 2022**
- The final exam will be an open book, essay type exam that will draw upon the content from the TED talks. 35%
  - DUE: Scheduled exam during the final exam period.

### **Missed Term Work**

No due dates will be extended unless discussed with and agreed upon by the TA. Penalty for late

assignments will be 2% of the assignment mark per day late, including weekends. Late assignments will be accepted only for one week after the due dates. Assignments submitted later will not be reviewed and assessed.

### **A Note on Marking:**

Feel free to contact me at any time to discuss the requirements of this course. If you disagree with the mark you received on an assignment, please email me and the TA with a written response to the comments on your assignment.

### **Handing in Your Assignment:**

Written assignments for this course are to be submitted via Quercus.

Please follow the University of Toronto procedure to be completed in order to be considered for academic accommodation for any course work such as missed tests or late

assignments. Verification of Student Illness or Injury forms can be found on the Office of the Registrar's webpage (<http://www.illnessverification.utoronto.ca/getattachment/index/Verification-of-Illness-or-Injury-form-Jan-22-2013.pdf.aspx>).

### **Extension of Time**

Students MUST submit a request for extension in ADVANCE of the deadline in order to receive a decision. For extensions of time beyond the examination period you must submit a petition through the [Office of the Registrar](#).

Please follow the University of Toronto procedure to be completed in order to be considered for academic accommodation for any course work such as missed tests or late assignments. Verification of Student Illness or Injury forms can be found on the [Office of the Registrar's webpage](#).

### **Academic Integrity**

The University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences.

Potential offences in papers and assignments include using someone else's ideas or words without appropriate acknowledgement, submitting your own work in more than one course without the permission of the instructor, making up sources or facts, obtaining or providing unauthorized assistance on any assignment. On tests and exams cheating includes using or possessing unauthorized aids, looking at someone else's answers during an exam or test, misrepresenting your identity, or falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

Please avoid academic dishonesty, have confidence in your own ability to learn and grow academically by doing your own thinking and writing!

### **Accessibility**

Students with diverse learning styles and needs are welcome in this course! In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff (located in SW302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or [ability@utsc.utoronto.ca](mailto:ability@utsc.utoronto.ca)

### **Communicating With You**

The best way to communicate with me is during office hours. However, I also respond to student emails within two business days (Monday-Friday) and within business hours

(9am-5pm). Please note that emails sent to me Friday after 5pm and during the weekends will be responded to on Monday during business hours.

**Course schedule**

Date	Topic	Content/Links
Jan 12	<b>Lecture 1:</b> Introduction	Introduce you to the learning objectives and structure of the course
Jan 19	<b>Lecture 2:</b> Rhetoric	<a href="https://www.ted.com/talks/susan_cain_the_power_of_introverts">https://www.ted.com/talks/susan_cain_the_power_of_introverts</a> <a href="https://www.ted.com/talks/jill_bolte_taylor_my_stroke_of_insight">https://www.ted.com/talks/jill_bolte_taylor_my_stroke_of_insight</a> <a href="https://www.ted.com/talks/amy_cuddy_your_body_language_may_shape_who_you_are">https://www.ted.com/talks/amy_cuddy_your_body_language_may_shape_who_you_are</a>
Jan 26	<b>Lecture 3:</b> Guest lecture Dr. Katharine Mach, Climate change 2021: Managing floods, heat and fires to keep people and nature safe	<a href="https://www.youtube.com/watch?v=UdjNNF9QOF4">https://www.youtube.com/watch?v=UdjNNF9QOF4</a>
Feb 2	<b>Lecture 4:</b> Ted talks teams 1, 2	
Feb 9	<b>Lecture 5:</b> Ted talks teams 3, 4	
Feb 16	<b>Lecture 6:</b> Ted talks teams 5, 6	
Feb 23	<b>Family Day/Reading week</b>	
March 2	<b>Lecture 7:</b> Ted talks teams 7, 8	
March 9	<b>Lecture 8:</b> Ted talks teams 9, 10	
March 16	<b>Lecture 9:</b> Ted talks teams 11, 12	
March 23	<b>Lecture 10:</b> Ted talks teams 13, 14	
March 30	<b>Lecture 11:</b> Ted talks teams 15, 16	
April 4	<b>Lecture 12:</b> Recap and discussion of TED talks	