

Master of Science in Sustainability Management

SSM 1030 Environmental Science

Lecture and seminar course

Instructor: Namrata Shrestha, Ph.D.
Class location: Zoom Meeting Room (details will be posted on Quercus)
Class Time: Tuesdays, 2:00 to 5:00 pm
First Class: January 11, 2022; Last Class: April 5, 2022

Office Hours: Thursdays 5:00 pm to 6:00 pm or by appointment (virtual)
E-mail: namrata.shrestha@alum.utoronto.ca

Teaching Assistant: Amine Mikati
Office Hours: Wednesdays 5:00pm to 6:00 pm or by appointment
E-mail: amine.mikati@mail.utoronto.ca

1. Course Description:

The main objectives of this course are to provide the scientific foundations of environmental science. This will help better understand the driving mechanisms of key environmental issues and provide insights into addressing these problems. The course covers the fundamentals of environmental science including systems theory, major earth system processes, environmental changes, and consequences of various sectors such as forestry, agriculture, urbanization etc.

2. Course Outcomes:

- Understand fundamental scientific laws, principles, and mechanisms that control ecosystems and environmental processes.
- Understand the science behind major challenges such as climate change and air pollution and how humans contribute to these challenges both negatively and positively.
- Identify environmental problems, evaluate, and develop science-based solutions.
- Translate scientific knowledge for effective communication and engagement with various audiences to affect change

Master of Management in Sustainability Management Program
Institute for Management & Innovation
Kaneff Centre, Rm 207
University of Toronto Mississauga
3359 Mississauga Rd
Mississauga, ON L5L 1C6

Tel: 905-569-5803
Email: mccsm.utm@utoronto.ca
Website: www.utm.utoronto.ca/mccsm

3. Course Materials:

There is no required textbook for this course.

Required readings and additional resources will be posted on Quercus throughout the semester.

Recommended reading / textbook that provides a broader context for those who are interested is provided below. A few copies are available in the library to borrow. There is also eBook version that you can purchase. I will post the link in the Quercus.

Philip Dearden, Bruce Mitchell, and Erin O'Connell. *Environmental Change and Challenge*. 5th edition. Oxford University Press Canada

4. Course Details:

- The course will consist of lectures (including guest presentations), student group presentations, and in-class discussions and activities.
- A reading list will be made available, and students will be expected to familiarize themselves with this material as papers relevant to the week's topic will be discussed in class.
- The in-class discussion will be based on these readings and / or any others that are pertinent.
- Throughout the semester, groups of students will be assigned to research a topic relating to sustainability and lead an in-class presentation.
- Any modifications to the course will be announced and explained in class.

4.1. Course Delivery:

Currently the course is scheduled to be virtual till January 30th and then it is planned to be in person. The final decision will be based on current COVID numbers and university/provincial policies.

While we are in a virtual mode, this course will be delivered synchronously online using tools such as **Quercus, Zoom, Microsoft Office 365, and others**. More details will be posted on quercus.

All resources should be accessed using your University of Toronto credentials unless otherwise noted by your instructors.

If and when we move to in-person class, it will be based on university and provincial policies.

4.2. Course Communication

All communications for this course will be through University of Toronto email and Quercus. Please verify that your UTORid is working and you are able to access these resources. For more information on managing your UTORid, please see: <https://www.utorid.utoronto.ca/>

Quercus - Classwork, major assignments, weekly class meetings, and due dates are all included in weekly course modules on Quercus. Class announcements are also archived on Quercus in addition to being automatically delivered through your U of T email.

Email - It is your responsibility to read your U of T email on a regular basis. This will ensure that you receive important information from your instructors and the university. When emailing your instructors, please include the course code in the subject line. This ensures your instructors will see your email and give it the importance it deserves. For example, if you were emailing your instructor with a question about the reading list for week 3, your subject should be "SSM1030: Week 3 Reading List," not "Hey Prof, what gives?"

4.3. Assessments:

Component	Due Date	% Grade
Group Proposal	February 01	10%
Mid-term Test	February 15	20%
Group Paper / Project Report	March 27	15%
Group Presentation	April 05 (8 x 20 mins = 160 mins)	10%
Final Exam (Take Home)	Week of April 11	20%
Class Participation + Discussions	Weekly	15%
Integrated Case Competition	TBD	10%

The details of each assignment will be discussed in class and posted on Quercus.

4.4. Tentative Schedule:

Date	Lecture Topic	Required Readings	Recommended Reading
Jan. 11	Environment, Resources, and Society Systems theory Anthropocene	Walker et al. 2004 Steffen et al. 2017 Steffen et al. 2015	Chapter 1
Jan. 18	Energy Flows & Ecosystem Dynamics	TBD	Chapter 2 & 3
Jan. 25	Biogeochemistry and Matter Cycling	TBD	Chapter 4
Feb. 1	Climate change; In-class video Proposal Due	TBD	Chapter 7
Feb. 8	Atmospheric processes Pollution and Contaminants	TBD	n/a
Feb. 15	Midterm Test		
Feb. 21	NO CLASS: Reading Week		
Mar. 1	Forests Biodiversity and Endangered Species Conservation	TBD	Chapter 9 and 14
Mar. 8	Water Oceans & Fisheries	TBD	Chapter 8 and 11
Mar. 15	Agriculture Mineral and Energy	TBD	Chapter 10 and 12
Mar. 22	Urban Systems March 27 - Final Paper / Project Due	TBD	Chapter 13
Mar. 29	Translating Science to Management	TBD	Chapter 5, 6, and 15
Apr. 5	Presentations + Q&A (8 groups x 20 mins each = 160 mins)		
Apr. 11 week	Final Exam		

5. Course Policies and Resources

5.1. Academic Misconduct:

Students should note that copying, plagiarizing, or other forms of academic misconduct will not be tolerated. Any student caught engaging in such activities will be subject to academic discipline ranging from a mark of zero on the assignment, test, or examination to dismissal from the university as outlined in the academic handbook. Any student abetting or otherwise assisting in such misconduct will also be subject to academic penalties. Students are generally expected to behave in a professional and respectful manner in all aspects of the course, including in their interactions with their peers and instructor.

5.2. Missed Exams and Assignments

Please consult the Office of the Registrar for more information:
<https://www.utm.utoronto.ca/registrar/current-students/exams>.

5.3. Late Penalties

You are expected to complete assignments on time. There will be a penalty for lateness of 10% deducted per day, and work that is not handed in one week after the due date will not be accepted. If you anticipate being late on the submission of an assignment, it is recommended you communicate with your instructor before the submission deadline.

5.4. Tech Requirements

Please refer to the following link for University of Toronto tech requirements of online learning:
<https://www.viceprovoststudents.utoronto.ca/covid-19/tech-requirements-online-learning/>.

5.5. UTM Library Learn Anywhere Resources

The UTM Library has a collection of resources for online learning aggregated here: <https://utm.library.utoronto.ca/students/quercus/learn-anywhere>.

5.5. Dropping Winter Courses

This is a required course in the MScSM program. Please see your instructors early on if difficulties arise. Additionally, please consult with the Program Coordinator and the Program Director to discuss. March 01, 2021 is the final date to drop Fall session courses without academic penalty.

6. Other Relevant Policies and Resources

6.1. Privacy Statement

Notice of Video Recording and Sharing

Portions of this course, including your participation, may be recorded on video and will be available to students in the course for viewing remotely. Course videos and materials belong to your instructor, the University, and/or other source depending on the specific facts of each situation, and are protected by copyright. In this course, you are permitted to download any recorded session videos and materials for your own academic use, but you should not copy, share, or use them for any other purpose without the explicit permission of the instructor. For questions about recording and use of videos in which you appear please contact your instructor.

6.2. Academic Integrity

UTM wishes to remind students that they are expected to adhere to the [Code of Behaviour on Academic Matters](#) regardless of the course delivery method. By offering students the opportunity to learn remotely, UTM expects that students will maintain the same academic honesty and integrity that they would in a classroom setting. Potential academic offences in a digital context include, but are not limited to:

- Accessing unauthorized resources (search engines, chat rooms, Reddit, etc.) for assessments.
- Using technological aids (e.g. software) beyond what is listed as permitted in an assessment.
- Posting test, essay, or exam questions to message boards or social media.
- Creating, accessing, and sharing assessment questions and answers in virtual \course groups."
- Working collaboratively, in-person or online, with others on assessments that are expected to be completed individually.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the [Code of Behaviour on Academic Matters](#). If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other [institutional resources](#).

6.3. Equity Statement

The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. U of T does not condone discrimination or harassment against any persons or communities. As a course instructor, I will neither condone nor tolerate behaviour that undermines the

Master of Management in Sustainability Management Program
Institute for Management & Innovation
Kaneff Centre, Rm 207
University of Toronto Mississauga
3359 Mississauga Rd
Mississauga, ON L5L 1C6

Tel: 905-569-5803
Email: mccsm.utm@utoronto.ca
Website: www.utm.utoronto.ca/mccsm

dignity or self-esteem of any individual in this course and wish to be alerted to any attempt to create an intimidating or hostile environment. It is our collective responsibility to create a space that is inclusive and welcomes discussion. Discrimination, harassment and hate speech will not be tolerated. If you have any questions, comments, or concerns you may contact the UTM Equity and Diversity office at edo.utm@utoronto.ca or the University of Toronto Mississauga Students' Union Vice President of Equity at vpequity@utmsu.ca. Further information can be found at the Equity, Diversity, & Inclusion Office's webpage: <http://www.utm.utoronto.ca/equity-diversity/>.

6.4. Accessibility of Course Materials

University of Toronto Information

The University provides academic accommodations for students with disabilities in accordance with the terms of the Ontario Human Rights Code, including those who have a physical, sensory, or learning disability, mental health condition, acquired brain injury, or chronic health condition, be it visible or hidden. If you have a disability or health consideration that may require accommodations, please approach the Accessibility Services as soon as possible. The Accessibility Services staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. To register with Accessibility Services, please call the centre at 905-569-4699 or e-mail access.utm@utoronto.ca.

Further information can be found at the Equity, Diversity, & Inclusion Office's webpage: <http://www.utm.utoronto.ca/access/>.

Assistive Technologies

Course materials are designed specifically to be accessible using assistive technologies such as a screen reader. Please inform the instructor if any materials do not function properly with this or similar technologies so that issues can be rectified.

6.5. Remote Access

If you are a citizen of another country, and/or accessing your courses at the University of Toronto from a jurisdiction outside of Canada, please note that you may be subject to the laws of the country in which you are residing, or any country of which you have citizenship. The University of Toronto has a long-established commitment to freedom of expression, with this right enabled by an environment valuing respect, diversity, and inclusion. In your classes, you may be assigned readings, or discuss topics that are against the law in other jurisdictions. I encourage you to become familiar with any local laws that may apply to you and any potential impact on you if course content and information could be considered illegal, controversial, or politically sensitive. If you have any concerns about these issues, please contact your instructor directly to discuss with them.

Master of Management in Sustainability Management Program
Institute for Management & Innovation
Kaneff Centre, Rm 207
University of Toronto Mississauga
3359 Mississauga Rd
Mississauga, ON L5L 1C6

Tel: 905-569-5803
Email: [mcsms.utm@utoronto.ca](mailto:mscsm.utm@utoronto.ca)
Website: www.utm.utoronto.ca/mscsm