

Syllabus: ERS 681 - Sustainability Approaches

Territorial Acknowledgement

“We acknowledge that we live and work on the traditional territory of the Attawandaron (Neutral), Anishinaabeg, and Haudenosaunee peoples. The University of Waterloo is situated on the Haldimand Tract, the land promised to the Six Nations that includes ten kilometres on each side of the Grand River.”

Keeping in Contact

Announcements

I will be using the **Announcements** widget on the Course Home page during the term to communicate new or changing information regarding due dates, instructor absence, etc., as needed. Please check the announcements on a regular basis to ensure you don't miss any updates!

To ensure you are viewing the complete list of announcements, you may need to click Show All Announcements.

Contact Information

| Who and Why | Contact Details |
|--|--|
| Instructor <ul style="list-style-type: none">• Course-related questions (e.g., course content, deadlines, assignments, etc.)• Questions of a personal nature | Please email your questions about course content, course structure and assignments and questions of a personal nature directly to me. Derek Armitage (derek.armitage@uwaterloo.ca) |
| Technical Support <ul style="list-style-type: none">• Technical problems with Waterloo LEARN | learnhelp@uwaterloo.ca Include your full name, WatIAM user ID, student number, and course name and number. |

| Who and Why | Contact Details |
|---------------------------------|--|
| | <p>Technical support is available during regular business hours, Monday to Friday, 8:30 AM to 4:30 PM (Eastern Time).</p> <p>LEARN Help Student Documentation</p> |
| <p>Student Resources</p> | <p>Student Resources</p> <ul style="list-style-type: none"> • Academic advice • Student success • WatCards • Library services and more |

Course Description and Learning Outcomes

Course Description

We live in a human-dominated earth system. Sudden and potentially irreversible changes are increasingly likely, with profound consequences for human wellbeing and the maintenance of our ecosystems. Sustainable responses to these changes will test our individual and collective capacities to protect, restore, reform and deliberately transform our interactions with nature.

‘Sustainability Applications’ emphasizes actionable concepts and transdisciplinary approaches to foster applied research and policy for linked systems of people and nature. A key focus is to understand how individuals and societies can move beyond disciplinary thinking and build our capacity to foster sustainability in the context of change and uncertainty.

The core focus of this course is on how your own work is or can be situated in this broader sustainability context. Our approach to ‘Sustainability Applications’ will be: 1) systemic - thinking in terms of social and ecological connections and considering feedback across scales; 2) critical - not accepting the obvious explanation and challenging the relationships of power that influence sustainable outcomes (generally and in regards to your own focus); and 3) applied – developing and using concepts, tools and skills in the context of some real-world challenges, with an emphasis on your own areas of application through the development of your major research paper and/or thesis ideas.

Course Objectives and Approach

At the end of this course, and building on ERS 680, you should be able to:

- Reflect on the implications of your work in the context of uncertainty and change (local to global), and broader efforts to transition towards social and ecological sustainability;
- Understand and assess various applications (e.g., approaches, concepts, strategies that may form part of your work) as they are applied at local to global scales to deal with change and uncertainty;
- Critically assess the assumptions underlying these applications and by extension your own work, and their limitations and opportunities to foster sustainability transitions;
- Reflect and communicate your understanding of linked social and ecological system challenges, and with reference to your research interests.

The course is organized as a hybrid seminar. Students will be expected to take an active role in presenting, discussing and interpreting readings and other materials. Course materials and activities will be augmented as appropriate (e.g., videos, guest speakers).

This course serves as a platform for you to further develop your own research and applied interests, and to consider some new ideas and ways of approaching the linked social-ecological challenges in which we are embedded. We will also draw on other international and Canadian material and examples in ways that encourage us to think about sustainability issues more broadly. In doing so, you will have an opportunity to further reflect on the implications of material covered in this course and ERS 680 for your own areas of research and informed practice.

Readings and Resources

Required Readings

There is no required course text. However, required readings are listed in the course schedule, and they are accessible through the course LEARN site or via the UW Library. The universe of ‘sustainability applications’ is large and diverse. It is not possible to systematically cover all potential ‘applications’. Rather, readings will focus on selected approaches, concepts and tools that are conducive to transdisciplinary research and practice, and in relation to the projects and initiatives you are developing. The amount of material to read on a weekly basis is consistent with expectations for graduate students in the program. The readings from ERS 680 are a valuable resource – please revisit and use them as appropriate.

Course Requirements

Evaluation in this course is based on: (i) student-led (group) seminar(s); (ii) an individual synopsis of your ‘theory of change’ in which you situate your own specific work in its broader social-ecological context; and (iii) development of your own research proposal. A summary of each class activity is provided below:

- i) Student-led (group) seminar/discussions (25%).

Groups of approximately two individuals will lead one or two class discussions (depending on the size of the class) on the identified weeks (see schedule and readings below). Typically, a short overview will provide some definitional material and help to set the context. Subsequently, students leading the class will be asked to contribute content that facilitates a *discussion* of readings, not a summary of readings.

Groups will be responsible primarily for the assigned readings. However, each group member can identify and integrate materials that are relevant to the discussion, but which are also linked to your own specific research area.

As appropriate, you may collaborate to develop activities suitable for a ‘remote learning’ environment to facilitate critical engagement with the material and/or incorporate additional content (multi-media, etc.). Evaluation of this activity is based on the organization and facilitation of class discussion, and substantive coverage of key material (a rubric will be provided on the course LEARN site). Each of the topics we cover is intended to intersect with the sustainability applications theme. Seminar activities should focus on unpacking and then applying ideas to facilitate ongoing development and thinking with regard to your own research and applied interests.

ii) A ‘Theory of Change’ (50%)

Why are we talking about ‘theory’ in a course on sustainability applications? Well, because ‘good theory makes good practice’! An important part of our core in SERS is to focus on the protection and recovery of threatened or damaged communities and ecologies, and simultaneously reflect and act on the need to reform or transform the institutions and practices that contribute to unsustainability. To achieve such goals and outcomes, and regardless of our intellectual footing (e.g., ecology, policy, restoration, governance, etc.) or applied aspirations (e.g., researcher, resource manager, outreach/communication specialist), we need a theory of change to guide our efforts, and ideally, a ‘systems-informed’ theory of change. You will develop your theory of change and use it to think through the broader implications for your own work and career aspirations. This exercise and its outcomes should help you frame your own research proposal. Further details on this assignment will be made available.

iii) Proposal development (25%)

As the term progresses, you will need to develop a research proposal (whether you are doing an MRP or thesis). We will use this course to advance that proposal thinking through various milestones. Evaluation of this activity is linked to: (1) meeting various proposal development milestones; and (2) making substantive progress on key elements of the proposal (e.g., research questions, literature and conceptual framework, methodology). As course instructor, I will take responsibility for evaluating your progress and commenting on the substantive elements of the proposal where possible. However, in many situations, my capacity to do so is limited, and so it is *your responsibility to ensure the core content (literature, concepts) and appropriateness of your ideas reflect substantive interactions with your supervisor(s)*.

Course Schedule

| Date | Theme | Readings, resources | Tasks |
|-------------|--|--|--|
| Jan 12 | Course introduction / overview; SERS core | Bookchin, 1978; Kates et al. 2001; Teunis 2020 | Revisit one-pager (from skills milestone, F20) |
| Jan 19 | <i>Skills session:</i> Proposal development | Cresswell 2003; Kelly et al. 2019 | |
| Jan 26 | <i>Workshop:</i> Fostering a 'theory of change' | Armitage et al. 2019; Taplan and Clark 2012; James 2011; Rice et al. 2020 | Proposal milestone check-in (questions and objectives) |
| Feb 2 | <i>Seminar:</i> Social and ecological transformations (s) | Blythe et al. 2018; Murdock 2018; O'Brien 2012 | Student led |
| Feb 9 | <i>Seminar:</i> Uncertainty, 'wicked problems' and the need for transdisciplinarity (s) | Regan et al. 2002; Brugnach et al. 2008; Defries and Nagendra 2017; Dewulf, A. R. Biesbroek. 2018 | Student led Proposal milestone check-in (draft literature review) |
| Feb 16 | Reading week - no class | | |
| Feb 23 | <i>Seminar:</i> Transdisciplinary frameworks (s) | Ostrom 2009; Binder et al. 2013; Epstein et al. 2013; Hobbs et al. 2014 Guest contributor: SERS graduate students panel | Student led |
| Mar 2 | <i>Seminar:</i> Linking science and policy for sustainability (s) | Roux et al. 2006; Schneider et al. 2019; Cooke et al. 2020 Guest contributor: Trevor Swerdfager | Student led Proposal milestone check-in (Frameworks) |
| Mar 9 | <i>Workshop:</i> Research, reconciliation and the environment | Ban et al. 2018; Chaudhury and Colla 2020; Wong et al. 2020 Guest contributors: Lowine Hill, Madu Galappaththi | |

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| Mar 16 | March long weekend – no class | | |
| Mar 23 | <i>Skills session:</i> Knowledge mobilization for applied sustainability researchers and practitioners | Green et al. 2018 | Proposal milestone check-in (Methodology and methods) |
| Mar 30 | <i>Consultation:</i> Theory of Change or Project Development (open session for discussion) | <i>No readings</i> | Final Theory of Change due Monday, April 5 th , 11:59pm) Draft Proposal – Final milestone (April 16 th , 11:59 pm) |

(s) =student-led seminar; **** you must be available for this class**;

N.B: some adjustments to readings and scheduling will take place

Course and Department Policies

Extension and Late Assignment Policies

Please note the following:

1. All assignments must be completed to receive a mark for the course;
2. Requests for extensions of any assignment must be done so in writing in advance of the assignment due date;
3. In the event of an illness, a supporting medical certificate completed by a physician must be provided; and
4. Extensions may be granted for significant emergencies at the discretion of the Instructor.

University Policies

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. The University’s guiding principles on academic integrity can be found here: <http://uwaterloo.ca/academicintegrity>. ENV students are strongly encouraged to review the material provided by the university’s Academic Integrity office specifically for students: <http://uwaterloo.ca/academicintegrity/Students/index.html>

Students are also expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for their actions. Students who are unsure whether an action constitutes an offense, or who need help in learning how to avoid offenses (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. Students may also complete the following tutorial: <https://uwaterloo.ca/library/get-assignment-and-research-help/academic-integrity/academic-integrity-tutorial>

When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. Within ENV, those committing academic offences (e.g. cheating, plagiarism) will be placed on disciplinary probation and will be subject to penalties which may include a grade of 0 on affected course elements, 0 on the course, suspension, and expulsion. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline: <https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-71>. Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance: <https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-7>

Turnitin.com: Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, therefore students must be given an alternative (e.g., scaffolded assignment or annotated bibliography), if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin in this course.

It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit alternate assignment.

Intellectual Property: Students should be aware that this course contains the intellectual property of their instructor(s), TA, and/or the University of Waterloo. Intellectual property includes items such as: Lecture content, spoken and written (and any audio/video recording thereof); Lecture handouts, presentations, and other materials prepared for the course (e.g., PowerPoint slides); Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); and work protected by copyright (e.g., any work authored by the instructor or TA or used by the instructor or TA with permission of the copyright owner).

Course materials and the intellectual property contained therein, are used to enhance a student’s educational experience. However, sharing this intellectual property without the intellectual property owner’s permission is a violation of intellectual property rights. For this reason, it is necessary to ask the instructor(s), TA and/or the University of Waterloo for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository). Permission from an instructor, TA or the University is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar courses in subsequent terms/years. In many cases, instructors might be happy to allow

distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The intellectual property rights owner deserves to know (and may have already given their consent).

Students with Disabilities: AccessAbility Services, located in Needles Hall, Room 1401, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with AccessAbility Services at the beginning of each academic term.

Mental Health and Wellbeing: The University of Waterloo, the Faculty of Environment and our Departments/Schools consider students' wellbeing to be extremely important. We recognize that throughout the term students may face health challenges - physical and/or emotional. Please note that help is available. Mental health is a serious issue for everyone and can affect your ability to do your best work. Counselling Services <http://www.uwaterloo.ca/counselling-services> is an inclusive, non-judgmental, and confidential space for anyone to seek support. They offer confidential counselling for a variety of areas including anxiety, stress management, depression, grief, substance use, sexuality, relationship issues, and much more. We understand that these circumstances can be troubling, and you may need to speak with someone for emotional support. [Good2Talk](#) is a post-secondary student helpline based in Ontario, Canada that is available to all students.

Religious Observances: Students need to inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.

Unclaimed Assignments: Unclaimed assignments will be retained until one month after term grades become official in Quest. After that time, they will be destroyed in compliance with UW's confidential shredding procedures.

Communications with Instructors: All communication with students must be through either the student's University of Waterloo email account or via Learn. If a student emails the instructor or TA from a personal account they will be requested to resend the email using their personal University of Waterloo email account.

Co-op Interviews and Class Attendance: Co-op students are encouraged to try and choose interview time slots that result in the least amount of disruption to class schedules. When this is challenging, or not possible, a student may miss a portion of a class meeting for an interview. Instructors are asked for leniency in these situations; but, a co-op interview does not relieve the student of any requirements associated with that class meeting.

When a co-op interview conflicts with an in-class evaluation mechanism (e.g., test, quiz, presentation, critique), class attendance takes precedence and the onus is on the student to

reschedule the interview. CECA provides an interview conflict procedure to manage these situations. Students will be required to provide copies of their interview schedules (they may be printed from WaterlooWorks) should there be a need to verify class absence due to co-op interviews.

Coronavirus Information

[Coronavirus Information for Students](#)

This resource provides updated information on COVID-19 and guidance for accommodations due to COVID-19.