



School of the Environment
UNIVERSITY OF TORONTO

ENV1103 Living Labs for Applied Sustainability

**Syllabus
Fall 2025**

Instructor:

John Robinson

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Overview:

Sustainability is a growing priority for universities all over the world. Many are developing strong operational sustainability goals and targets and are giving increasing emphasis to teaching and research on sustainability issues. The University of Toronto has committed at the executive level to integrating academic and operational sustainability in the context of treating their campus as a living laboratory of sustainable practice, research and teaching. See the [2024-25 Annual Report of the President's Advisory Committee on the Environment, Climate Change and Sustainability](#). Such living lab approaches offer a large potential for universities to play a significant role in the sustainability transition.

This course will apply the campus as living lab (CLL) concept, in the context of operational and academic sustainability at the University of Toronto. We will begin by looking briefly at the literature on university sustainability and the living lab concept. The bulk of the course will involve undertaking an applied research project on some aspect of campus sustainability, working in close partnership with operational and/or academic staff at the University of Toronto. Students will develop the skills needed to produce information relevant to real-world problem-solving across disciplines and fields of study, and with non-academic partners.

Course time and location:

Fall term, Wednesday 10am-1pm

Instructor: Professor J. Robinson (johnb.robinson@utoronto.ca)

Contact information: Email is the best way to reach me. I do not have specific office hours but will respond quickly to email and schedule individual or group meetings upon request.

Organization:

This course will put students to work on operational or academic sustainability projects identified by U of T staff working in various offices at the University of Toronto. Students will be organized into groups, each of which will be assigned one project, to be overseen by one or more U of T staff members (clients). The bulk of the course will consist of weekly meetings, organized into project groups, with the

staff clients and instructors, in order to undertake the group project. Each group will produce a mid-term and final report and give a mid-term and final presentation. Each student will also submit two 360° reviews of the group process.

Date	Class Activity	Assignments
Sept 3	introductions/reasons for taking course go-round go through syllabus client presentations and Q&A choose projects	
Sept 10	lecture on U of T sustainability activities break into groups and meet with clients	
Sept 17	Lecture on normalizing sustainability meet with clients in second hour	
Sept 24	meet in groups during class time; meet with clients	Bring draft Problem Statement to class
Fri, Sept 26		Problem statement due
Oct 1	meet in groups during class time; meet with clients	
Oct 8	meet in groups during class time; meet with clients	
Oct 15	meet in groups during class time; meet with clients	First 360 review due
Oct 22	presentations	Mid-term presentations
Fri, Oct 25		Mid-term reports due
Oct 29	READING WEEK (no classes)	
Nov 5	<i>Session on data visualization with Kelly Schultz</i>	
Nov 12	meet in groups during class time; meet with clients	
Nov 19	meet in groups during class time; meet with clients	
Nov 26	presentations	Final presentations
Thur, Dec 4		Final report due Second 360 review due

The first two weeks of the course will be devoted to hearing from project clients about their projects, assigning students to project groups, providing background on the concept of university as a living lab of sustainability, and beginning group discussions.

In week 1 (Sept 3), following a discussion of the course objectives and requirements, course clients will present their projects. Students will submit their preferences as to which project they would like to work on. Based on past experience, it is expected that students will be assigned to one of their top two choices, though this cannot be guaranteed in advance. Group assignments will be completed in this class.

In week 2 (Sept 10), there will be a lecture on sustainability at the University of Toronto. Students will meet with their clients in class and each group will make arrangements for regular meetings with clients.

Subsequent weeks may have occasional activities in plenary, but class time will primarily consist of group discussion, including regular meetings with clients, and discussion with the course instructor.

Each group will meet as a group during class time each week. Prof Robinson will be available during class time and each group will meet with him in class each week, to discuss progress on their project.

Each group will be expected to meet regularly with their client. These meetings will normally occur in class time, but may include meetings outside class at a time to be arranged with the client.

Each student group will complete five assignments: submit a problem statement on Sept 26, give a mid-term presentation on Oct 22 and submit a short paper on preliminary findings on Oct 25 give a final presentation on Nov 26, and submit a final paper by Dec 4. Each student will also submit 360° reviews of the relative contributions of the other members of their group, the first is due on Oct 15 and the second on Dec 4.

A critical aspect of this course is the ability of students to work collaboratively together in a group environment, and to work effectively with a university staff person acting as a client for their work. Students will be provided with a Handbook outlining information on working in groups. This Handbook can be found under the Files tab in Quercus. The first 360° peer review will serve to provide information on how well each group is working. Students are encouraged to discuss and resolve group process issues in the weekly group meetings, and in their regular meetings with Prof Robinson. The second 360° review will occur at the end of the term. The results of the second 360° review will be used, as appropriate, to adjust individual marks from the group averages.

Student Learning Outcomes

A key purpose of this course is to expose students to the real-world constraints and opportunities involved in trying to implement a sustainability agenda in specific institutional contexts of the university. Sustainability solutions that are desirable in principle may be difficult to implement in practice, given institutional mandates, responsibilities, capabilities and cultures. A main outcome of the course will be a better understanding of how to pursue sustainability goals in real world contexts.

The specific learning objectives of the course are:

- Learn to identify and articulate a sustainability problem of practical import to the university
- Learn to develop and articulate a realistic workplan to address that problem
- Learn to work effectively with other members of a group to fulfil that workplan
- Learn to work effectively with a client from the organization
- Contribute in a concrete way to the university's actions to improve sustainability
- Learn about the role of the university in achieving operational sustainability, and the practical institutional constraints on sustainability action
- Develop an understanding of the campus as living lab approach to university sustainability, its potential and limitations
- Develop substantive knowledge in one area of operational sustainability at the university

Confidentiality:

You will be working on real issues for U of T staff. Although the information you are likely to research and analyze is not secret, it may certainly be sensitive in nature and you may be given access to internal or proprietary information. You are to maintain confidentiality in all the work that you do on behalf of your client. Outside of class, you may comment generically that you are working on a project for the

university. However, you should not discuss, or reference in social media, or otherwise publicize the content of your work before checking with your client on their preferences on the subject and receive that acknowledgement in writing via email. **Breaching the confidence of the client may result in an academic sanction.**

Posting Final Reports Online

In order to provide future students with useful raw material for their projects in this course, and to allow knowledge to be built up cumulatively over time through this course and other CLL courses and activities, we plan to post all final reports on the U of T campus as living lab projects [website](#). The final report as submitted for marking, complete with the names of all students in that group, but not containing any comments or grades from instructors, will be posted. Each group will have the opportunity to adjust their final report after receiving their grades and have the adjusted report posted instead. If you have any concerns about this (e.g. would prefer your name not to be included), please contact Prof Robinson.

Assignments:

All written assignments should be submitted by email to Professor Robinson and the course TA (**as Word files, to allow comments in Track Changes**). No hard copies are required, and assignments will be returned by email or through Quercus.

The Problem Statement, Mid-term Report, Final Report, and two 360° Peer Reviews are due at 11:59pm on the due date.

<u>Undergraduate Student Assignments</u>	<u>Due Date</u>	<u>Worth</u>
Group problem statement	Sept 26	15%
First 360° peer review	Oct 15	5%
Mid-term group presentations	Oct 22	10%
Mid-term group report	Oct 25	15%
Final group presentation	Nov 26	20%
Second 360° review	Dec 4	5%
Final group paper	Dec 4	30%

Group Problem Statement (Sept 26)

Your first task upon meeting with your assigned U of T staff “client”, is to review the project description and goals provided by your client and agree with them on a specific project topic and the questions that will be addressed by the group. It is extremely important to articulate this early so that the group knows exactly what is required, and you can assign meaningful responsibilities to group members. You will submit a description of the topic area and the specific question, in the form of a one-page problem statement, which must be approved by the client before submission. It is due on Fri, Sept 26, so needs to be shown to the client before this. Your group should come with a draft problem statement to the class on Sept 24.

The problem statement should be short (1 page) and should:

- Describe the general topic area (e.g. monitoring GHG emissions on campus)
- Specify the objectives of the project (i.e. the research questions to be answered)

- Outline the method(s) to be followed
- Describe the expected deliverables

Mid Term Presentation (Oct 22) and 2-page Written Memo (Oct 25)

In the 10-minute mid-term presentation on Oct 22 and written 3-page memo, due on Oct 25, students are expected to provide:

- A brief description of the topic area, scope, overall goals and specific objectives of the project
- A description of the methodology your team has chosen
- A description of the data or information you are collecting
- Initial findings and conclusions
- A description of the remaining work to be done

Since you have only 10 minutes for the presentation, we recommend that you not use more than 10 slides. It is not necessary for everyone to speak at your presentation. Since it is hard to have a tight and coherent presentation with many speakers, you may prefer that only one or two people give the presentation.

Final Presentation (Nov 26) and Final Report (Dec 4)

The final 15-minute presentation to the client will take place in the final class on Nov 26 and the final report (max 6000 words, not including appendices) is due on Dec 5. This deadline for the final report will allow time for final edits to be made on the paper after it is presented on Nov 26.

These reports and presentations should be organized in a similar manner as the mid-term presentation and report but contain the final findings. They should include:

- A description of the topic area and scope of the project
- A presentation of the overall goals and specific objectives of the project
- A description of the methodology you employed, and reasons for this choice
- A description of your data and analysis
- Analysis of your data and key findings (this should be the longest section)
- Conclusions and Recommendations

We recommend you not use more than 15 slides, and, as with the mid-term presentation, it is not necessary for everyone to speak.

360° Peer Reviews – Oct 15 and Dec 4

The form to be filled in for the two 360° Peer Reviews can be found at the end of the Student Handbook. For each Review, please copy that form to a new file, fill it in, and submit it.

The first peer review (due on Oct 15) will be used to determine if there are issues in your group that need to be addressed. The second peer review (due on Dec 5) may be used to adjust the individual marks on group projects. The group projects will each be assigned a single grade. If the second peer review provides strong evidence of better than average, or worse than average, performance by a member of the group, then the grade of that individual for the final group project may be adjusted up or down by 5%.

Important Term Work Policies:

Due dates

All assignments are due **on the due dates stipulated above**. Because these are group projects, requests for extensions necessarily impact everyone in the group. In addition, it is critical to meet deadlines for clients. As a result, requests for late submission of the assignments will require compelling reasons and must work for everyone in the group. Note that there can be no exceptions to the deadlines for the group presentations.

Group work

Since all assignments are group projects, learning how to work effectively with other members of your group is a critical requirement for successful completion of the assignments. Please consult the Student Handbook for more information on effective group work.

Professionalism:

Whether in draft or final form, work plans, interim reports and presentations that are distributed to the professor and client are expected to be of professional quality. This includes an expectation of superior intellectual ideas, writing, formatting and presentation of products. Remember that an important aspect of successful interactions includes the way in which you prepare, rehearse your material, look and sound when you communicate with clients and staff in their organizations. Please note that client satisfaction throughout the term will inform their interactions with you.

Background Readings:

There exists a rich literature on various forms of applied living lab approaches in the sustainability arena. I have created a Dropbox folder with many articles, and the contents of two special issues, on living labs, real world labs and urban transition labs. You can find that [here](#).

Much of the living lab literature describes activities that are focussed on university-city partnerships that address sustainability problems in the world outside the university. Less attention has been paid to seeing the physical campus of the university itself as a living lab of sustainability. This version of a living lab is described in:

- König, A. and J. Evans (2013) "Introduction: experimenting for sustainable development? Living laboratories, social learning and the role of the university", in In Ariane König, ed., *Regenerative sustainable development of universities and cities: the role of living laboratories*. Cheltenham, UK: Edward Elgar.

For a discussion of this approach as developed at UBC, see

- Robinson, J., Berkhout, T., Cayuela, A., Campbell, A. (2013). Next Generation Sustainability at The University of British Columbia: The University as Societal Test-Bed for Sustainability. In Ariane König, ed., *Regenerative sustainable development of universities and cities: the role of living laboratories*. Cheltenham, UK: Edward Elgar.

See also:

- Nyborg, et al, (2024) University Campus living Labs: unpacking multiple dimensions of an emerging phenomenon, *Science and Technology Studies* 37(1), 60-81
- Rivera, C. and Savage, S. (2020). Campuses as living labs for sustainability problem-solving: trends, triumphs and traps. *Journal of Environmental Studies and Sciences*, 10:334-340
- Verhoef, L. and Bossert, M. (2019). The University Campus as a Living Lab for Sustainability – A Practitioner’s Guide and Handbook, TU Delft Green Office, Delft University of Technology.

Finally, the Alliance for Sustainability Leadership in Education in the UK has developed a national living labs program for UK universities. They have three short reports on living labs, which can be found here: http://www.eauc.org.uk/eauc_living_labs_project.

All the readings listed here can be found in the Dropbox folder mentioned above.

Academic Integrity:

The University of Toronto treats cases of academic misconduct very seriously. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that your UofT degree is valued and respected as a true signifier of your individual academic achievement.

The University of Toronto’s [Code of Behaviour on Academic Matters](#) outlines the behaviours that constitute academic misconduct, the processes for addressing academic offences, and the penalties that may be imposed. You are expected to be familiar with the contents of this document. Potential offences include, but are not limited to:

In papers and assignments:

- Using someone else’s ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the Professor.
- Making up sources or facts.
- Obtaining or providing unauthorized assistance on any assignment (this includes working in groups on assignments that are supposed to be individual work).

On tests and exams (**not applicable for this course**):

- Using or possessing any unauthorized aid, including a cell phone.
- Looking at someone else’s answers.
- Letting someone else look at your answers.
- Misrepresenting your identity.
- Submitting an altered test for re-grading.

Misrepresentation:

- Falsifying or altering any documentation required by the University, including (but not limited to) doctor’s notes.
- Falsifying institutional documents or grades.
- Signing attendance reports on behalf of other students.

Any instance of suspected academic dishonesty will be reported to the appropriate University authorities. For further information on “How Not to Plagiarize”, you might find Margaret Proctor’s guide helpful – click “Using sources” in the advice link: <http://www.writing.utoronto.ca/advice>

Accessibility Needs:

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: <http://studentlife.utoronto.ca/accessibility>.