



ENV461H The U of T campus as a living lab of sustainability

Syllabus Fall 2022

Instructor:

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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. Yet relatively few have 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. Such living lab approaches offer a large potential for universities to play a significant role in the sustainability transition. This course will explore and apply the living lab concept, in the context of operational 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 administrative 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 details and Requirements:

Fall term, Tuesdays 2 – 4 PM
Location: MY370
Instructor: Professor J. Robinson (johnb.robinson@utoronto.ca)
Teaching Assistant: Kristen Ma (kristenyx.ma@mail.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 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.

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 providing some instruction on group process.

In week 1 (Sept 13), following a discussion of the course objectives and requirements, course clients will present their projects. Students will choose, and submit, their preferences as to which project they would like to work on before the next class. 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.

In week 2 (Sept 20), there will be a lecture on regenerative sustainability, followed by a session on group process best practice. Students will be told which project they have been assigned to. They will meet with their clients in class or online and each group will make arrangements for regular meetings with clients.

Subsequent weeks will have occasional lectures or other activities in plenary, but class time will primarily consist of group discussion, including regular meetings with clients, and discussion with course instructors. Each group will meet as a group during class time each week. The instructor and TA will be available during class time and each group will meet with one or both of them each week, to discuss progress on their project.

Each group will be expected to meet periodically with their client. These meetings will occur in the class time or outside class at a time to be arranged with the client.

Each student group will submit a problem statement on Oct 4, give a presentation and submit a short paper on preliminary findings on Nov 1, give a final presentation on Dec 6, and submit a final paper by Dec 11. Each student will also submit 360° reviews of the relative contributions of the other members of their group, the first on Oct 25 and the second on Dec 11.

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 and the focus of the class in the second week will be on this issue. 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 the instructor and TA. 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.

Learning Objectives

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, capabilities and cultures. A key 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 a given organization. However, you should not discuss, tweet, Facebook, reference in LinkedIn 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, we plan to post all final reports on a U of T website. The final report as submitted on Dec 11, complete with the names of all students in that group, but not containing any comments or grades from instructors, would 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 (**preferably as Word files, to allow comments in Track Changes**). No hard copies are required, and assignments will be returned by email or through Quercus.

<u>Undergraduate Student Assignments</u>	<u>Due Date</u>	<u>Worth</u>
Group problem statement	Oct 4	10%
First 360° peer review	Oct 25	5%
Mid-term group presentations	Nov 1	10%
Mid-term group report	Nov 1	10%
Final group presentation to client	Dec 6	20%
Second 360° review	Dec 11	5%
Final paper	Dec 11	40%

Group Problem Statement – Oct 4

Your first task upon meeting with your assigned U of T staff “client”, is to review the project description and goals provided by the client and agree 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. 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 Oct 4, so needs to be shown to the client before this. Your group should come with a draft statement to the class on Sept 27.

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 and 2-page Written Memo – Nov 1

In the 10-minute mid-term presentation and written 2-page memo, both due on Nov 1, 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 major analytical questions that still need to be answered
- A description of any unforeseen issues you have encountered in your relationship with the client, and your strategy to deal with these (this should be included in the written memo only, not the presentation)

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 Deliverable and Final Presentation – Dec 6

The final 20-minute presentation to the client will take place in the final class on Dec 6 and the final report (max 6000 words, not including appendices) is due on Dec 11, giving you some time to incorporate in your final report the feedback you receive at the presentation.

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
- Some discussion of how this project fits into the overall campus as a living lab literature (see discussion below)
- 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
- Main findings from your research and analysis (this should be the longest section)
- Conclusions and Recommendations

We recommend you not use more than 20 slides, and, as with the mid-term presentation, it is not necessary for everyone to speak.

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.

A note on 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.

360° Peer Reviews – Oct 25 and Dec 6

The first peer review (due on Oct 25) will be used only to determine if there are issues in your group that need to be addressed. The second peer review (due on Dec 11) 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 that group project may be adjusted up or down by 5%.

Important Term Work Policies:

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.

There can be no exceptions to the deadlines for the group presentations.

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 68 (and counting) 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:

- Evans, J., Jones, R., Karvonen, A., Millard, L., & Wendler, J. (2015). Living labs and co-production: university campuses as platforms for sustainability science. *Current Opinion in Environmental Sustainability*, 16, 1-6.
- 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

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 above have been posted in Quercus, and you are asked to read them to familiarize yourselves with the context within which the work undertaken in this course takes place. However, the specific knowledge needed for the group projects themselves will be supplied by the client or determined by you as the project is articulated.

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>.

Course Schedule:

Sept 13 – introductions; review syllabus; client presentations; choose preferred topics

Sept 20 – lecture on regenerative sustainability; session on group process; meet in groups with clients

Sept 27 – lecture on sustainability at U of T; meet in groups during class time; meet clients separately as needed; **have draft problem statement**

Oct 4 – lecture on normalizing sustainability; meet in groups during class time; meet clients separately as needed

– **problem statement due**

Oct 11 – meet in groups during class time; meet clients separately as needed

Oct 18 – meet in groups during class time; meet clients separately as needed

Oct 25 – meet in groups during class time; meet clients separately as needed

– **first 360° review due**

Nov 1 – **mid-term presentations**

– **mid-term reports due**

Nov 8 – READING WEEK

Nov 15 – meet in groups during class time; meet clients separately as needed

Nov 22 – meet in groups during class time; meet clients separately as needed

Nov 29 – meet in groups during class time; meet clients separately as needed

Dec 6 – **final presentations sometime this week**

Dec 11 – **second 360° review due**

Dec 11 – **final report due**