



School of the Environment
UNIVERSITY OF TORONTO

ENV461H/ENV1103H The U of T campus as a living lab of sustainability

Syllabus

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 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. Arguably, it is such living lab approaches that offer the largest 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 staff at the University of Toronto. Students will develop the skills needed to work across disciplines and fields of study, and with non-academic partners.

Course details and Requirements:

Fall term, Tuesdays 2 – 4 PM

Location: OISE 5250

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

Teaching Assistant: Anjali Helferty (anjali.helferty@mail.utoronto.ca)

Contact information: Email is the best way to reach me. I do not have specific office hours but will schedule individual and group meetings, in addition to the scheduled class time, as requested.

Organization:

This course will put students to work on operational sustainability projects identified by the staff working in or with the Sustainability Office 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. The bulk of the course will consist of regular meetings with the staff “clients”, with instructors, and in small groups to undertake a 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 providing background on the concept of university as a living lab of sustainability, providing instruction on group process, and meeting with U of T staff to choose group project topics.

In week 1 (Sept 12), there will be a lecture on campus as a living lab (CLL) and the role of the university. A list of proposed projects will be introduced and distributed. Students will choose their preferred topics for the group project before the next class.

In week 2 (Sept 19), students be divided into groups and assigned to specific projects. They will be introduced to their staff “clients” and each group will make arrangements for regular meetings with them. Much of the class that day will consist of a presentation on, and discussion of, how to work effectively as a group, and with an external “client”.

Subsequent weeks will consist of regular meetings with assigned staff and periodic check-ins with course instructors. Each group will be expected to meet periodically with their “client”. These meetings will occur during class time or outside class at a time and place to be arranged with the client. Whether client meetings are in class time or not, each group will also meet as a group during class time. The instructor and TA will be available at those times and each group will be meet with one or the other each week during class time, to check-in on progress on their project.

Each student group will submit a problem statement on Oct 3, give a presentation and submit a short paper on preliminary findings on Oct 31, give a final presentation on or around Dec 5 (depending on scheduling with the client), and submit a final paper by Dec 12. Each student will also submit 360 reviews of the relative contributions of the other members of their group, the first on Oct 24 and the second on Dec 12.

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. 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 two 360 reviews will be used, where appropriate, to adjust individual marks from the group averages.

Learning Objectives:

- Learn to identify a sustainability problem of practical import to the university
- Learn to 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
- 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 until you have been fully debriefed by your client on his/her preferences on the subject and receive that acknowledgement in writing via email. **Breeching the confidence of the client will result in an academic sanction.**

Assignments:

<u>Assignment</u>	<u>Due Date</u>	<u>Worth</u>
Group problem statement	Oct 3	10%
Initial 360 peer review	Oct 24	5%
Mid-term group presentations	Oct 31	10%
Mid-term group report	Oct 31	10%
Final group presentation to client	Dec 5*	20%
Final 360 review	Dec 12	5%
Final paper	Dec 12	40%

* The actual date of the presentations will depend on client availability.

Group Problem Statement

Your first task upon meeting with your assigned U of T staff “client”, is to agree on a specific project topic and the question 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 problem statement, on Oct 3.

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

- Describe the general topic area (e.g. monitoring GHG emission on campus)
- Specify the objectives of the project (e.g. questions to be answered)
- Outline the method(s) to be followed
- Describe the expected deliverables

Mid Term Presentation and 1-2 page Written Memo

In the 10-minute mid-term presentation and written 1-2 page memo, both due on Oct 31, students are expected to provide:

- A brief description of the topic-area and main concerns of the client who has commissioned the consulting assignment
- A description of the overall goals and specific objectives of the work
- A description of the methodology your team has chosen, and reasons for this choice
- A description of the data or information you are collecting, and any initial findings or patterns you are identifying.
- 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 strategy to deal with these.

Final Deliverable and Final Presentation

The final presentation to the client will take place toward the end of term 1, and occur at a time scheduled with the client. The presentations may be grouped into several sessions, or occur individually with the client. The presentations will occur around Dec 5 and the final report (max 6000 words) will be submitted by Dec 12. These reports and presentations will include:

- A brief description of the topic area, scope and objectives of the project
- A description of the methodology you employed

- Main findings from your research and analysis
- Main recommendations and a description of trade-offs to your client

Note that all assignments are group projects, so learning how to work effectively with other members of your group is a critical requirement for successful completion of the assignments. Please consult the course 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 assessment of your work.

360 Peer Reviews

The first peer review will be used to determine if there are issues in your group that need to be addressed. The second peer reviews may be used to adjust the individual marks on group projects. They are due on Oct 25 and Dec 12. 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. Plus, 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.

All written assignments should be submitted by email to Professor Robinson (as Word or PDF files). No hard copies are required, and assignments will be returned by email.

Readings:

There exists a rich literature on various forms of applied problem-based learning in the sustainability arena. For a good list, see the References and Recommended Reading section of:

- Wiek, A. and B. Kay (2015) "Learning while transforming: solution-oriented learning for urban sustainability in Phoenix, Arizona," *Current Opinion in Environmental Sustainability*, 16: 29-36, 2016).

That paper is also a leading edge example of such work.

There exists an overlapping literature on the idea of university-community partnerships on developing "living labs" of sustainability. For a recent discussion of this idea, see

- 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.

The various chapters of that book report on living lab activities in ten universities in Europe, North America and Asia.

Much of this literature describes living lab activities that are focussed 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 is the approach that has been taken at The University of British Columbia (UBC). This version of a living lab is described in:

- 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 Konig, ed., *Regenerative sustainable development of universities and cities: the role of living laboratories*. Cheltenham, UK: Edward Elgar.

Finally, the Environmental Association of Universities and Colleges in the UK has developed a national living labs program for UK universities. They have three reports on living labs, which can be found here: http://www.eauc.org.uk/eauc_living_labs_project.

The three readings listed above will be made available, and students are asked to read them, and look over the three EAUC reports, to familiarize themselves 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>.

Schedule:

Sept 12 – Introduction; distribute topics; lecture on campus as living lab and the role of the university

Sept 19 – meet with operational staff and choose topics; session on group process

Sept 26 – meet in groups during class time; meet clients separately

Oct 3 – meet in groups during class time; meet clients separately; **problem statement due**

Oct 10 – meet in groups during class time; meet clients separately

Oct 17 – meet in groups during class time; meet clients separately

Oct 24 – meet in groups during class time; meet clients separately; **first 360 review due**

Oct 31 – **mid-term presentations; mid-term reports due**

Nov 8 – Fall Break

Nov 14 – meet in groups during class time; meet clients separately

Nov 21 – meet in groups during class time; meet clients separately

Nov 28 – meet in groups during class time; meet clients separately

Dec 5 – **final presentations sometime this week**

Dec 12 – **final report due; second 360 review due**