Seneca Living Lab

Version 28

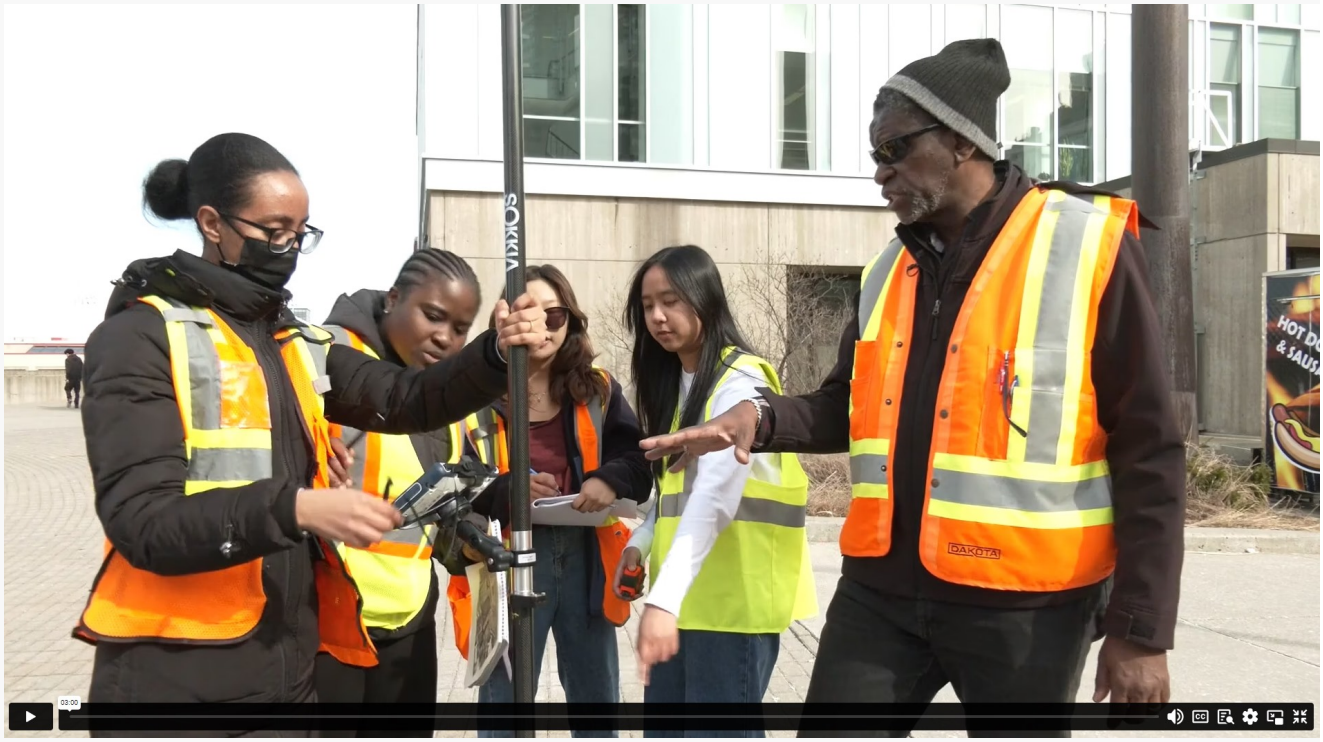
Published 8/6/2024 by Paula Echeveste Petrone Last updated 10/24/2024 9:38 PM by Wai Chu Cheng

Seneca's campuses are where our community comes together to do hands-on work and make sustainable changes. Tackling problems and finding solutions starts with learning and carrying out research.

Living lab projects are designed for students to do this through class work, capstone projects or internships guided by faculty with support from Campus Services and Facilities, Applied Research, and Academic Quality.

Living Lab projects give students real-world experience, improve campus operations and help us understand sustainability and climate challenges. Plus, they address Seneca's priorities in the Sustainability Plan.

Living Lab Project Examples: See students in action - Watch video



Benefits to students

- being engaged in enquiry-based learning so they become active learners
- getting real-world experience by identifying and tackling campus challenges
- having opportunities to share their learning
- developing knowledge and skills for future work

Project outcomes

- enhancing the subject knowledge and skills of students
- improving campus operations and practices in different areas, such as air and emissions, land, waste, energy, water
- increasing understanding of sustainability challenges
- developing innovative solutions

Framework questions

- Does the project involve students researching or solving real world problems on sustainability?
- Does it use existing campus infrastructure and operations?
- Are key stakeholders involved and consulted during project development?
- Does it align with Seneca's sustainability priorities as outlined in the Sustainability Plan?

Explore projects

Assessing solar panel installation for Markham Campus

Created a plan for the implementation and maintenance of solar panels at Markham Campus to help reduce greenhouse gas emissions.

Analyzing the Thermal Efficiency of the Markham Building Envelope

Analyzed the efficiency of the building envelope, such as walls, windows and doors, at the Markham campus using various methods.

Creating a topographic map with the Global Navigation Satellite (GNS) System

The students used the GNS system to collect positional information of the land use features on campus.

Measuring Carbon Sequestration at the King Campus Forest

Collected data to determine how much greenhouse gas is absorbed by the King Campus forest. The diameter and height of maple trees in the sample plot were measured.

Odeyto Garden Health

Provided research-based solutions and recommendations to control invasive species, improve soil quality and enable the growing of other species.

Green Roof Possibilities

Assessed green roof technologies available for Newnham Campus.

Recipe Carbon Emissions Total

Provided estimated carbon emissions for food that is made in-house. The information is being posted on the cafeteria menu to encourage people to eat sustainably.

Leanpath Proposal

Evaluated Leanpath as a system for reducing pre-consumer waste in the cafeteria kitchen. Leanpath is a tool that measures food waste and stores the data electronically to enable staff to set targets to ultimately help the environment.

TV Screen Energy Use

Analyzed the difference of Green House Gas (GHG) emissions from physical paper usage and TV screens on campus.

Sustainability Awareness Week

Developed a proposal to create a Sustainability Awareness Week that offers a series of outreach and educational events to raise awareness.

Asset Management Plan

Developed a comprehensive asset management plan for Seneca.

Waste Contamination Study at Newnham Campus

Reviewed past data on waste contamination at the Newnham Campus to provide recommendations on how to fix the most common issues.

Project Miigwanan (Project Feathers) - Restoring and monitoring bird habitat at King campus

Erecting and monitoring critical bird nesting boxes on campus to promote climate change resiliency.

Get involved

If you are a faculty member and are interested in developing a Living Lab project for students, please email sustainability@senecapolytechnic.ca.

tags : experentiallearning, senecalivinglab, sustainableseneca