



Sustainable Infrastructure: Design & Engineering

McMaster University Professional Certificate Course



COURSE OVERVIEW

🖥️ Online Live

📅 Next Sessions: November 9-11, 2022 **and** January 25-27, 2023

Infrastructure refers to the broad set of systems that support our daily lives — from accessing reliable energy to accessing reliable communication; managing natural spaces to managing waste; moving people and goods to moving water — all of these systems support our society's progress.

This immersive, 3-day conference-style Sustainable Infrastructure: Design & Engineering Course program teaches the emerging approach to infrastructure that considers both sustainability and climate resilience at every stage of design, construction, operation, and maintenance of the integrated systems that support society. The course focuses on every aspect of infrastructure including best practices in building materials, energy, water management, waste management, stakeholder engagement and restorative design. You will learn the concepts, applications, and best engineering practices to create sustainable, climate resilient infrastructure solutions that enhance the social, environmental, and economic well-being of the communities they serve.



WHAT YOU'LL LEARN

- Understanding need to focus on engineered green infrastructure and the role of low-impact development in a changing climate
- How to apply best practices and practical techniques in designing, constructing, and effectively managing engineered green infrastructure
- Utilize industry-leading tools to evaluate the environmental and lifecycle cost performance of engineered green infrastructure
- Best practices, case studies, and emerging technologies for effective implementation of sustainable, climate resilient engineered green infrastructure

WHAT YOU'LL EARN

A dual-credential: once the training course is completed, participants will be eligible to take the Envision exam at no extra cost. Individuals will be awarded the Envision® Sustainability Professional (ENV SP) credential after they succeed in the exam. The course will be delivered in collaboration with the ISI (Institute for Sustainable Infrastructure) the leader in the development, management and administration of Envision® —a holistic framework and rating system that enables a thorough examination of civil infrastructure's sustainability and resilience.

COURSE STRUCTURE

20

HOUR TRAINING OVER

3

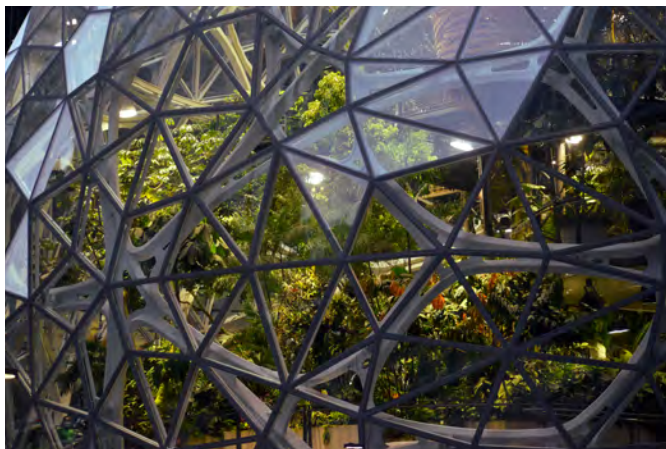
CONSECUTIVE DAYS

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| Module 1 | Introduction to sustainable infrastructure — key pressures, conditions, and metrics for sustainability. |
| Module 2 | Conditions for Sustainability and Emerging Technologies, Systems, and Policies. |
| Module 3 | Resource allocation in the built environment — enabling the adoption of circular economy, quantifying embodied resources and minimizing impact with lifecycle assessment. |
| Module 4 | Natural infrastructure, ecosystem services, and regenerative design. |
| Module 5 | Climate resilience, adaptation, and solutions through infrastructure design. |
| Module 6 | Purposeful, people-centric infrastructure through meaningful stakeholder engagement. |
| Module 7 | Emerging technologies, systems, and policies to support the transition to sustainable, climate resilient infrastructure. |

ADMISSION DETAILS & TUITION/FEES

Admission Requirement

Participants must hold a degree or diploma from a recognized university or college; or a relevant certificate in infrastructure or sustainability from a recognized university; participants may be accepted if they are in the final year of their post-secondary studies or have equivalent professional experience.



Tuition Fees

	CSCE Member	Non-Member
Ontario (Private Sector)	\$450 + HST	\$670 + HST
Ontario (Public Sector)	\$225 + HST	\$445 + HST
Outside Ontario	\$1500 + HST	\$2000 + HST

CONTACT INFORMATION

Ready to get started?
Our team is here to help.

- Determine if this course is right for you and your goals
- Learn more about McMaster's certificate programs

Program Lead

Greg Zilberbrant

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Program Partner: Canadian Society of Civil Engineering — Ontario Region

Canadian Society for
Civil Engineering



Société canadienne
de génie civil

Funded in part by the Government of Canada and the Government of Ontario

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