



Sustainable Infrastructure: Design & Engineering

McMaster University Professional Certificate Course



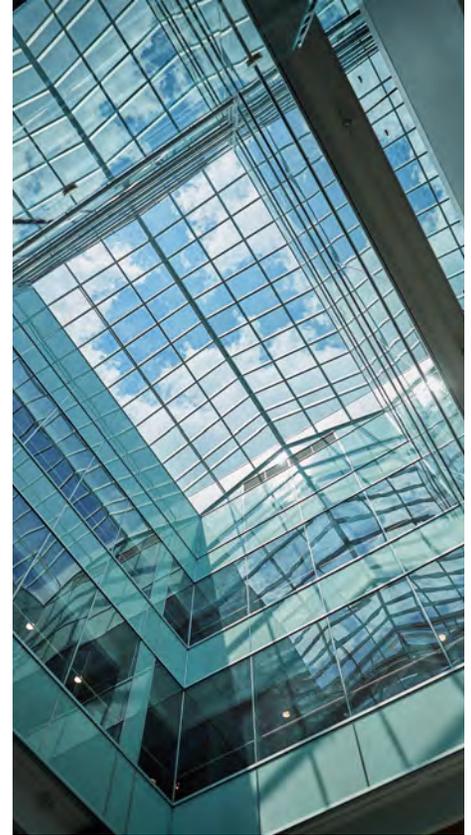
COURSE OVERVIEW

🖥️ Online Live

📅 Next Session: November 10 - 12, 2021

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 the conditions for sustainability and the role of infrastructure to create positive environmental, social, and economic conditions
- Analyzing the role of infrastructure decisions on climate mitigation and adaptation
- Applying lifecycle assessment and circularity principles to quantify the impact of infrastructure design
- Practical tools to measure and monitor the sustainability and climate resilience of infrastructure

COURSE STRUCTURE

20

HOUR TRAINING OVER

3

CONSECUTIVE DAYS

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.



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



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