

# Efficient Building Envelope (EBE)



This 2-day Efficient Building Envelope (EBE) course introduces the concept of a building as a system, and takes an in-depth look at the interrelationship between the building envelope and installed mechanical sub-systems. The course will examine the principles of heat loss/gain through the envelope (wall, roof, floor and fenestration), and explore the interactions with equipment and occupants.

The importance of air tightness, thermal bridging, and moisture control will be discussed in detail using a variety of typical commercial construction types, with heavy focus placed on designing efficient and durable assemblies. Finally, Participants will gain insight on the three compliance pathways available to Part 3 buildings under the newly revised National Energy Code of Canada for Buildings (NECB 2011).

## Topics Covered

- The building as a system and the interactive effects of environmental surroundings and internal subsystems
- General overview of typical commercial envelope systems and current industry best practices for designing high performance
- Heat, air and moisture transfer in building envelopes
  - ⇒ Calculating heat loss/heat gain
  - ⇒ Calculating thermal resistance and conductance properties of envelope assemblies
  - ⇒ Determining the thermal impact of framing
  - ⇒ Improving air tightness
  - ⇒ Moisture control calculations & strategies
- Best practices for designing durable envelope assemblies
- Compliance with NECB, Part 3: Envelope
  - ⇒ Selecting a suitable compliance path
  - ⇒ Prescriptive path (i.e. minimal thermal resistance requirements for assemblies, etc.)
  - ⇒ Trade-off path
  - ⇒ Performance path

## Who should attend?

This short thematic course is ideal for the following clientele:

- Architects, engineers and technologists
- Developers
- Contractors and consultants
- Building and home inspectors
- Technical sales professionals



## Logistics

**CEUs:** 1.6

**CSEP Points:** 3

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