

Building Envelope Education Program (BEEP)

The program provides up-to-date knowledge and skills for those involved in the design, field review and construction of residential, public and commercial buildings. The four modules are of interest to not only architects and engineers, but also building officials, intern architects, engineers-in-training, technologists, and others.

Module I - Building Science & the Building Envelope

18 LUs Core

Module I focuses on Building Science and the Building Envelope.

The course outline for Module I includes:

- The Outdoor and Indoor Environment
- Conditions Within the Envelope
- Materials and Their Moisture Content
- Rain Penetration
- Pressure Differences Due to Wind
- Predicting Building Envelope Performance

Module II – Applications of Building Science: Design and Practice

12 LUs Core

Module II focuses on the application of building science from Module I into design and practice in this **two-day** (12-hr) course.

The course outline for Module II includes:

- Technology Transfer from Research to Practice
- Principles of Enclosure Design
- Standards of Practice
- Building Code Requirements for Environmental Separation
- Case Studies
- Building Envelope Failures

Module III - Building Envelope Field Services

12 LUs Core

The third module of this program focuses on field review and testing.

The course outline for Module III includes:

- Field service Responsibilities
- **Materials** and Assemblies
- Testing
- Field Review Planning
- Reporting of Field Review
- Site Visits and Demonstrations

Module IV - Roles and Responsibilities

6 LUs Core

This course explores the fact that while building envelope performance is highly dependent on many technical factors, it is also influenced by the regulatory and working environments in which the participants in the construction industry operate.

The course outline for Module IV includes:

- Industry Roles and Responsibilities
- Professional Ethics
- Legislation, Professional Liability
- Liability Insurance and Loss Prevention
- Construction Insurance and Bonds
- Warranty Programs
- Building Envelope Professional (BEP) Status

Module V – Extreme Environments

6 LUs Core

This module focuses on the design and construction of building separators of more extreme environments. (Please note that candidates should have completed BEEP Modules I – IV or the Building Envelope Principles (BEP) course before registering for BEEP Module V.) The severity of environmental loads (such as significant pressures, temperature, and humidity differences) is considered.

Other topics covered include:

- Durability
- Sustainability and “green” buildings

Building Envelope Principles (BEP)

6 LUs Core

This course is for principals of architectural firms, intern architects, architectural technologists, building officials and anyone working with building envelopes and consultants. IAs: Intern architects are required to complete this course.

BEP is the executive summary of all Building Envelope Education Program (BEEP) modules and satisfies AIBC Bulletin 68 recommendations for architects. This one-day course reviews:

- Roles and responsibilities of all industry participants
- Letters of assurance
- Clarification of enhanced building envelope services and roles
- Coastal climatic conditions (control of precipitation, vapour diffusion, wood-rot conditions).
- Wall performance (moisture, heat and air transfer, vapour barriers, cladding, insulation, interior environment, maintenance and repair, the envelope consultant’s role).
- Design, detail, and assemblies (integration of components, calculations of costs).
- Field services (responsibilities, testing, site inspection, reports).
- Quality assurance (project management, liability, risk).