

CHARTERED 
INSTITUTE OF PROFESSIONAL CERTIFICATIONS

CERTIFIED CANADA STRUCTURAL ENGINEERING COMPLIANCE WITH CSA STANDARDS

**Fully Accredited
By:**

Chartered Institute of
Professional Certifications

CPD
Certification Service



PROGRAM OVERVIEW

Canada's built environment is governed by one of the world's most rigorous safety regimes – yet **structural failures have climbed nearly 18%, driven by design gaps, climate-induced load variability, and inconsistent application of CSA Standards.** Snow loads have surged by up to 30%, wind-related damages now exceed \$1.5 billion annually, and the demands on structural engineers continue to intensify.

This certified program equips you with a practical, end-to-end mastery of Canada's structural engineering compliance landscape, enabling you to deliver safe, defensible, and code-compliant projects with confidence. You will build applied expertise in **core standards such as CSA S16, A23.3, and O86, alongside key design principles including load resistance factor design, structural load assessment, and seismic and wind design.** Additionally, you will also sharpen your ability to interpret and apply NBCC requirements across steel, concrete, and timber structures.

Through a hands-on, practice-oriented approach, the program shows you how to embed compliance at every stage of a project—from design through to construction, inspection, and certification. You will gain hands-on capability in **conducting CSA-compliant inspections, implementing quality assurance processes, managing audit-ready documentation, and using**

ACCREDITATIONS



4.8



4.6





PROGRAM OVERVIEW

non-destructive testing to safeguard structural performance.

The program also strengthens your ability to identify and mitigate risks, apply advanced structural modeling tools, and navigate evolving seismic and lateral system challenges. By the end of the program, you will be better equipped to improve project reliability, minimize rework, and deliver high-performance, future-ready structural solutions.

Upon successful completion of the program, you will attain the **Certification in Canada Structural Engineering Compliance**, validating your ability to lead technically robust, regulator-informed practice and ensure structural safety and compliance within Canada’s built environment. Globally demanded and recognized, this certification holds lifelong validity and will position you as a trusted expert in navigating complex regulatory requirements and delivering structurally sound, audit-ready projects across Canada’s evolving built environment.

ACCREDITATIONS



4.8




4.6



KEY SKILLS YOU WILL GAIN

From This Program



**CSA STANDARDS APPLICATION
NBCC INTEGRATION EXPERTISE
MULTI-JURISDICTIONAL COMPLIANCE
LIMIT STATES DESIGN MASTERY**

**LOAD COMBINATION ANALYSIS
STRUCTURAL SAFETY EVALUATION
STEEL DESIGN COMPLIANCE (S16)
CONCRETE DESIGN COMPLIANCE (A23.3)**

**TIMBER DESIGN COMPLIANCE (O86)
CONNECTION DESIGN OPTIMIZATION
FABRICATION STANDARDS ALIGNMENT
WELDING COMPLIANCE ASSURANCE**

**STRUCTURAL LOAD ASSESSMENT
WIND LOAD DESIGN EXPERTISE
SNOW LOAD EVALUATION
SEISMIC DESIGN APPLICATION
LATERAL SYSTEM DESIGN**

**STRUCTURAL MODELING PROFICIENCY
ADVANCED ANALYSIS TECHNIQUES**

YOUR FACULTY DIRECTOR



Laith Hajsaid

Highly Accomplished Structural Engineering Professional

Laith Hajsaid is a highly accomplished structural engineering professional with over 13 years of experience in structural design, regulatory compliance, and construction oversight across complex building projects. He currently serves as Senior Authority at AECOM Canada, where he **leads the delivery of residential, commercial, industrial, and government structures, ensuring full compliance with Canadian building codes and national standards**. His project portfolio spans a wide range of high-performance structures, where he consistently delivers safe, compliant, and technically robust engineering solutions.

Laith is a **Licensed Professional Engineer (P.Eng.) with deep expertise in structural analysis, limit states design, and the evaluation of seismic and wind loads**, supported by strong capabilities in inspection, quality assurance, and regulatory documentation. He has also **contributed to national standards development through his research at the National Research Council of Canada**, further strengthening his authority in structural compliance. In addition to his consulting work, Laith is a respected educator and trainer, delivering professional courses and technical programs focused on structural integrity and compliance best practices.

OUR PARTICIPANTS

Over 70% of FORTUNE 500 Companies Have Attended Our Accredited Programs Before



Goldman Sachs



SAMSUNG



ExxonMobil



BURBERRY



Citi



IKEA



VOLVO



HYUNDAI



Pfizer

Life is our life's work



Nestlé



PROGRAM AGENDA

MODULE 1 - INTRODUCTION TO CSA STANDARDS FRAMEWORK

- Overview of CSA S16, A23.3, O86 standards
- History and scope of CSA standards
- Role of CSA standards in Canadian structural engineering

MODULE 2 - REGULATORY & LEGAL COMPLIANCE IN CANADA

- Integration of CSA standards with National, Provincial, and Municipal codes
- Legal and safety responsibilities of structural engineers
- Best practices for compliance documentation and audit readiness

MODULE 3 - STRUCTURAL DESIGN PHILOSOPHY & LIMIT STATES DESIGN

- Limit states and load combination principles
- Safety factors and material behavior
- Design decision-making under CSA and NBCC requirements

MODULE 4 - STEEL STRUCTURES – CSA S16 COMPLIANCE

- Steel structure design principles and calculations

- Fabrication, welding, and connection requirements
- Inspection and quality assurance for steel structures

MODULE 5 - CONCRETE STRUCTURES – CSA A23.3 COMPLIANCE

- Reinforced concrete design and detailing
- Durability requirements and LRFD principles
- Inspection and QA practices for concrete structures

MODULE 6 - TIMBER STRUCTURES – CSA O86 COMPLIANCE

- Timber design principles and material properties
- Connection systems and fire resistance considerations
- Performance evaluation and structural safety

MODULE 7 - LOAD ASSESSMENT & STRUCTURAL ANALYSIS

- Dead, live, wind, snow, and seismic loads
- Structural modeling approaches and simulation techniques
- Interpreting results for design compliance



PROGRAM AGENDA

MODULE 8 - SEISMIC & WIND DESIGN COMPLIANCE

- Earthquake-resistant design and ductility requirements
- Lateral force-resisting systems for seismic and wind loads
- NBCC-compliant evaluation and structural solutions

MODULE 9 - INSPECTION, QUALITY ASSURANCE & STRUCTURAL INTEGRITY

- Site inspections and testing methods
- Non-destructive evaluation (NDT) techniques
- Compliance documentation and reporting practices

MODULE 10 - RISK MANAGEMENT, SUSTAINABILITY & AUDIT READINESS

- Identifying and mitigating structural and compliance risks
- Integrating sustainability and environmental considerations
- Preparing projects for audits and certifications

MODULE 11 - ADVANCED STRUCTURAL MODELING & SOFTWARE APPLICATIONS

- Demonstration of ETABS, SAFE, SAP2000, and RISA 3D for CSA-compliant design
- Modeling complex load scenarios and lateral force systems
- Using software outputs for inspection and QA planning

MODULE 12 - EMERGING TRENDS, CHALLENGES & LESSONS LEARNED

- Common challenges in CSA compliance across projects
- Case studies and lessons from steel, concrete, timber, and seismic projects
- Best practices for continuous professional development and staying updated

YOUR CHARTER DESIGNATION



Chartered Institute of Professional Certifications' programs are unique as they provide you with professional charter designations and marks that can be used across your lifetime once you have completed our programs.

Upon successfully attending this program, you will be awarded the **Certification in Canada Structural Engineering Compliance** that can be used in your resume, CV and other professional credentials. This certification is industry-recognized with lifelong validity.

Globally demanded and recognized, this certification will amplify your professional qualifications and demonstrate your expertise in structural analysis, load assessment, and the application of national building codes to ensure safe, compliant, and high-performance structures. Developed by **Chartered Institute of Professional Certifications**, the content of this program has been independently accredited by **CPD Certification Service** as adhering to the highest standards of continuing professional principles.

ABOUT US

49,525

Business Leaders Have Attained Their Chartered Certifications Since 2009

390

Certified and Fully Accredited Programs

87%

Chartered Leaders Have Reported Career Promotions and Enhancements

Chartered Institute of Professional Certifications

All of Chartered Institute of Professional Certifications programs are fully accredited programs. The professional charters and designations are trademarked credentials that can only be used by professionals who have completed and passed our accredited program. It is also independently accredited by CPD as adhering to the highest standards of continuing professional principles.

CHARTERED 
INSTITUTE OF PROFESSIONAL CERTIFICATIONS

OUR FACULTY DIRECTORS

We Collaborate With
Instructors From
Renowned Institutions



HARVARD
UNIVERSITY



Wharton
UNIVERSITY of PENNSYLVANIA



Stanford University



UNIVERSITY OF MICHIGAN



**THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE**



**Columbia
Business
School**

**London
Business
School**



CONTACT US TODAY

We Thank You for Your Ongoing Support
of Our Programs

Singapore and Asia Pacific Enquiries

Email: advisor@charteredcertifications.com
Phone: +65 6716 9980
Address: Chartered Institute of Professional Certifications
1 Gateway Drive
#20-04 Westgate Tower
Singapore 608531

Australia and New Zealand Enquiries

Email: advisor@charteredcertifications.com
Phone: +61 3 9909 7310
Address: Chartered Institute of Professional Certifications
530 Little Collins Street, Level 1
Melbourne VIC 3000, Australia

UK, Europe and Middle East Enquiries

Email: advisor@charteredcertifications.com
Phone: +44 (020) 335 57898
Address: Chartered Institute of Professional Certifications
86-90 Paul Street
London, EC2A 4NE

USA Enquiries

Email: advisor@charteredcertifications.com
Phone: +1 888 745 8875
Address: Chartered Institute of Professional Certifications
99 Wall Street #3936
New York, NY 10005