

Seismic Analysis for Performance-Based Design of Bridges

Date: Mon. Tue., Aug. 19-20, 2019

Time: 9:00 AM-4:30 PM

Location: EME 4218, School of Engineering,
UBC, Kelowna BC

Presenter: Mr. Saqib Khan, M.A.Sc. P.Eng., S.E.,
P.E., Bridge Division Manager, McElhanney

Credit: Twelve Formal Professional
Development Hours (PDH)

For registration please contact:

Dr. Anas Isaa,
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Who We Are

About GCRTC

The Green Construction Research & Training Center (GCRTC) is multi-disciplinary research and training hub at the University of British Columbia (UBC) that enables a multitude of disciplines to work in a symbiotic manner to enrich and broaden all disciplines' capabilities towards greener construction.

Mission

The mission of GCRTC is to leverage research expertise of UBC to create synergetic opportunities which will generate state-of-the-art knowledge for green construction.

Contact Us

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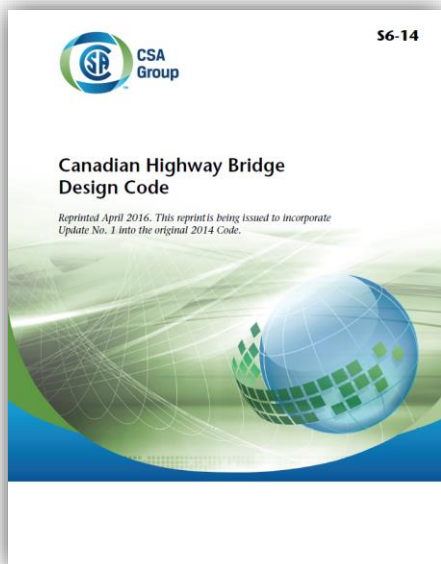


THE UNIVERSITY OF BRITISH COLUMBIA

Course

*Seismic Analysis for
Performance-Based
Design of Bridges*

GCRTC Green Construction Research
& Training Center



Seismic Analysis for Performance-Based Design of Bridges

This course will focus on seismic analysis for requirements set forth in CSA-S6-14. Different seismic bridge analysis tools from the basic to the more advanced will be discussed. The participants will get practical insights into the level of complexity of analysis for both force- and performance-based design requirements. Seismic detailing will also be discussed briefly.

Objectives

To provide participants with basic background for the type of analysis for satisfying the force-based and performance-based requirements of CSA-S6-14 along with modelling techniques, result interpretation, and pitfall avoidance.

Who should attend?

Civil engineers, designers, consulting engineers, architects, contractors, owners, facility managers, construction inspectors, inspection agency officials, asset managers responsible for the maintenance or rehabilitation of both public and private concrete structures, and other parties interested to learn key deterioration mechanisms of concrete infrastructure.

Course Content;

- Fundamentals, design approaches and analysis – An introduction (1.5 hours)
- Earthquake resisting systems, equation of motion (1.5 hours)
- Uniform Load and Single Mode analysis methods (1.5 hours)
- Multi-modal response spectrum analysis (1.5 hours)
- Pushover analysis (1.5 hours)
- Time-history analysis (1.5 hours)
- A brief introduction to base-isolation analysis (0.75 hours)
- Liquefaction analysis (0.75 hours)
- Assessments, retrofits and seismic detailing (1.5 hours)

(Total target hours: 12; Day 1 – 7.5 hours; Day 2 – 4.5 hours)



Bio of the instructor:

Saqib Khan, M.A.Sc. P.Eng., S.E., P.E., is a structural engineer with 19 years of work experience. He has worked with both the private and public sectors on traditional and design-build projects. Saqib has gained extensive experience in the analysis and design of bridges, inspection and assessment of bridges, and some experience in the assessment of marine structures and dams. Saqib has vast experience in seismic-resistant design, design and retrofit of transit and highway structures, live load assessments, and assessment of fatigue and other structural deficiencies.