
This course examines bridge hydraulic considerations from a full lifecycle perspective and within an integrated infrastructure context. Planning and design issues anchor the course as key topics are addressed such as boundary conditions, waterway design, scour protection and channel control as well as hydraulic aspects of construction, inspection and maintenance. Creating awareness of available tools for bridge hydraulics and key resources such as the Transportation Association of Canada’s Guide to Bridge Hydraulics.

The course is aimed at practitioners responsible for addressing bridge hydraulic considerations and issues in the planning, design, operations and maintenance infrastructure lifecycle from consulting, contracting and construction firms, municipal, provincial and federal governments.

The speaker, Marcel Chichak, P.Eng., has some thirty years experience in bridge planning, water resources and river engineering. This course draws on his extensive experience with bridges and bridge hydraulic performance problems.

**Course Overview**

1. Overview
2. Bridge Hydraulics
3. Bridge Hydraulics Engineering
   - Information Requirements & Data Issues
   - Local Influences
   - Methodology
4. Bridge Hydrotechnical Planning
5. Planning Process
   - Optimization & Constraints
6. Bridge Hydrotechnical Design
   - Span Arrangements; Hydraulic Capacity & Discharge
   - Skew, Drift, Scour, Ice, Geotechnical Issues
   - Approvals
7. Monitoring and Inspection
   - River Alignment, Training and Protection
8. Cross Selection Case Study
   - Identifying and Mapping Constraints

**VENUES**

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<thead>
<tr>
<th>LOCATION</th>
<th>DATE</th>
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<tbody>
<tr>
<td>VANCOUVER</td>
<td>November 29, 2011</td>
<td>Sandman Hotel - Ballroom 180 West Georgia Street Vancouver, BC V6B 4P4 604-681-2211</td>
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<tr>
<td>REGINA</td>
<td>December 1st, 2011</td>
<td>Best Western Seven Oaks – Banyon C 777 Albert Road Regina, SK S4R 2P6 306-757-0121</td>
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<td>CALGARY</td>
<td>November 30, 2011</td>
<td>Blackfoot Inn - Ballroom 9540 Blackfoot Trail S.E. Calgary, AB T2H 2B5 403-252-2253</td>
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<td>EDMONTON</td>
<td>December 2nd, 2011</td>
<td>Days Inn &amp; Suites West Edmonton Holiday Inn Express – Linden Room 10010 - 179A Street Edmonton, AB T5S 2T1 780-444-4440</td>
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**Development Funding provided by TRANSPORTATION ASSOCIATION OF CANADA**

As a national centre of transportation expertise, and a not-for-profit association, TAC’s goal is to provide a neutral forum to gather and exchange relevant ideas and information on technical guidelines and best practices. TAC actively promotes the importance of transportation to Canada’s economic well-being, as well as safe, secure, efficient and environmentally and financially sustainable transportation services.

The Guide to Bridge Hydraulics Manual (2001) can be obtained through the TAC Bookstore at [www.tac-atc.ca](http://www.tac-atc.ca)
REGISTRATION

Please click to register online: http://www.csce.ca/gbh-register

7:45 Registration – 8:30 Start of Session – 10:00 Coffee Break – 12:00 Lunch – 15:00 Coffee Break – 16:30 – End of Session

Dates refer to receipt of registration by CSCE. Payment must be received to confirm your place. Fees include tax.

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<th>By November 1st, 2011</th>
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GROUP RATES (5 and more) are available upon request.

NEWLY ENROLLING MEMBERS pay a special introductory membership fee of $95 plus tax and obtain a discount on all future CSCE events.

Cancellation & Substitution  Cancellation requests received more than 14 calendar days before the start of the course will receive a full refund minus a $100 administration fee. Cancellation requests received within the 14 days prior to the start of the course will be non-refundable. CSCE reserves the right to cancel any course and will, in such event, fully refund all registration fees. Any registrant may substitute another person eligible for the same fee at any time prior to the start of the course.

For group rates and any additional information, please contact: Mahmoud Lardjane mahmoud@csce.ca 514-731-7859

CSCE MEMBERSHIP APPLICATION

Name________________________________________ Date of Birth__________________ Sex______

Indicate Desired Mailing Address

Home Address____________________________________________________________________________________
T_________________________ F______________________ E-mail_________________________________________

Employer____________________________________________________ Bus. Title___________________________
Address________________________________________________________________________________________
T_________________________ F______________________ E-mail_________________________________________

Professional Registration/Memberships Held_______________________________________ Provinces___________

Are you a member of any other Engineering Societies? If so, give details ______________________________________

SOCIETY PROVINCE(S) MEMBERSHIP GRADE
_______________________________________________________________________________________________

TECHNICAL DIVISION MEMBERSHIPS — Select up to three fields in order of preference, (i.e. 1, 2, 3)

__ Cold Regions __ Eng. Mechanics/Materials Eng. __ Hydrotechnical __ Computer Applications
__ Structural __ Transportation __ Construction __ Environment
__ Infrastructure Renewal __ Sustainable Dev.

Signature______________________________________________________________ Date__________________________