

Agenda

Presented by Dr. Omar El Masri

Introduction to Bridge Engineering

- Types of bridges
- Bridge design codes
- History of AASHTO specifications

Design Philosophies and Limit States

- Structural design philosophies
- ASD vs LFD vs LRFD
- LRFD calibration

Design Limit States and Loads

- Design limit states
- Load classification and combinations
- Dead loads
- Live loads
- Wind loads
- Other loads

Analysis of Bridge Superstructures

- Analysis methods: 1D vs 2D vs 3D
- Approximate vs refined analysis methods
- Comparison of analysis methods through examples



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Spanning Structures: A Primer to Bridge Engineering

Live, Interactive Webinar - Friday, September 20, 2024

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PO Box 278
Altoona, WI 54720-0278



Learning Objectives

You'll be able to:

Discuss different types of bridges and review AASHTO specifications.

Explore structural design philosophies.

Compare load and resistance factor design (LRFD) with allowable strength design (ASD).

Examine design limit states.

Classify loads and load combinations.

Analyze bridge superstructures using 1D, 2D and 3D methods.



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Spanning Structures: A Primer to Bridge Engineering

Live, Interactive Webinar - Friday, September 20, 2024



Explore types of bridges and bridge design codes

Discuss design limit states and types of loads

Compare structural design philosophies, including ASD and LRFD

Analyze bridge superstructures

Continuing Education Credits

Professional Engineers

6.5 PDHs

International Code Council

.65 CEUs (Building)

Architects

6.5 HSW CE Hours

6.5 AIA LU | HSW

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Webinar Information

Online - Friday, September 20, 2024

Log into Webinar 8:00 - 8:30 am CDT	Break 1:15 - 1:45 pm CDT
Morning Session 8:30 am - 1:15 pm CDT	Afternoon Session 1:45 - 4:00 pm CDT

Tuition
\$339 for individual registration.
\$309 per attendee for group registrations of two or more from the same company, at the same time, for the same program.

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Faculty

Dr. Omar El Masri
Dr. El Masri is a structural engineer renowned for his distinctive design and research expertise within the field of bridge engineering. His extensive background includes concrete and steel bridge rehabilitation, replacement design, in-depth structural inspections, and load rating assessments. Dr. El Masri has actively contributed to the design and rehabilitation of various bridge types across states such as Ohio, Kentucky, New York, Pennsylvania, and Massachusetts. He earned his Ph.D. degree in Civil Engineering and his M.B.A. degree from Syracuse University. Dr. El Masri has taught undergraduate and graduate level courses at Syracuse University including Bridge Engineering courses, and has co-authored multiple papers in prestigious international journals in the field of bridge/ structural engineering.

Credit Information

This webinar is open to the public and is designed to qualify for 6.5 PDHs for professional engineers and 6.5 HSW continuing education hours for licensed architects in all states that allow this learning method. Please refer to specific state rules to determine eligibility.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider License No: CEA362), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00049300) and North Carolina (S-0130). HalfMoon Education is deemed an approved continuing education sponsor for New York engineers and architects via its registration with the American Institute of Architects Continuing Education System (Regulations of the Commissioner §68.14(i)(2) and §69.6(i)(2)). Other states do not preapprove continuing education providers or courses.

The American Institute of Architects Continuing Education System has approved this course for 6.5 HSW LUs (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The International Code Council has approved this event for .65 CEUs in the specialty area of Building (Preferred Provider No. 1232).

Attendance will be monitored, and attendance certificates will be available after the webinar for those who attend the entire course and score a minimum 80% on the quiz that follows the course (multiple attempts allowed).

Additional Learning

- How to Calculate the Proper Size and Volume for Water Lines (Pex & Copper), Drain-Waste-Vent Lines and Natural Gas Lines**
- Tuesday, August 27, 2024 | 8:30 am - 3:30 pm CDT
 - Structural Engineering Calculations for Wood Construction**
- Tuesday, August 27, 2024 | 10:00 am - 1:15 pm CDT
 - Current Issues in Urban Planning: Climate Planning and Equity Planning**
- Wednesday, August 28, 2024 | 9:00 am - 4:00 pm CDT
 - Physics of Construction of a Building**
- Wednesday, August 28, 2024 | 8:30 am - 4:30 pm CDT
 - Innovative MS4 Stormwater Management Practices and Procedures**
- Thursday, August 29, 2024 | 9:00 am - 12:15 pm CDT
 - National Flood Insurance Program (NFIP) Problems and Proposed Reform**
- Thursday, September 5, 2024 | 9:00 - 11:00 am CDT
 - Residential and Small Commercial Roof Design and Construction**
- Friday, September 6, 2024 | 9:00 am - 4:30 pm CDT
 - Engineered Lumber Design and Construction**
- Monday, September 9, 2024 | 9:00 am - 5:00 pm CDT
 - 2024 International Building Code: Occupancy Classifications**
- Tuesday, September 10, 2024 | 12:00 - 4:30 pm CDT
 - Ethical Issues in Structural Engineering**
- Tuesday, September 10, 2024 | 10:00 - 11:00 am CDT
 - Plumbing Basics for Non-Plumbing Professionals**
- Tuesday, September 10, 2024 | 8:30 am - 3:30 pm CDT
 - Soil Mechanics, Bearing Capacity and Slope Stabilization**
- Tuesday, September 10, 2024 | 8:30 am - 4:30 pm CDT
 - Retaining Wall Tieback Design**
- Wednesday, September 18, 2024 | 11:00 am - 1:50 pm CDT
 - Distinguishing Between Construction Defects and Failures**
- Wednesday, September 25, 2024 | 1:00 - 3:00 pm CDT
 - Solar Photovoltaic Covered Parking Facilities**
- Monday, September 30, 2024 | 10:00 am - 12:00 pm CDT
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