

Credit Information

Seismic Design and Construction

This webinar is open to the public and is designed to qualify for 7.0 PDHs for professional engineers and 7.0 HSW continuing education hours for licensed architects in all states.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider No. 0004647), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700) 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 7.0 LU | HSW (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The International Code Council has approved this event for 0.7 CEUs in the specialty area of Building (Preferred Provider No. 1232).

Completion certificates will be awarded to participants who complete this event and earn a passing score (80%) on the quiz that follows the presentation (multiple attempts allowed).

Structural Dynamics for Seismic Design

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The American Institute of Architects Continuing Education System has approved this course for 6.0 LU | HSW (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The International Code Council has approved this event for .6 CEUs in the specialty area of Building (Preferred Provider No. 1232).

Completion certificates will be awarded to participants who complete this event and earn a passing score (80%) on the quiz that follows the presentation (multiple attempts allowed).

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Live, Interactive Webinars

- Seismic Design and Construction
- Structural Dynamics for Seismic Design

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Live, Interactive Webinars

Seismic Design and Construction

- Wednesday, September 7, 2022 | 8:30 am - 5:00 pm CDT

Structural Dynamics for Seismic Design

- Wednesday, September 14, 2022 | 8:30 am - 3:30 pm CDT

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HalfMoon Education Live Webinars



Seismic Design and Construction

Wednesday, September 7, 2022 | 8:30 am - 5:00 pm CDT

Credits:

Professional Engineers: 7.0 PDHs Architects: 7.0 HSW CE Hours
AIA: 7.0 LU | HSW International Code Council: .7 CEUs (Building)

Structural Dynamics for Seismic Design

Wednesday, September 14, 2022 | 8:30 am - 3:30 pm CDT

Credits:

Professional Engineers: 6.0 PDHs Architects: 6.0 HSW CE Hours
AIA: 6.0 LU | HSW International Code Council: .6 CEUs (Building)

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Seismic Design and Construction

Wednesday, September 7, 2022 | 8:30 am - 5:00 pm CDT (incl. a 60-min break)

Tuition: \$319 per registrant, \$289 per registrant for two or more

Credits: Professional Engineers: 7.0 PDHs Architects: 7.0 HSW CE Hours
AIA: 7.0 LU|HSW International Code Council: Pending

Agenda

Seismology and Earthquake Actions

- Earthquake characteristics
- Effects of soil conditions
- Western, central, and eastern U.S. seismicity

Structural Dynamics and Response

- Ground motions and structural response
- Response spectra
- Damping
- Modal superposition analysis

Modern Philosophy of Seismic Design

- Seismic design objectives
- Inelastic response and ductility
- Proportioning

U.S. Seismic Codes

- History
- Performance objectives
- Hazard levels

ASCE 7 Seismic Design

- Mapped spectral response
- Design response spectrum
- Seismic design category and design factors
- Seismic force resisting systems
- Estimating period
- Structural irregularities
- Equivalent lateral force procedure
- Load combinations, over strength, redundancy
- Diaphragms and shear walls
- Deflection limitations

Material-Specific Seismic Force Resisting Systems

- International Building Code (IBC) provisions
- American Institute of Steel Construction (AISC 341) provisions
- American Concrete Institute for Structural Concrete (ACI 318) provisions
- American Concrete Institute for Masonry Structures (ACI 530) provisions

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Structural Dynamics for Seismic Design

Wednesday, September 14, 2022 | 8:30 am - 3:30 pm CDT (incl. a 30-min break)

Tuition: \$319 per registrant, \$289 per registrant for two or more

Credits: Professional Engineers: 6.0 PDHs Architects: 6.0 HSW CE Hours
AIA: 6.0 LU|HSW International Code Council: .6 CEUs (Building)

Agenda

Background

- Rigid body vs elastic body dynamics
- Math – differential equations

Single Degree of Freedom Models

- Free vibration
 - Undamped
 - Damped
- Forced vibration
 - Harmonic
 - Random
- Response spectrum

Multi-Degree of Freedom Models

- Free vibration
 - Undamped
 - Damped
- Forced vibration
 - Harmonic
 - Random

ASCE-7 Seismic Analysis Methods

- Equivalent static
- Modal
- Time history

Modal Analysis Example

Time History Analysis Example

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Faculty

Eugene Brislin *Structural Engineer, Summerville, SC*

Mr. Brislin has been a professional engineer for more than 20 years and has designed many structures and performed many different types of analysis in that time. He has worked for a steel fabricator, an architectural/engineering firm and a seismic consultant and has been in private practice over 13 years. Mr. Brislin earned his BSCE degree from The Citadel in Charleston, South Carolina, and his MSCE degree from the University of South Carolina. He has completed all his course work for his PhD degree, but has not completed his dissertation. His graduate study work has been in mathematical elasticity.

Mr. Brislin has worked on a wide variety of projects from arenas such as Gund Arena in Cleveland, Ohio, and the Edward Jones Arena in St. Louis, Missouri, to renovation and seismic retrofit of the South Carolina State House and the design of the Columbia South Carolina Museum of Art. He has done stress analysis on weapons systems for the Department of Defense and has consulted on cellular telephone concealment projects.

Mr. Brislin's company routinely performs modal analysis of structures to provide more accurate seismic loads and to reduce the cost of seismic requirements through more advanced analysis techniques. The company is knowledgeable concerning structural dynamics and can perform a full dynamic analysis for complicated structures, and ductility requirements in concrete and masonry as well as welded steel moment connection requirements on toughness of steel.

Additional Learning

Ethical Issues of the Land Surveying Profession

- Thurs, Aug 4, 2022 | 3:00 - 5:00 pm CDT

Practical Engineering Economics

- Thurs, Aug 4, 2022 | 8:30 am - 4:20 pm CDT

Handling Ethical Issues Associated with Defects and Failures

- Tues, Aug 9, 2022 | 10:00 - 11:00 am CDT

2021 International Residential Code: Residential Energy Conservation

- Wed, Aug 10, 2022 | 11:00 am - 3:30 pm CDT

Structural Forensic Engineering

- Wed, Aug 10, 2022 | 10:00 am - 1:30 pm CDT
- Thurs, Aug 11, 2022 | 10:00 am - 1:30 pm CDT

Structural Design for Wood Construction

- Thurs, Aug 11, 2022 | 8:30 am - 5:00 pm CDT

Surveyors Rights and Liabilities to Enter Private Property for Performance of Survey

- Thurs, Aug 11, 2022 | 3:00 - 5:00 pm CDT

Designing for Fire Protection

- Fri, Aug 12, 2022 | 9:00 am - 4:00 pm CDT

Roadway Maintenance, Rehabilitation, and Repair

- Fri, Aug 12, 2022 | 9:00 am - 4:00 pm CDT

Determining and Checking the Stability of Retaining Walls

- Mon, Aug 15, 2022 | 2:00 - 4:00 pm CDT

Parking Structure Design, Construction and Maintenance

- Tues, Aug 16, 2022 | 8:30 am - 4:30 pm CDT

Eminent Domain: Power of Government to Take Private Property for Public Use

- Thurs, Aug 18, 2022 | 3:00 - 5:00 pm CDT

Pumping and Piping Systems

- Thurs, Aug 18, 2022 | 11:00 - 2:15 pm CDT
- Fri, Aug 19, 2022 | 11:00 - 2:15 pm CDT

Using AIA Document A201: General Conditions

- Wed, Aug 24, 2022 | 8:30 am - 4:00 pm CDT

Mass Timber Frame Design and Construction Under IBC 2021

- Thurs, Aug 25, 2022 | 8:30 am - 3:50 pm CDT

Effective Stormwater Infiltration

- Fri, Aug 26, 2022 | 8:30 am - 4:30 pm CDT

Complying with Industrial Stormwater Requirements

- Tues, Aug 30, 2022 | 9:00 am - 12:15 pm CDT
- Wed, Aug 31, 2022 | 9:00 am - 12:15 pm CDT

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