

# Agenda

*This seminar covers seismic design approaches, current building code theory, seismic design principles and behavior, and more. The seminar will be based on provisions in ASCE 7-10.*

## Seismology and Earthquake Actions

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

## Structural Dynamics & 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, overstrength, 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

**Seismic Design and Construction**  
Syracuse, NY - Wednesday, September 18, 2019

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U.S. POSTAGE PAID  
EAU CLAIRE, WI  
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HalfMoon Education Inc.  
PO Box 278  
Altoona, WI 54720-0278



## Learning Objectives

### You'll be able to:

**Learn** about seismology/earthquake actions and structural response.

**Explore** seismic design objectives and U.S. seismic codes.

**Examine** ASCE 7 seismic design.

**Review** seismic design categories, load combinations, overstrength and redundancy.

**Study** material-specific seismic force resisting systems for wood, steel, concrete and masonry.



# Seismic Design and Construction

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**Review** seismic design categories, load combinations, overstrength and redundancy

**Study** material-specific seismic force resisting systems

## Continuing Education Credits

### Architects

6.5 HSW Continuing Ed. Hours  
6.5 AIA LU|HSW

### Professional Engineers

6.5 Continuing Ed. Hours

### International Code Council

.65 CEUs (Building)

### Contractors

Non-Credit Continuing Ed.



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# Faculty

**Jon F. Sfura, Ph.D., P.E., S.E.** Senior Associate at Wiss, Janney, Elstner Associates, Inc. in Northbrook, Illinois

Dr. Sfura is a Senior Associate at Wiss, Janney, Elstner Associates, Inc. in Northbrook, Illinois. His experience includes the assessment of structural distress and serviceability problems, the investigation of structural failures, peer review, and the rehabilitation of structures. He has published and lectured on seismic design and performance, and the assessment and rehabilitation of structures.

Dr. Sfura received his B.S. degree in Civil Engineering from Purdue University, and his M.S. and Ph.D. degrees in Civil Engineering from the University of Illinois. He studied the nonlinear seismic response of asymmetric steel structures to earthquake ground motions as a doctoral candidate. He is a licensed Structural Engineer in Illinois, Civil Engineer in California, and Professional Engineer in Florida and Michigan. He is a member of the Building Seismic Safety Council (BSSC), Earthquake Engineering Research Institute (EERI), and the Structural Engineers Association of Illinois (SEAOI).

Wiss, Janney, Elstner Associates, Inc. is an employee-owned interdisciplinary firm with nineteen offices across the United States. Its team of structural engineers, architects, and material scientists use problem solving and a hands-on technical approach to construction challenges, with virtually every construction material, structural system, and architectural component.

## Here's what past attendees had to say about the program and presenter Jon Sfura:

"Best seminar I have ever paid for." – *Architect/Land Planner*

"Best lecturer, presenter, professor type I have ever had." – *Professional Engineer*

"Dr. Sfura's presentation was excellent." – *Structural Engineer*

# Seminar Information

## Sheraton Syracuse University Hotel

801 University Avenue  
Syracuse, NY 13210  
(315) 475-3000

Registration  
8:00 - 8:30 am  
Morning Session  
8:30 - 11:45 am  
Lunch (on your own)  
11:45 am - 12:45 pm  
Afternoon Session  
12:45 - 4:30 pm

## Tuition

**\$289** for individual registration  
**\$269** for three or more registrations.

*Each registration includes a complimentary continental breakfast and printed seminar manual.*

## How to Register

- Visit us online at [www.halfmoonseminars.org](http://www.halfmoonseminars.org)
- Mail-in or fax the attached form to 715-835-6066
- Call customer service at 715-835-5900

**Cancellations:** Cancel at least 48 hours before the start of the seminar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar. You may also send another person to take your place.

**Attendance** will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

## Continuing Education Credit Information

This seminar is open to the public and offers up to 6.5 HSW continuing education hours to architects and 6.5 continuing education hours to professional engineers in all states.

HalfMoon Education is deemed a New York-approved continuing education provider for architects via its affiliation with the American Institute of Architects.

This event is approved by the American Institute of Architects for 6.5 LU|HSW (Sponsor No. J885). Only full attendance can be reported to the AIA/CES. Visit [www.halfmoonseminars.org](http://www.halfmoonseminars.org) to view complete AIA information under this course listing.

Courses for New York engineers offered by sponsors recognized the American Institute of Architects are considered approved if they contribute to the development and maintenance of professional knowledge in approved subject areas.

This event offers a non-credit continuing education opportunity to construction contractors. It has not been approved by any state with a continuing education requirement for contractors

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

# Additional Learning

## Webinar Series

### Off-grid Master Class

- **Off-grid Master Class, Part I**

Thurs., August 1, 2019, 11:00 AM - 2:15 PM CDT

- **Off-grid Master Class, Part II**

Fri., August 2, 2019, 11:00 AM - 2:15 PM CDT

### Stormwater Infiltration

- **Infiltration and Soil: Water Science**

Thurs., August 8, 2019, 11:00 AM - 12:30 PM CDT

- **Infiltrating Stormwater and Maximizing Infiltration**

Thurs., August 8, 2019, 1:00 - 2:30 PM CDT

- **Improving Infiltration with Low Impact Development Techniques**

Fri., August 9, 2019, 11:00 AM - 12:30 PM CDT

### Structural Design and Ethics

- **Structural Design: Ethical Issues**

Thurs., August 15, 2019, 11:00 AM - 12:00 PM CDT

- **Structural Design: Gravity Forces**

Thurs., August 15, 2019, 12:30 - 2:30 PM CDT

- **Structural Design: Lateral Forces**

Fri., August 16, 2019, 11:00 AM - 12:30 PM CDT

- **Structural Design: Wind, Seismic and Connections**

Fri., August 16, 2019, 1:00 - 2:30 PM CDT

### Proposal Writing

Wed., August 7, 2019, 11:00 AM - 3:30 PM CDT

### Technical Writing

- **Planning Documents**

Wed., August 14, 2019, 11:00 AM - 1:00 PM CDT

- **Writing Documents**

Wednesday, August 14, 2019, 1:30 - 3:30 PM CDT

- **Revising and Editing Documents**

Thurs., August 15, 2019, 11:00 AM - 1:00 PM CDT

- **Technical Writing Best Practices**

Thurs., August 15, 2019, 1:30 - 3:30 PM CDT

### Introduction to Hydro Energy

#### Logic Modeling Software (HELP-FL)

- **Introduction to Hydro Energy Logic Program Modeling Software (HELP-FL), Part I**

Tues., August 20, 2019, 11:00 AM - 2:00 PM CDT

- **Introduction to Hydro Energy Logic Program Modeling Software (HELP-FL), Part II**

Wed., August 21, 2019, 11:00 AM - 2:30 PM CDT

For more information visit:  
[www.halfmoonseminars.org/webinars/](http://www.halfmoonseminars.org/webinars/)

# Registration

## Seismic Design and Construction

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How to Register		Registrant Information
<b>Online:</b> <a href="http://www.halfmoonseminars.org">www.halfmoonseminars.org</a>		Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip: _____ Occupation: _____ Email: _____ Phone: _____
<b>Phone:</b> 715-835-5900		<b>Additional Registrants:</b> Name: _____ Occupation: _____ Email: _____ Phone: _____
<b>Fax:</b> 715-835-6066	<b>Code:</b>	Name: _____ Occupation: _____ Email: _____ Phone: _____
<b>Mail:</b> HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278		Name: _____ Occupation: _____ Email: _____ Phone: _____
<b>Complete the entire form.</b> Attach duplicates if necessary.		Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.
( )  I need special accommodations. Please contact me.		

## Tuition

( ) **I will be attending the live seminar.** Single Registrant - **\$289.00**. Three or more registrants from the same company registering at the same time - **\$269.00** each.

**Checks:** Make payable to HalfMoon Education Inc.

**Credit Card:** *Mastercard, Visa, American Express, or Discover*

Credit Card Number: \_\_\_\_\_

Expiration Date: \_\_\_\_\_ CVV2 Code: \_\_\_\_\_

Cardholder Name: \_\_\_\_\_

Billing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Signature: \_\_\_\_\_

Email: \_\_\_\_\_