

# Agenda

*Presented by Gergis William*

## Understanding Structural Loads

- Types of structural loads
- General structural integrity
- Classifying buildings and structures
- Modifying and expanding existing structures

## Dead Loads, Soil Loads and Hydrostatic Pressure

- Weight of materials and structure
- Soil loads and hydrostatic pressure

## Live Loads

- Uniformly-distributed loads
- Concentrated loads
- Required live loads
- Impact loads

## Rain, Ice and Snow Loads

- Calculating rain, ice and snow loads on roofs
- Design coefficients
- Unbalanced, drifting and sliding loads
- Calculating flood loads

## Wind Loads

- Wind speed, importance factor, exposure, enclosure classifications
- Allowed procedures (methods 1, 2 and 3)
- Basic definitions and requirements
- Main wind force resisting system vs. components and cladding

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## Structural Design Loads

### under the ASCE 7 Standard

Live, Interactive Webinar - Friday, January 22, 2021



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## Learning Objectives

### You'll be able to:

**Identify** different types of structural loads on buildings, and classify buildings and structures.

**Calculate** dead loads, soil loads and hydrostatic pressure on structures.

**Design** for live loads, including concentrated loads and impact loads.

**Design** for rain, snow, ice and flood loads.

**Consider** wind loads, and discuss main wind force resisting systems.

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# Structural Design Loads under the ASCE 7 Standard

Live, Interactive Webinar - Friday, January 22, 2021



**Classify** buildings by occupancy category

**Learn** how to design for dead loads, soil loads, and hydrostatic pressure

**Meet** requirements for uniform and concentrated live loads

**Design** for loads resulting from flood waters and waves

**Calculate** rain, ice and snow loads on roofs

**Design** for wind loads

## Continuing Education Credits

### Professional Engineers

7.0 PDHs

### Architects

7.0 HSW CE Hours

### AIA

7.0 LU | HSW

### International Code Council

.7 CEUs (Building)



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# Faculty

## Gergis William, Ph.D., P.E., F.SEI, F. ASCE

Senior Structural Engineer at AECOM and Adjunct Associate Professor at West Virginia University

Dr. William is a professional structural engineer with over 25 years of academic and consulting experience in the structural analysis, design, long-term monitoring, and condition assessment of highway bridges and pavement structures. His experience has also extended to the design and construction of waterfront structures, as well as industrial and high-rise residential buildings. Dr. William has published over 120 articles in international journals and conference proceedings. He is a member of several national technical committees and has participated in writing four design codes/guidelines published by the American Concrete Institute.

Dr. William has extensive experience with 3D nonlinear finite element analysis of diverse complex structures using LS-DYNA. He has dealt with problems involving mesh construction of complicated geometries, contact, nonlinear material behavior, fracture and failure analysis, and validating results with experimentally measured data. He has experience with lightweight composite structures with an emphasis on automotive light-weighting technologies and lightweight dense hydrogen storage systems. He has also worked on the structural characterization of lightweight composite materials including polymer-reinforced composites and metal matrix composites.

Starting his career as a structural/geotechnical engineer, followed by long experience with long-term field monitoring of the performance of various types of bridges, Dr. William has been exposed to many problems associated with bridge construction and design specifications such as early age full-depth longitudinal cracks in empirically designed bridge decks, transverse deck cracking, out-of-plane web distortion of steel I-girders, and restrained bridge expansion at integral abutment or expansion joints. Dr. William has provided expert assistance in several issues such as early age longitudinal cracking of empirically designed bridge decks and out-of-plane distortion of steel girders through WVDOT/FHWA task force in 2006-2007.

# Webinar Information

Log into Webinar 8:00 - 8:30 am CST	Break 11:45 am - 12:45 pm CST
Morning Session 8:30 - 11:45 am CST	Afternoon Session 12:45 - 5:00 pm CST

## Tuition

**\$289** for individual registration

**\$199** for three or more registrants from the same company at the same time.

**Included with your registration:** PDF 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
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**Cancellations:** Cancel at least 48 hours before the start of the webinar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another webinar or the self-study package. You may also authorize another person to take your place.

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# Additional Learning

## Structural Forensic Engineering

- Wed, Dec 16, 2020 | 10:00 am - 1:45 pm CST

- Thur, Dec 17, 2020 | 10:00 am - 2:15 pm CST

## Reading, Interpreting and Writing Land Descriptions Workshop

- Thur, Dec 17, 2020 | 9:00 am - 4:00 pm CST

## International Residential Code 2018

- Fri., Dec 18, 2020 | 8:30 am - 4:45 pm CST

## Preventing and Addressing Construction Defects and Failures

- Mon, Dec 21, 2020 | 8:30 am - 5:00 pm CST

## Special Inspections under the International Building Code Chapter 17

- Mon, Dec 28, 2020 | 9:00 am - 4:30 pm CST

## Deep Foundations and Excavations

- Wed, Dec 30, 2020 | 9:00 am - 5:00 pm CST

For more information and other online learning opportunities visit: [www.halfmoonseminars.org](http://www.halfmoonseminars.org)

## Continuing Education Credit Information

This webinar offers 7.0 PDHs to professional engineers and 7.0 HSW continuing education hours to architects licensed 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), North Carolina (S-0130), and North Dakota. 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 .7 CEUs in the specialty area of Building (Preferred Provider No. 1232).

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

# Registration

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How to Register		Registrant Information
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<b>Phone:</b> 715-835-5900	<b>Code:</b>	<b>Additional Registrants:</b> Name: _____ Occupation: _____ Email: _____ Phone: _____ Name: _____ Occupation: _____ Email: _____ Phone: _____
<b>Fax:</b> 715-835-6066		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.
<b>Mail:</b> HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278		( )  I need special accommodations. Please contact me.
<b>Complete the entire form.</b> Attach duplicates if necessary.		

## Tuition

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( ) **I am not attending.** Please send me the webinar recording:

- Streamable MP4 Video/PDF Manual for **\$299.00**.
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