

Agenda

Presented by Jorge F. Meneses, Ph.D., P.E., G.E., D.GE, F.ASCE

Introduction – Seismic Ground Motions and Structural Dynamics

- Single-degree and multi-degree of freedom systems
- Earthquake actions, ground motions and structural response
- Response spectra
- Time histories and RotDnn motions (NGA project)

Ground Motion Hazard Evaluation: Site Characterization, Near-Source, Probabilistic and Deterministic Analyses

- Site characterization
- Probabilistic and deterministic analyses
- Near-source effects

General Procedures for the Evaluation of Seismic Hazard (ASCE 7-22)

- Definition of MCE_R and design response spectra
- Site coefficients
- Horizontal and vertical response spectra

Site-Specific Ground Motion Procedures (ASCE 7-22)

- Site response analysis
- Probabilistic and deterministic MCE_R
- Design response spectrum and design acceleration parameters

Ground Motions for Nonlinear Analysis (ASCE 7-22)

- Target response spectrum (UHS and conditional mean spectrum)
- Ground motion selection and modification
- Application of ground motions to structural model

Seismic Ground Motions for Seismically Isolated Structures and Structures with Damping Systems (ASCE 7-22)

- Spectral response acceleration parameters and response spectrum
- Ground motions for response history analysis

Performance Objectives and Target Building Performance Levels (ASCE 41-17)

- Basic, enhanced and limited performance objectives
- Structural and non-structural performance levels and ranges

Evaluation of Seismic Hazard and Level of Seismicity (ASCE 41-17)

- General and site-specific procedures
- BSE-2N and BSE-1N seismic hazard levels
- BSE-2E and BSE-1E seismic hazard levels

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Seismic Ground Motions for Seismic Design

Live, Interactive Webinar - Thursday, June 16, 2022

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Learning Objectives

You'll be able to:

Clarify the use of seismic ground motions for the seismic design of structures.

Understand the basis and principles of probabilistic and deterministic seismic hazard analyses.

Understand the difference of Uniform Hazard Spectrum (UHS), Uniform Risk Spectrum (URS) and Conditional Mean Spectra (CMS).

Learn the latest changes included in the standard ASCE 7-22 with respect to ASCE 7-16.

Learn the evaluation of seismic ground motions per ASCE 41-17 applicable to existing buildings.

HalfMoon Education Live Webinars

Seismic Ground Motions for Seismic Design

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Clarify the use of seismic ground motions for the seismic design of structures

Examine the basis and principles of probabilistic and deterministic seismic hazard analyses

Study the difference of Uniform Hazard Spectrum (UHS), Uniform Risk Spectrum (URS) and Conditional Mean Spectra (CMS)

Continuing Education Credits

Professional Engineers
7.0 PDHs

International Code Council
.7 CEUs (Building)

Architects
7.0 HSW CE Hours
7.0 AIA LU | HSWs



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Faculty

Jorge F. Meneses, Ph.D., P.E., G.E., D.GE, F.ASCE
Principal Geotechnical Engineer, RMA Group, Inc.
Dr. Jorge Meneses is principal geotechnical engineer with RMA Group. He was a member of the California Seismic Safety Commission appointed by Governor Brown and confirmed by State Senate (2017-2021). He is a reviewer of seismic ground motions for the seismic design of high rise buildings for the City of San Diego, part-time faculty at San Diego State University, Fellow of the American Society of Civil Engineers (ASCE), member of the Industry Advisory Board of the Department of Structural Engineering at University of California San Diego, member of the Board of Directors of the Earthquake Engineering Research Institute (EERI), President of the EERI San Diego Chapter, past member of the ASCE 7-16 Committee (Minimum Design Loads for Buildings and Other Structures); member of the ASCE 1 Committee (Geotechnical Analysis, Design, Construction, Inspection and Monitoring of Nuclear Safety-Related Structures); Honorary chair of the ASCE Geo-Institute San Diego Chapter; and member of the Academy of Geo-Professionals.

Webinar Information

Log into Webinar 9:00 - 9:30 am CDT	Break 1:30 - 2:00 pm CDT
Morning Session 9:30 am - 1:30 pm CDT	Afternoon Session 2:00 - 5:30 pm CDT

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- Thurs, May 19, 2022 | 8:30 am - 5:00 pm CDT
- Site Design: Grading and Drainage**
- Fri, May 20, 2022 | 8:30 am - 4:30 pm CDT
- HEC-RAS Modeling Basics**
- Mon, May 23, 2022 | 8:30 am - 5:00 pm CDT
- Aerial Mapping Technologies and Procedures**
- Tues, May 24, 2022 | 8:30 am - 5:00 pm CDT
- Flood-Resistant Design and Construction**
- Wed, May 25, 2022 | 11:00 am - 2:00 pm CDT
- Thurs, May 26, 2022 | 11:00 am - 3:00 pm CDT
- Soil Mechanics, Bearing Capacity and Slope Stabilization**
- Wed, May 25, 2022 | 8:30 am - 4:30 pm CDT
- Universal Residential Design**
- Wed, May 25, 2022 | 8:30 am - 4:30 pm CDT
- Residential and Small Commercial Timber Frame Design and Construction**
- Thurs, May 26, 2022 | 8:30 am - 4:30 pm CDT
- 2021 International Residential Code: Residential Building Planning**
- Wed, June 1, 2022 | 11:00 am - 3:30 pm CDT
- Federal Wetlands Science, Law, and Compliance**
- Fri, June 3, 2022 | 9:00 am - 4:00 pm CDT
- National Electrical Code 2020: Grounding and Bonding**
- Tues, June 7, 2022 | 8:30 am - 5:00 pm CDT
- Deep Foundations and Excavations**
- Wed, June 8, 2022 | 8:30 am - 4:30 pm CDT
- Complying with the Residential Provisions of the IECC 2021**
- Thurs, June 9, 2022 | 8:30 am - 4:30 pm CDT
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This course is open to the public and offers 7.0 PDHs to professional engineers and 7.0 HSW continuing education hours to licensed architects in all states.

The American Institute of Architects Continuing Education System has approved this course for 7.0 LU | HSWs (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

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The International Code Council has approved this event for .7 CEUs in the specialty area of Building (Preferred Provider No. 1232).

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Added Value:
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Registration

Seismic Ground Motions for Seismic Design

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