

Credit Information

High-Performance Building Envelopes: Designing for Energy Efficiency and Durability

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) 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 .70 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).

Designing for Accessibility under ADA Standards and IBC

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Live, Interactive Webinars

- High-Performance Building Envelopes:
Designing for Energy Efficiency and Durability
- Designing for Accessibility under ADA Standards and IBC

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Live, Interactive Webinars

High-Performance Building Envelopes: Designing for Energy Efficiency and Durability

- Wednesday, March 23, 2022 | 10:00 am - 1:45 pm CST
- Thursday, March 24, 2022 | 10:00 am - 1:45 pm CST

Designing for Accessibility under ADA Standards and IBC

- Tuesday, March 29, 2022 | 8:30 am - 12:15 pm CST
- Wednesday, March 30, 2022 | 8:30 am - 12:15 pm CST

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7.0 AIA LU | HSW International Code Council: .7 CEUs (Building)



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AIA
Continuing
Education
Provider



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Agenda Day One

Creating a Building Envelope as Part of a Whole Building Approach

- The weather outside and the weather inside
- Learning from legacy building envelopes and systems
- Contemporary systems and emergent trends
- Occupancy and use
- Energy modeling overview – prediction and measurement
 - Energy overview – generation, consumption, conservation
 - Embodied energy from construction, materials procurement
 - Operational energy
 - Life-cycle cost analysis

Regulatory Overview

- The shifting energy landscape – electricity, oil, cogeneration, solar, natural gas, steam
- Impact of energy efficiency upgrades on green designations
 - LEED
 - Energy Star
 - Green Globes and others

Layer by Layer - Four Critical Barriers and the Anatomy of Wall Systems

- Waterproofing and flow control
- Vapor retarders and moisture control
- Heat transfer principles and thermal performance
- Air barriers and air leakage
- Insulation and thermal bridging
- Additional considerations – sound, light, energy absorption, durability, aesthetics
- Evaluating exemplar wall systems (masonry, rain screen, EIFS, curtain wall)

Agenda Day Two

“It looked good on paper” – Cautionary Tales of Building Envelope Failures

- Early service life failures
- Repair and retrofit failures

Foundations, Slabs, and Floors

- Four barriers below grade (air, thermal, water, vapor)
- Geotechnical considerations
- Earth as enclosure – below-grade buildings

Designing and Installing Efficient Fenestration Systems

- Fenestration characteristics and parameters affecting energy efficiency
- Selection of window systems for energy efficiency
- Coordinating window and door locations in the envelope
- Laboratory and field testing to predict and verify performance

Designing Energy-Efficient Roofing Systems

- Determining insulation level for roofs
- Working with low-slope roofs
- Metal-panel roofs and steep-slope roofs
- Vegetative roofs and “cool” roofs
- Transitions – integrating the roof with the building envelope

Strategies for Enhancing the Performance of Existing Building Envelopes

22 USHPBEV1 3 23 WEBR FC - 22 USHPBEV2 3 24 WEBR FC

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Agenda Day One

Complying with Federal and State Accessibility Requirements

- History and development of the International Building Code (IBC)
- Development of the Americans with Disabilities Act Standards for Accessible Design
- Relationship between ADA federal requirements and IBC:
 - which code applies to which project?
- Entities and facilities that are covered
- Scoping requirements
- Alterations
- New policies and procedures
- Readily-achievable barrier removal
- New construction
- Safe harbors

Agenda Day Two

Meeting Standards in ADA Standards and the IBC

- Path of travel
- Exterior accessible routes
- Entrances and doors
- Accessible toilet facilities
- Drinking fountains
- Accessible kitchen facilities
- Assistive listening systems
- Accessible parking
- Ramps and stairways
- Interior accessible routes
- Showers
- Signage standards
- Assembly areas

Reviewing New Materials/Technologies and Anticipated Developments in Codes/Standards

22 USD4AAD1 3 29 WEBR CP - 22 USD4AAD2 3 30 WEBR CP

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Faculty

High-Performance Building Envelopes: Designing for Energy Efficiency and Durability

Michael Drerup, P.E., F.ASCE, has 26 years of structural engineering and building technology experience, with an emphasis on the performance, maintenance, repair and retrofit of existing buildings and structures. He has planned and directed field and laboratory studies to evaluate the performance and durability of a variety of building systems, components, and materials, including structural systems, facades, and flooring. Mr. Drerup often works closely with specialists in other disciplines to assemble and manage teams tailored for larger and more complex assignments. He has also investigated numerous damage claims resulting from a variety of natural and man-made causes, including earthquakes, weather events, explosions, fire, impact, construction activities, and defective design or construction. Mr. Drerup has served as an expert witness in numerous cases, and has testified at deposition, trial, and mediation. He has served on ASCE’s Forensic Engineering Division since 2001, and recently completed his term as division chair. During that time, he had led the development of continuing education seminars for engineers and architects, chaired ASCE’s Fifth Congress on Forensic Engineering in Washington, DC. Mr. Drerup has also represented ASCE internationally, including sponsored trips to forensic engineering conferences in India and Guatemala, and collaboration with the Institution of Forensic Engineers in the United Kingdom. He has served as a reviewer for ASCE’s *Journal of Performance of Constructed Facilities* for more than 15 years, and he was guest editor for a special topic issue on non-destructive evaluation of existing buildings and infrastructure. Mr. Drerup regularly publishes and presents on a range of topics including technical issues, professional practice, and architectural and engineering history.

Designing for Accessibility under ADA Standards and IBC

Kristi Avalos *President and CEO of Accessology Too, LLC*

Ms. Avalos is a nationally renowned leader in providing accessibility-related services and is a sought-after speaker with a knack for using an upbeat approach to help others understand the complexities of compliance with the Americans with Disabilities Act (ADA). With over 40 years of experience, she provides expert witnessing on ADA, 504, Federal Housing Administration, and Air Carrier Access Act legal cases. In 1990 she founded Accessology Too, LLC, which is a national leader in providing accessibility consulting services and is one of the largest U.S. firms dedicated solely to accessibility and access issues. Since its founding, Accessology has worked closely with the Department of Justice and the U.S. Access Board to remain knowledgeable and adept with the constant changes that occur regarding ADA guidelines. Accessology has worked on numerous multi-million-dollar projects to impact accessibility compliance during all stages from schematics to construction and final inspections. Since 2005 Accessology has specialized in the development, execution, and monitoring of the required ADA Transition Plans for Title II entities to help them avoid access-related litigation since so much litigation is tied to not having a Transition Plan on file. Ms. Avalos and her team at Accessology are committed to removing structural and attitudinal barriers that adversely impact people with disabilities.

Additional Learning

Slope Stabilization and Landslide Prevention

- Wed, Feb 23, 2022 | 8:30 am - 5:00 pm CST

Soils in Construction

- Thurs, Feb 24, 2022 | 12:00 - 4:00 pm CST
- Fri, Feb 25, 2022 | 12:00 - 4:00 pm CST

Introduction to HEC-RAS Modeling

- Fri, Feb 25, 2022 | 8:30 am - 5:00 pm CST

Patent Law for Engineers

- Mon, Feb 28, 2022 | 8:30 am - 4:00 pm CST

Shallow Foundation Design

- Thurs, March 3, 2022 | 11:00 am - 2:15 pm CST
- Fri, March 4, 2022 | 11:00 am - 2:15 pm CST

Engineered Lumber Design and Construction

- Tues, March 8, 2022 | 8:30 am - 12:10 pm CST
- Wed, March 9, 2022 | 8:30 am - 12:10 pm CST

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