

Credit Information

2024 Passive House Standard: 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 that allow this learning method. Please refer to specific state rules to determine eligibility.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider License No: CEA362), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GPOOO49300) and North Carolina (S-O130). 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 HSW LUs (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 Sustainability (Preferred Provider No. 1232).

Attendance will be monitored, and attendance certificates will be available after the webinar for those who attend the entire course and score a minimum 80% on the quiz that follows the course (multiple attempts allowed).

On-Demand Credits

The preceding credit information only applies to the live presentation. This course in an on-demand format is not pre-approved by any licensing boards and may not qualify for the same credits; please consult your licensing board(s) to ensure that a structured, asynchronous learning format is appropriate. The following pre-approvals may be available for the on-demand format upon request: 7.0 HSW LUs (AIA)

Load Paths: Determining Member Loads in Structures

This webinar is open to the public and is designed to qualify for 6.5 PDHs for professional engineers and 6.5 HSW continuing education hours for licensed architects in all states that allow this learning method. Please refer to specific state rules to determine eligibility.

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

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Live, Interactive Webinars

- 2024 Passive House Standard: Design and Construction
- Load Paths: Determining Member Loads in Structure

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Live, Interactive Webinars

2024 Passive House Standard: Design and Construction

- Thursday, December 19, 2024 | 9:00 am - 5:00 pm CST

Load Paths: Determining Member Loads in Structure

- Friday, December 20, 2024 | 9:00 am - 4:30 pm CST

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Two Live, Interactive Webinars for Professional Growth



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AIA: 6.5 LU|HSW | International Code Council: .65 CEUs (Building)

To register, visit us online at

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Agenda:

Understanding the Energy Efficiency of Conventional Construction

- Facts and figures on residential energy use
- History of energy-conserving residential construction
- Building code requirements
- Energy conservation incentives
- Heat transfer basics
- Common energy and moisture issues in buildings

Passive House Standard: Purpose, Principles and Development

- History of certifying agencies in US: PHI and PHIUS
- Passive House Standard: voluntary performance-based building envelope energy standard
- Strategic design, planning process, and the team
- Passive House certification criteria
- Architecture/engineering the perfect wall
- Architecture/engineering: a sample project with pre-certification documentation
- Examining common design features of Passive Houses

Architectural Elements of Passive Houses

- Siting, sizing and orientation
- Super-insulated envelope with minimized thermal bridging
- High performance windows and doors
- Air tightness, controlled ventilation
- Moisture and air barriers
- Ultra-efficient lights, fixtures and appliances
- Summer shading and cooling strategies
- Winter solar gain and heat retention strategies
- Integrating renewable energy technologies

Mechanical/ Electrical Systems in Passive Houses

- Cooling/heating loads
- Ventilation systems
- Heating/cooling systems
- Water heating
- Renewable energy generation
- Energy storage
- Energy monitoring

Financial Analysis/Passive House Case Studies

- Financial Issues
- Westbrook House case study
- Case studies: in the planning process, under construction and finished projects

Innovative Mechanical solution for Passive House Multi-Family Buildings:

Presented by Paul Westbrook

Presented by

Roger Taylor is a certified Passive House consultant and Passive House rater. He is a HERS rater, and he is certified by Energy Star, DOE Zero Energy Ready Home, IECC and BPI. Mr. Taylor has served on the ANSI/RESNET National Committee for water efficiency; on the Environmental Committee for the Town of Fairview, Texas, and as project manager for large commercial data centers. This is a second career after the US Navy, a computer science degree and 35 years in the computer services industry.

Andrew Peel is a renowned expert in the field of Passive House buildings. He is the founder and principal of Peel Passive House Consulting, a consulting firm that specializes in supporting the design and constructing of high-performance, low carbon buildings. Mr. Peel has over 15 years of experience in the field and is an accredited Passive House certifier, consultant, and trainer. Mr. Peel's passion for sustainable building began early in his career, and he has been dedicated to promoting energy efficiency and sustainability ever since. He has worked on a wide range of projects, including residential homes, multi-family dwellings, and commercial buildings, all with the aim of improving occupant quality of life, reducing energy consumption, and minimizing environmental impact. As a certified Passive House consultant, Mr. Peel is well-versed in the principles of energy-efficient design and construction. He has a deep understanding of building science and can apply this knowledge to create buildings that are not only energy-efficient but also comfortable and healthy for their occupants. Mr. Peel is also an active member of the sustainable building community, regularly attending conferences and events to stay up to date on the latest developments and innovations in the field. He is committed to educating others about the benefits of sustainable building and is always eager to share his expertise with clients, colleagues, and industry partners. With his passion, expertise, and commitment to sustainability, he is a leading figure in the industry and a valuable asset to any project.

Paul Westbrook designed his own solar home in north Texas in 1996, which won the Energy Value Housing Award for Innovative Design. It still ranks as one of the most efficient homes in Texas. While serving as sustainable development manager at Texas Instruments International Facilities, he was the LEED AP for the 1.1 million square foot Texas Instruments factory, which was the first LEED Gold semiconductor factory in the world. Mr. Westbrook led the effort to improve the energy and water efficiency of TI's 20 million square feet of existing global facilities. They were able to double the company energy and water efficiency in less than 10 years. In 2012, he was named a Senior Fellow for the US State Department's Energy and Climate Partnership of the Americas program. Mr. Westbrook visited Honduras, Bolivia, Columbia, and Peru where he worked with governments, universities, and industry on efficiency and renewable energy. Mr. Westbrook received his B.S. degree in Mechanical Engineering from Louisiana State University, Baton Rouge, Louisiana, in 1982.

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Agenda:

Gravity Load Paths

- Floor to beam
- Beam to column
- Column to footing

Lateral Load Paths

- Components and cladding supports
- Wind loads to main wind force resisting system

Roofs and Trusses

- Top chord bearing truss
- Bottom chord bearing truss
- A-frame roof truss

Floors and Foundations

- Retaining walls
- Spread footing bearing on soil
- Combined footing

Shear Walls and Frames

- Masonry shear wall
- Wood stud shear wall
- Steel moment frame
- Steel braced frame
- Wood moment frame
- Light gauge shear wall

Examples and Case Studies

Presented by

Marcus E. Woods, PE & LEED AP *Woods Residential Engineering & Inspection*

After working in engineering and design management with award-winning structural and construction firms for nearly 10 years, Mr. Woods founded his own firm, Woods Residential Engineering & Inspection. Mr. Woods is a licensed professional engineer in multiple states, holds bachelor's and master's degrees in Civil Engineering (with a focus on structures) from Washington University in St. Louis. He has earned "Accredited Professional" status from the U.S. Green Building Council. Mr. Woods is a member of: The Woods Educational Enrichment Foundation, The National Society of Black Engineers (NSBE) (Director of Programs for the Chicago professional chapter), the American Society of Civil Engineers, and the Structural Engineers Association of Illinois.

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