

Agenda

Presented by Kevin MacDonald, PE

Reinforced Concrete Building History, Development and Applications

- History and types of reinforced concrete buildings
- Applications for reinforced concrete buildings
- Codes governing concrete building construction
- American Concrete Institute (ACI) 318: Building Code Requirements for Structural Concrete

Standards, Requirements, Loads and Design

- Referenced standards
- Structural system requirements
- Loads
- Structural analysis

Designing Building Components

- One-way slabs
- Two-way slabs
- Beams
- Columns

Designing More Building Components

- Walls
- Diaphragms
- Foundations
- Plain concrete

Joints, Connections and Anchors

- Beam-column and slab-column joints
- Connections between members
- Anchoring to concrete

Steel Reinforcement

- Steel reinforcement properties, durability and embedments
- Strength reduction factors
- Sectional strength
- Serviceability
- Reinforcement details

Case Studies and Examples

- Construction documents and inspections
- Examples of completed buildings

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Reinforced Concrete Building Design and Construction

Live, Interactive Webinar - Friday, April 26, 2024

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Learning Objectives

You'll be able to:

Identify applications for reinforced concrete buildings.

Review the American Concrete Institute's (ACI's) standards for structural concrete design and construction.

Examine the design of structural building components including beams, columns, diaphragms and walls.

Discuss the appropriate use of joints, connections and anchors.

Explore steel reinforcement properties and reinforcement details.

Discuss case studies and examples of completed buildings.



HalfMoon Education Live Webinars

Reinforced Concrete Building Design and Construction

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Examine the applications for reinforced concrete buildings

Discuss standards, requirements, loads and design of reinforced concrete

Examine one-way and two-way reinforced concrete slab design

Explore the design of reinforced concrete of building components such as walls and foundations

Learn about connections between members and consider the process of anchoring to concrete

Review actual case studies and examples of completed reinforced concrete buildings

Continuing Education Credits

Professional Engineers
7.0 PDHs

Architects
7.0 HSW CE Hours
7.0 AIA LU | HSW

International Code Council
.7 CEUs (Building)



Webinar Information

Log into Webinar 8:00 - 8:30 am CDT	Break 12:00 - 12:30 pm CDT
Morning Session 8:30 am - 12:00 pm CDT	Afternoon Session 12:30 - 4:30 pm CDT

Tuition
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Faculty



Kevin MacDonald
President & Principal Engineer with Beton Consulting Engineers, LLC, PE in Minnesota, and Florida and P.Eng. in Ontario, British Columbia, and Alberta, Canada
Mr. MacDonald is a Fellow of the American Concrete Institute (ACI) and a member of ASTM, ASCE, the Concrete Society and Professional Engineers Ontario. His commitment to ACI includes a role as the past chair of the 132-Responsibility in Concrete Construction and chair of subcommittee 130-0B Production/Transport/Construction and 302 Construction of Concrete Floors. Further, Mr. MacDonald is a member of ACI committees 211-Proportioning Concrete Mixtures, 212-Chemical Admixtures, 223-Shrinkage-Compensating Concrete, and 232-Fly Ash in Concrete and 318 sub-A. In addition to his concrete consulting work, he is an assistant professor at the University of Wisconsin-Stout in the construction management program where he teaches courses in concrete, reinforced concrete design and heavy construction. Mr. MacDonald brings considerable experience in field and lab concrete, quality control and problem-solving to his students and clients. He earned a B.S. degrees in Chemical Engineering as well as master's and PhD degrees in Engineering Materials from the University of Windsor in Ontario. The quality of concrete remains one of his interests. Mr. MacDonald is heavily involved in ACI certification with the Aggregate and Ready Mixed Concrete Association of Minnesota.

Credit Information

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 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 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 Building (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
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Additional Learning

- Current Issues in Interior Design**
- Tuesday, March 26, 2024 | 8:00 am - 4:30 pm CDT
- Complying with the Uniform Plumbing Code 2021**
- Tuesday, March 26, 2024 | 9:00 am - 4:30 pm CDT
- Electrical Basics for Building Professionals: Understanding and Calculating Electrical Loads**
- Tuesday, March 26, 2024 | 9:00 am - 12:15 pm CDT
- Electrical Basics for Building Professionals: Residential Electrical Circuit Design**
- Tuesday, March 26, 2024 | 1:00 - 4:15 pm CDT
- Residential and Small Commercial Roof Design and Construction**
- Thursday, March 28, 2024 | 9:00 am - 4:30 pm CDT
- 2021 International Residential Code: Electrical Systems**
- Tuesday, April 2, 2024 | 12:00 - 4:30 pm CDT
- Basics of Reinforced Concrete**
- Wednesday, April 3, 2024 | 1:30 - 4:45 pm CDT
- Commercial and High-End Residential Deck Design and Construction**
- Wednesday, April 3, 2024 | 9:00 am - 4:00 pm CDT
- Electrifying Existing Homes: Installation, Commissioning, and Customer Education**
- Thursday, April 4, 2024 | 10:00 am - 12:00 pm CDT
- Stucco Design, Installation and Repair**
- Thursday, April 4, 2024 | 9:00 am - 4:00 pm CDT
- Designing and Constructing Slab-on-Grade Foundations**
- Tuesday, April 9, 2024 | 9:00 am - 12:00 pm CDT
- Designing and Constructing Spread Footing Foundations**
- Tuesday, April 9, 2024 | 1:00 - 4:00 pm CDT
- Engineered Lumber Design and Construction**
- Wednesday, April 10, 2024 | 9:00 am - 5:00 pm CDT
- National Electrical Code 2023**
- Wednesday, April 10, 2024 | 8:30 am - 5:00 pm CDT
- Air-Source Heat Pumps for Residential and Small Commercial Buildings**
- Thursday, April 11, 2024 | 9:00 am - 5:00 pm CDT
- Focus on Sustainable Lumber**
- Monday, April 15, 2024 | 10:00 am - 12:15 pm CDT

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