

Credit Information

Shallow Foundation Design, Construction, and Repair

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 .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 all prompts, and earn a passing score (80%) on the quiz that follows the presentation (multiple attempts allowed).

Soil Mechanics, Bearing Capacity and Slope Stabilization

This webinar offers 6.5 PDHs to professional engineers and 6.5 HSW continuing education hours to architects licensed in all states.

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The American Institute of Architects Continuing Education System has approved this course for 6.5 LU | HSW (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

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

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

Can't Attend? Order the Webinar as a Self-Study Package!

Recordings of each webinar are available for purchase. See course listing online for more information and please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit. Self-study packages do not qualify for AIA credit.

Live, Interactive Webinars

- Shallow Foundation Design, Construction, and Repair
- Soil Mechanics, Bearing Capacity and Slope Stabilization

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Live, Interactive Webinars

Shallow Foundation Design, Construction, and Repair

- Tuesday, August 10, 2021 | 8:30 am - 5:00 pm CDT

Soil Mechanics, Bearing Capacity and Slope Stabilization

- Friday, August 20, 2021 | 8:30 am - 4:30 pm CDT

To register, view detailed presenter biographies, and see other learning opportunities, please visit:

www.halfmoonseminars.org

or call our Customer Service Department at (715) 835-5900



HalfMoon Education Online Learning Live, Interactive Webinars



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AIA
Continuing
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Provider



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Tuesday, August 10, 2021 | 8:30 am - 5:00 pm CDT (incl. a 60-min break)

Tuition: \$289 per registrant, \$199 per registrant for three or more

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

Agenda

Evaluating Building Sites

- | | |
|-------------------------|-------------------------|
| Soil mechanics overview | Site exploration |
| Subsurface exploration | Laboratory soil testing |
| Design soil profile | |

Shallow Foundation Design

- | | |
|--------------------------|------------------------|
| Using spread footings | Using mat foundations |
| Using hybrid foundations | Using slab foundations |

Allowable Settlement and Consolidation

- Determining bearing capacity
- Understanding consolidation and settlement
- Effects of load types and soil types
- Increasing bearing capacity

Shallow Foundation Construction

- | | |
|------------------------------|-------------------------------|
| Grading and soil improvement | Dewatering and drainage |
| Excavation and underpinning | Complying with building codes |

Basements as Foundations

- | | |
|---|-----------|
| Construction of footings, floor and walls | |
| Drainage considerations | Walk-outs |

Handling Special Considerations in Foundation Design

- | | |
|---------------------------------|--------------------------------|
| Foundations on stratified soils | Foundations on expansive soils |
| Foundations on reinforced soils | Foundations on slopes |

Diagnosing and Repairing Foundation Problems

- | | |
|--|--|
| Causes of foundation damage | |
| Repair techniques | |
| <ul style="list-style-type: none">Ground improvement | <ul style="list-style-type: none">Underpinning |
| <ul style="list-style-type: none">Soil tiebacks | <ul style="list-style-type: none">Piers, piles |

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Agenda

Soil Investigation and Classification

- | | |
|---|---|
| Properties of soil | |
| <ul style="list-style-type: none">Importance of recognizing soil propertiesFormation of soils | <ul style="list-style-type: none">Types of soils |
| Soil investigations on construction sites | |
| <ul style="list-style-type: none">Site reconnaissanceDrilling and boringEstablishing appropriate investigational methodsObtaining and reviewing geotechnical reports | <ul style="list-style-type: none">Geology and visual observationsTest pits |

Reviewing Hydraulic and Mechanical Properties of Soils

- Soil permeability
- Compressibility of soil
- Soil hydraulics
 - Saturation, hydraulic gradient, and conductivity
- Drained and undrained shear strength
 - Vertical and lateral earth pressure
- Stress and failure in soils

Determining and Increasing Bearing Capacity

- Calculating bearing capacity
- Bearing capacity of shallow foundations
- Bearing capacity of piers and piles
- Increasing bearing capacity
 - Draining and compaction
 - Soil improvement

Determining and Increasing Slope Stability

- Natural and engineered slopes
- Reviewing basic concepts of slope stability
- Understanding slope failures
- Impact of surface water and groundwater
- Examining slope stabilization methods
 - Unloading
 - Reinforcement
 - Draining and compaction
 - Soil improvement

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Faculty

Shallow Foundation Design, Construction, and Repair

David Harmanos, P.E. Branch Manager at Hillis-Carnes Engineering Associates, Inc.

Mr. Harmanos is a professional engineer with extensive experience in subsurface exploration, soil testing, infiltration testing, geosynthetics, and seismic and advanced analysis. His expertise includes commercial, industrial and institutional foundation design; retaining wall and steep slope design; sinkhole remediation; landfill design; site work; forensic engineering; LEED consulting; and construction quality control/assurance (CQA/QC). Mr. Harmanos is a graduate of Drexel University where he received both his BS and MS degrees in Civil Engineering (Geosynthetics and Geotechnical).

Hillis-Carnes performs geotechnical engineering consulting and laboratory testing services. Its construction services include evaluation of bearing materials, inspection of pile driving, slope inclinometer installation and monitoring, and retaining wall construction observation.

Soil Mechanics, Bearing Capacity and Slope Stabilization

James "Jay" A. McKelvey, III, D.GE, F.ASCE

Director- Geotechnical Design Division at Earth Engineering Inc.

Mr. McKelvey is the director of the Geotechnical Design Division at Earth Engineering Inc. in East Norriton, Pennsylvania. He is a registered professional engineer (P.E.) in California, Delaware, Maryland, New Jersey, Pennsylvania, Virginia and the District of Columbia. Mr. McKelvey is also a Diplomate (D.GE) of the Academy of Geo-Professionals and a Fellow of the American Society of Civil Engineers (F.ASCE).

Mr. McKelvey has extensive experience in geotechnical engineering including site assessment and field investigations; deep and shallow foundation design for buildings, bridges and other structures; retaining wall design; embankment stability; mechanically-stabilized soil structures; and subsurface hydrology.

He also has significant experience in mitigating heavy construction claims and litigation support pertaining to impacted heavy construction projects. Mr. McKelvey has also handled construction support and construction quality assurance projects. His environmental engineering experience includes technical contributions to the remediation of many Superfund sites and over 50 landfill design projects.

Mr. McKelvey has published over 30 technical papers in journals, conference proceedings and trade magazines. He is currently the past chair for the Delaware Valley Geo-Institute (DVGI) and he is a voting member in ASTM committees Soil and Rock (D18) and Geosynthetics (D35), and is an editorial board member of the *Geotechnical Testing Journal*. Mr. McKelvey also serves on two Geo-Institute committees; Earth Structures and Embankments and Dams, the latter of which he is a member of the subcommittee on landslide risk assessment.

Additional Learning

Retaining Wall Design and Slope Stabilization Techniques

- Tues, July 13, 2021 | 11:00 am - 2:15 pm CDT
- Wed, July 14, 2021 | 11:00 am - 2:15 pm CDT

Engineered Lumber Design and Construction

- Fri, July 16, 2021 | 9:00 am - 4:00 pm CDT

The NEW 2021 Minimum Standards for ALTA/NSPS Land Title Surveys

- Mon, July 19, 2021 | 9:00 am - 12:15 pm CDT

Deep Excavations

- Wed, July 21, 2021 | 8:30 am - 4:30 pm CDT

Understanding and Working with Urban Soils

- Fri, July 23, 2021 | 8:30 - 10:30 am CDT

Site Design

- Mon, July 26, 2021 | 8:30 am - 5:00 pm CDT

Project Management for Engineers

- Wed, July 28, 2021 | 8:30 am - 4:30 pm CDT

For more information and other online learning opportunities visit:
www.halfmoonseminars.org