

Agenda

Presented by David Harmanos, P.E., LEED AP

Soil Investigation and Classification

Properties of soil

- Importance of recognizing soil properties
- Formation of soils
- Types of soils

Soil investigation

- Site reconnaissance
- Geology and visual observations
- Drilling and boring
- Test pits
- Establishing appropriate investigational methods
- Obtaining and reviewing geotechnical reports

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
- Draining and compaction
- Reinforcement
- Soil improvement

Soil Mechanics, Bearing Capacity and Slope Stabilization

Columbia, MD - Thursday, November 15, 2018

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Learning Objectives

You'll be able to:

Identify appropriate soil investigation methods.

Understand key properties of soil, including soil permeability and compressibility.

Determine bearing capacity and know how to increase it through draining and compaction.

Evaluate slope stability and understand slope failures.

Compare slope stabilization methods including reinforcement and improvement.



Soil Mechanics, Bearing Capacity and Slope Stabilization

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Learn about the properties of soil and discuss soil investigation procedures, including site reconnaissance, drilling and boring

Review hydraulic and mechanical properties of soils and learn about stress and failure in soils

Examine the bearing capacity of shallow foundations, piers and piles

Understand slope failures and the impact of surface and groundwater

Compare slope stabilization methods, such as unloading and draining

Continuing Education Credits

Professional Engineers

6.5 PDHs

Architects

6.5 HSW Learning Units

6.5 AIA HSW Learning Units

Landscape Architects

6.5 PDH Hours

6.5 LA/CES HSW PDHs



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David Harmanos, P.E., LEED AP
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.

Here’s what past attendees had to say about the program and about presenter David Harmanos:

“Dave was very knowledgeable in presentation and provided great examples to represent real practical experiences.” — *Engineer for Heavy Civil Contractor*

“David was highly knowledgeable and good at explaining all aspects of the material.” — *Mechanical Engineer*

Seminar Information

Hilton Garden Inn Columbia 8241 Snowden River Parkway Columbia, MD 21045 (410) 750-3700	Registration 8:00 - 8:30 am Morning Session 8:30 am - 12:15 pm	Lunch (On your own) 12:15 - 1:15 pm Afternoon Session 1:15 - 4:30 pm
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Tuition
\$279 for individual registration
\$259 for three or more simultaneous registrations.
Included with your registration: *Complementary continental breakfast and printed seminar manual.*

Receive a reduced tuition rate of \$101 by registering to be our on-site coordinator for the day. For availability and job description, please visit www.halfmoonseminars.org.

How to Register

- Visit us online at www.halfmoonseminars.org
- Mail-in or fax the attached form to 715-835-6066
- Call customer service at 715-835-5900

Cancellations: Cancel at least 48 hours before the start of the seminar (CDT), and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar or the CD/manual package. You may also send another person to take your place.

Can’t Attend? Order the CD/Manual Package:
An audio recording of this seminar is available for \$289 (including shipping). Allow five weeks from the seminar date for delivery. Please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.



Webinar Series

- Construction Cost Estimating**
- **Introduction to Cost Estimating**
Thurs., Oct. 25, 2018, 11:00 AM - 12:30 PM CDT
 - **Cost Components – A Closer Look at the Estimates**
Thurs., Oct. 25, 2018, 1:00 - 3:00 PM CDT
 - **Cost Estimate Organization and Examples**
Fri., Oct. 26, 2018, 11:00 AM - 1:00 PM CDT
 - **Cost Estimating Topics**
Fri., Oct. 26, 2018, 1:30 - 3:00 PM CDT

- Geothermal Heating and Cooling**
- **Thermodynamic Basics of Geothermal Systems**
Thurs., Nov. 1, 2018, 11:00 AM - 12:00 PM CDT
 - **Understanding Earth Loop Systems**
Thurs., Nov. 1, 2018, 12:30 - 2:00 PM CDT
 - **Choosing and Designing Geothermal Systems**
Fri., Nov. 2, 2018, 11:00 AM - 12:00 PM CDT
 - **Evaluating and Maintaining Geothermal Systems**
Fri., Nov. 2, 2018, 12:30 - 2:30 PM CDT

- Cogeneration System Principles and Practice**
- **Understanding the Benefits of Cogeneration**
Thurs., Nov. 8, 2018, 11:00 AM - 12:30 PM CST
 - **Laws, Regulations and Building Codes Impacting Cogeneration**
Thurs., Nov. 8, 2018, 1:00 PM - 2:30 PM CST
 - **Examining Cogeneration Technologies**
Fri., Nov. 9, 2018, 11:00 AM - 12:30 PM CST
 - **Moving to Cogeneration: Analysis, Modeling and Case Studies**
Fri., Nov. 9, 2018, 1:00 - 2:30 PM CST

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

Continuing Education Credit Information

This seminar is open to the public and offers 6.5 PDHs to professional engineers, 6.5 HSW learning units/continuing education hours to architects, and 6.5 HSW PDHs to landscape architects in most states, including Maryland.

The Maryland Board for Professional Engineers has approved HalfMoon Education as a CPC provider. This is a Category A engineer course.

This seminar is approved by the American Institute of Architects for 6.5 HSW Learning Units (Sponsor No. J885). Courses approved by the American Institute of Architects are considered approved for Maryland architects.

This activity offers 6.5 HSW PDHs to Maryland landscape architects. This course is deemed acceptable, as it has been approved by the Landscape Architecture Continuing Education System for 6.5 HSW PDHs.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana, Maryland, New Jersey (Approval No. 24GP00000700), New York (NYSED Sponsor No. 35), North Carolina, and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York architects and landscape architects. Only full attendance can be reported to the AIA/CES and the LA/CES.

Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Registration

Soil Mechanics, Bearing Capacity and Slope Stabilization

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How to Register	Registrant Information
Online: www.halfmoonseminars.org	Name: _____
	Company/Firm: _____
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Phone: 715-835-5900	Occupation: _____
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Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278	Name: _____
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Complete the entire form. Attach duplicates if necessary.	Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.
	()  I need special accommodations. Please contact me.

Tuition

() **I will be attending the live seminar.** Single Registrant - **\$279.00**. Three or more registrants from the same company registering at the same time - **\$259.00** each.

() **I am not attending.** Please send me the CD manual package for **\$289.00**. (S&H included. Please allow five weeks from seminar date for delivery)

Checks: Make payable to HalfMoon Education Inc.

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