Soil Mechanics, Bearing Capacity and Slope Stabilization

Cherry Hill, NJ - Tuesday, March 24, 2020

Learn about the properties of soil and explore soil investigation procedures

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

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**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

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**Reviewing Hydraulic and Mechanical Properties of Soils**
- Soil permeability
- Compressibility of soil
- Soil hydraulic
- 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

**Learning Objectives**

You’ll be able to:
- **Describe** the mechanical and hydraulic properties of soils that affect bearing capacity and slope stability.
- **Identify** appropriate soil investigation methods.
- **Define** soil permeability, compressibility, conductivity and drained and undrained shear strength.
- **Determine** bearing capacity and know how to increase it through draining and compaction.
- **Evaluate** slope stability and identify causes of slope failures.
- **Explore** slope stabilization methods including reinforcement and soil improvement.

**Continuing Education Credits**

- **Professional Engineers**: 6.5 CPC Credits/PDHs
- **Architects**: 6.5 HSW Continuing Ed. Hours
- **Contractors**: Non-Credit Continuing Ed.

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

"Very knowledgeable and great presenter." – Engineer

"Very informative and helpful." – Architect

"Very knowledgeable instructor, has an excellent grasp on the subject." – Facilities Engineer

"Excellent presentation." – Project Manager/Owner/Developer

Continuing Education Credit Information

This seminar is open to the public and offers up to 6.5 CPC credits/PDHs to professional engineers and 6.5 HSW continuing education hours to architects in all states. HalfMoon Education is an approved continuing education provider for New Jersey engineers (Approval No. 24GP0000700). HalfMoon Education is deemed a New York-approved continuing education provider for architects and engineers via its registration with the American Institute of Architects Continuing Education System for 6.5 LU|HSW. This seminar is open to the public and offers up to 6.5 credit hours (Sponsor No. J885). Courses approved by the AIA/CES qualify for New Jersey architects. Only full attendance can be reported to the AIA/CES. Visit www.halfmoonelections.org for complete course listings. This seminar is open to the public and offers up to 6.5 credit hours. This seminar is open to the public and offers up to 6.5 credit hours.

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Additional Learning

Webinar Series

Foundations in Cold Regions

Introduction to Foundations in Cold Regions

Thurs., Feb. 20, 2020, 11:00 AM - 12:30 PM CST

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Thurs., Feb. 20, 2020, 1:00 - 2:30 PM CST

Deep Foundation Design in Cold Regions

Fri., Feb. 21, 2020, 11:00 AM - 12:30 PM CST

Foundation Construction in Cold Regions

Fri., Feb. 21, 2020, 1:30 - 2:00 PM CST

Soil Mechanics and Slope Stability

Soil Investigation and Classification

Tues., Feb. 25, 2020, 11:00 AM - 1:00 PM CST

Reviewing Hydraulic and Mechanical Properties of Soils

Tues., Feb. 25, 2020, 1:30 - 3:00 PM CST

Determining and Increasing Bearing Capacity

Wed., Feb. 26, 2020, 10:00 AM - 1:00 PM CST

Determining and Increasing Slope Stability

Wed., Feb. 26, 2020, 1:30 - 3:00 PM CST

Designing for Climate Resilience

Current and Anticipated Climate Effects on Structures and Communities

Thurs., Feb. 27, 2020, 11:00 AM - 12:30 PM CST

Assessing the Impact of Sea Level Rise, Changing Temperature and Changing Weather Patterns

Thurs., Feb. 27, 2020, 1:00 - 2:30 PM CST

Studying the Impact of Extreme Weather

Events on Structures and Communities

Fri., Feb. 28, 2020, 10:00 AM - 12:30 PM CST

Adapting Sites, Outdoor Spaces, New Construction and Existing Buildings to Withstand Extreme Weather Events

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