Learning Objectives

You’ll be able to:

**Explore** typical loads on shallow foundations, walls, and slabs.

**Review** design and construction considerations for footings, walls, slab foundations, basements, retaining walls, and specialty features.

**Learn** how to evaluate foundation and wall damage and get tips on repairing damage.

**Explore** foundation and wall repair techniques such as underpinning, piers, crack repair, and reconstruction.

- **Science of Structures and Soils**
  - Typical loads on shallow foundations
    - Gravity loads
    - Lateral loads
  - Typical loads on walls
    - Gravity loads
    - Soil loads
  - Soil mechanics and effects on structures
    - Soil properties
    - Bearing capacity
    - Soil settlement
    - Effects of water, frost and freeze/thaw cycle

- **Foundation Features, Materials and Functionality**
  - Design and construction of shallow foundations
    - Continuous wall footings, column footings
  - Design and construction of slab foundations
  - Design and construction of basements and retaining walls
  - Design and construction of specialty features

- **Evaluating and Repairing Foundation/Slab Damage**
  - Inspecting, monitoring and assessing damage
    - Settlement
    - Expansive soils
    - Subsurface erosion
    - Cracking
    - Excavations
    - Underpinning
  - Repairing foundations and slabs
    - Piers, piles
    - Ground improvement

- **Evaluating and Repairing Wall Damage**
  - Inspecting, monitoring and assessing damage
    - Settlement
    - Expansive soils
    - Poor drainage
    - Cracking
    - Piers, piles
    - Carbon fibers
    - Crack repair
    - Underpinning
  - Repairing wall damage
    - Soil tiebacks
    - Soldier beams
    - Secant-tangent walls
    - Reconstruction

- **Learn about soil mechanics and its effect on structures**
- **Discuss** foundation features, materials and functionality
- **Evaluate** foundation and slab damage and understand repair techniques
- **Repair** wall damage from frost loading, settlement, and utility failures

Continuing Education Credits

- **Professional Engineers**
  - 6.5 HSW PDHs
- **Architects**
  - 6.5 HSW PDHs
  - 6.5 AIA HSW Learning Units
Steven Halcomb, P.E., G.E.

Senior Geotechnical Engineer, CRW Engineering Group, LLC.

Mr. Halcomb, has over 12 years of geotechnical, structural, marine, and cold regions engineering experience and is currently employed by CRW Engineering Group, LLC. He regularly oversees geotechnical efforts on projects ranging from several hundred thousand dollars to multi-million dollars in various environments including the arctic, subarctic, and marine. He has experience in shallow and deep foundation design, construction, and inspection, including pile driving analyzer, and he has worked in ideal and adverse conditions including liquefiable and expansive soils and frozen ground. In addition, his geotechnical knowledge includes site planning and explorations, laboratory testing, slope stability, geotechnical earthquake engineering, ground improvement, earth retaining structures, reinforced soil and geosynthetics, bored and unbraced excavations, pavement design, geotechnical instrumentation, construction testing, observation and monitoring, foundations in frozen ground, and thermal analyses. He is a member of the American Society of Civil Engineers and the Geo-Institute. He earned B.S. and masters degrees in Civil Engineering, an M.S. degree in Arctic Engineering, and an Earthquake graduate certificate from the University of Alaska Anchorage. He is currently pursuing a distance doctoral degree.

### Continuing Education Credit Information

This seminar is open to the public and offers 6.5 HSW PDHs engineers and architects in all states. Educators and courses are not subject to preapproval in Alaska.

This course is approved by the American Institute of Architects for 6.5 HSW Learning Units (Sponsor No. AIBS). Only full attendance can be reported to the AIA/CES.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana (License No. CE21000303), Maryland, New Jersey (Approval No. 24LP0000700), New York (NYSSED Sponsor No. 313), North Carolina, and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York architects.

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.

### 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: Canceled at least 48 hours before the start of the seminar, 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 self-study package. You may also send another person to take your place.

### Tuition

$289 for individual registration
$269 for three or more simultaneous registrations from the same company registering at the same time.

### Additional Learning

**Webinar Series**

**Structural Forensic Engineering**
- Introduction to Forensic Engineering Process
  - Wed., March 27, 2019, 11:00 AM - 1:00 PM PDT
- Causes of Failures and the Forensic Engineering Report
  - Wed., March 27, 2019, 1:30 - 3:30 PM PDT
-Forensic Examination of Structures and Use in Litigation
  - Thurs., March 28, 2019, 11:00 AM - 1:00 PM PDT

**Foundation Damage and Repair**
- Structure Loads, Soil Mechanics, Bearing Capacity and Geo-Environmental Hazards
  - Thurs., March 28, 2019, 11:00 AM - 12:30 PM PDT
- Foundation-Wall Design and Construction
  - Thurs., March 28, 2019, 1:00 - 2:30 PM PDT
- Assessment of Foundation Slab Damage & Repair Alternative
  - Fri., March 29, 2019, 11:00 AM - 12:30 PM PDT
- Assessment of Foundation-Retaining Wall Damage & Repair Alternatives
  - Fri., March 29, 2019, 1:00 - 2:30 PM PDT

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

Can’t Attend? Order the Manual and Audio from the Live Seminar as a Self-Study Package!
Audio recordings of this seminar are available for purchase starting at $269. See registration panel 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.

### Registration

Foundation Damage and Repair: Science, Materials and Techniques
Anchorage, AK - Friday, May 10, 2019

**How to Register**

- **Online:** www.halfmoonseminars.org
- **Phone:** 715-835-5900
- **Fax:** 715-835-6066
- **Mail:** HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278

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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.

**Tuition**

- $289 for single registrant
- $269 for three or more simultaneous registrations from the same company registering at the same time - I will be attending the live seminar.
- $269 for three or more simultaneous registrations from the same company registering at the same time - I need special accommodations. Please contact me.

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