

Agenda

Presented by Mark D. Jones

Applications of Open Channel Hydraulics

River and watercourse analysis	Floodplain management
Flood hazard mapping and risk analysis	Channel and levee design
Roadway crossing and bridge analysis and design	
Bridge scour analysis	

Principles of Hydraulic Analysis

Conservation of momentum	Conservation of energy
Backwater and forewater calculations	Bernoulli Equation
Computer-based analysis and computations	Energy losses

History and Development of US Army Corps of Engineers HEC-RAS Application

HEC-RAS Application User Interface

Program file and project management	
Data entry and editing	GIS data usage
Results and reporting	Mapping capabilities

Water Surface Profiling

Flow types	Analysis data required for modeling
Cross section location	Discharge flows and boundary conditions
Model calibration	Step backwater calculations

Bridge and Culvert Modeling

- Crossing locations
- Crossing flow regimes
- Ineffective flow areas
- Bridge model setup

Steady Flow Surface Profile Demonstration 1

- Live demo for typical river reach
- Project file setup
- Geometry file demo
- Steady flow file demo
- Setting boundary conditions
- Simple river reach modeling tips

Steady Flow Surface Profile Demonstration 2

- Live demo for simple bridge
- Setup of typical bridge cross section model
- Establishment of ineffective flow areas
- Simple bridge modeling tips

Introduction to HEC-RAS Modeling
Amherst, NY - Wednesday, October 24, 2018

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Learning Objectives

You'll be able to:

Discuss applications for open-channel hydraulic analysis, including flood risk assessment, roadway crossing design, and bridge analysis.

Review principles of hydraulic analysis, including the principles of conservation of energy and conservation of momentum.

Learn about the HEC-RAS user interface.

Explore bridge and culvert modeling.

Watch live demonstrations of steady flow surface profiling.



Introduction to HEC-RAS Modeling

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Understand the applications of open channel hydraulics

Identify the principles hydraulic analysis and review the history and development of US Army Corps HEC-RAS application

Examine the HEC-RAS user interface

Learn about types of flow and the data required for modeling

Discuss bridge and culvert modeling

Continuing Education Credits

Professional Engineers

6.5 Continuing Ed. Hours

Floodplain Managers

6.5 ASFPM CECs

Landscape Architects

6.5 HSW Continuing Ed. Hours

6.5 LA CES HSW PDHs



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Faculty

Mark D. Jones, *Principal, Hartech Engineering & Consulting, LLC*

Mr. Jones, PE, is president of Hartech Engineering which was founded in 2007 as a multi-discipline civil engineering consulting firm providing infrastructure, development and municipal design services for the public and private sectors. Bringing over 30 years of engineering expertise along with specific state-of-the-art, computer-aided technology to achieve efficient, cost saving design solutions, he also provides hydrology and hydraulic studies and reports along with general civil engineering support for prime consultants to PennDOT or local municipality projects. Mr. Jones is a licensed pilot and studied Military Civil Engineering while serving in the USAF and continues his masters education locally through Penn State. Additionally, he is also a registered professional engineer in the states of Pennsylvania, Maryland, Arizona and Georgia.

Seminar Information

Buffalo Marriott - Niagara 1340 Millersport Hwy. Amherst, NY 14221 (716) 689-6900	Registration 8:00 - 8:30 am Morning Session 8:30 am - 12:00 pm	Lunch (On your own) 12:00 - 1:00 pm Afternoon Session 1:00 - 4:30 pm
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Tuition

\$279 for individual registration

\$259 for three or more registrants from the same company registering at the same time

Included with your registration:

Complimentary continental breakfast and printed seminar manual.

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. You may also send another person to take your place.

Additional Learning

Webinar Series

- | | |
|--|---|
| Small Wind Energy Systems <ul style="list-style-type: none">• Small Wind Energy System Components
Thurs., Sept. 20, 2018, 11:00 AM - 1:00 PM CDT• Small Wind Energy Siting and Sizing
Fri., Sept. 21, 2018, 11:00 AM - 1:00 PM CDT\ | Slope Stabilization and Landslide Prevention <ul style="list-style-type: none">• Analyzing the Stability of Slopes
Tues., Sept. 25, 2018, 11:00 AM - 2:15 PM CDT• Slope Stabilization Methods
Thurs., Sept. 27, 2018, 11:00 AM - 2:15 PM CDT |
| International Green Construction Code <ul style="list-style-type: none">• Introduction to the International Green Construction Code (IgCC)
Thurs., Sept. 20, 2018, 11:00 AM - 12:30 PM CDT• Chapters 4-5: Site Development and Material Use
Thurs., Sept. 20, 2018, 1:00 - 2:30 PM CDT• Chapters 6-9: Energy, Water, Environmental Quality and Building Commissioning
Fri., Sept. 21, 2018, 11:00 AM - 12:30 PM CDT• Chapters 10-11: Existing Buildings
Fri., Sept. 21, 2018, 1:00 - 2:30 PM CDT | Stormwater Management Systems <ul style="list-style-type: none">• Basics of Stormwater Regulations and Requirements, Including New EPA Regulations
Thurs., Oct. 4, 2018, 11:00 AM - 12:00 PM CDT• Working with the Regulator
Thurs., Oct. 4, 2018, 12:30 - 2:00 PM CDT• Site Planning and Choosing Best Management Practices
Fri., Oct. 5, 2018, 11:00 AM - 12:00 PM CDT• Long-term Stormwater Management Practices
Fri., Oct. 5, 2018, 12:30 - 2:00 PM CDT |

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 up to 6.5 HSW continuing education hours to professional engineers and landscape architects in most states, including New York.

HalfMoon Education is deemed a New York-approved continuing education provider for landscape architects via its affiliation with the American Institute of Architects. HalfMoon Education is an approved continuing education provider for New York engineers (NYSED Sponsor No. 35) and New Jersey professional engineers (Approval No. 24GP00000700).

This event is approved by the Landscape Architecture Continuing Education System for 6.5 HSW PDHs. Only full attendance can be reported to the LA/CES.

The Association of State Floodplain Managers has approved this course for 6.5 CECs.

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

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How to Register	Registrant Information
Online: www.halfmoonseminars.org	Name: _____
Phone: 715-835-5900	Company/Firm: _____
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	Name: _____
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Complete the entire form. Attach duplicates if necessary.	Phone: _____
	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.
Checks: Make payable to HalfMoon Education Inc.
Credit Card: <i>Mastercard, Visa, American Express, or Discover</i>
Credit Card Number: _____
Expiration Date: _____ CVV2 Code: _____
Cardholder Name: _____
Billing Address: _____
City: _____ State: _____ Zip: _____
Signature: _____
Email: _____