

Agenda

Presented by Gregory H. Nail, PhD, PE

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

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
Step backwater calculations
Model calibration

Bridge and Culvert Modeling

Cross section locations 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
Baton Rouge, LA - Thursday, August 16, 2018

NON-PROFIT
U.S. POSTAGE PAID
EAU CLAIRE, WI
PERMIT NO. 2016

Halfmoon Education Inc.
PO Box 278
Altoona, WI 54720-0278



Learning Objectives

You'll be able to:

Apply open channel hydraulic analysis to roadway crossing, culvert, and bridge design.

Review hydraulic principles including energy losses and backwater effects.

Understand how to work with the HEC-RAS user interface.

Discuss key issues in steady flow water surface profiling.

Calculate water profiles in HEC-RAS.



Introduction to HEC-RAS Modeling

Baton Rouge, LA - Thursday, August 16, 2018



Understand the applications of open channel hydraulics

Identify the principles of 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

Explore steady flow simulations for stream flow and bridges

Continuing Education Credits

Professional Engineers

7.0 PDHs

Landscape Architects

7.0 Louisiana Credit Hours

7.0 LA/CES HSW PDHs

Floodplain Managers

7.0 ASFPM CECs



HalfMoon Education Inc.
WWW.HALFMOONSEMINARS.ORG



Faculty

Gregory H. Nail, PhD, PE *Associate Professor, University of Tennessee at Martin*

Dr. Nail is an Associate Professor in the Engineering Department at the University of Tennessee at Martin where he teaches a variety of courses including Fluid Mechanics, Hydraulics and Hydrology, and Hydraulic and Hydrologic Modeling. He holds a Professional Engineer’s license based on having passed both the Civil and Mechanical discipline specific exams. Prior to coming to UT-Martin in 2002 he worked as a Research Hydraulic Engineer for the United States Army Corp of Engineers for eleven years. He is a former member of the Executive Committee of the Tennessee American Water Resources Association, and has lectured on various HEC-RAS modeling topics at the Annual Tennessee Water Resources Symposium, and at other venues. Dr. Nail earned his B.M.E. degree from Auburn University and his M.S. and Ph.D. degrees from Texas A&M University.

Seminar Information

Baton Rouge Marriott
5500 Hilton Avenue
Baton Rouge, LA 70808
(225) 924-5000

Registration
8:00 - 8:30 am

Morning Session
8:30 am - 12:30 pm

Lunch (On your own)
12:30 - 1:30 pm

Afternoon Session
1:30 - 5:00 pm

Tuition

\$279 for individual registration
\$259 for three or more simultaneous registrations.
Each registration includes a complimentary 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 a job description, go online to 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, 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.

Additional Learning

Webinar Series

National Electrical Code

- **National Electrical Code, Part I**
Tues., July 24, 2018, 11:00 AM - 3:30 PM CDT
- **National Electrical Code, Part II**
Weds., July 25, 2018, 11:00 AM - 3:30 PM CDT
- **National Electrical Code, Part III**
Thurs., July 26, 2018, 11:00 AM - 3:30 PM CDT

Retaining Walls and Slope Stabilization

- **Retaining Wall Basics**
Thurs., July 26, 2018, 11:00 AM - 12:00 PM CDT
- **Geosynthetics and Retaining Walls**
Thurs., July 26, 2018, 12:30 - 3:00 PM CDT
- **Slope Stability and Geosynthetics**
Fri., July 27, 2018, 11:00 AM - 12:30 PM CDT
- **Slope and Retaining Wall Failures, Fixes and Prevention**
Fri., July 27, 2018, 1:00 - 3:00 PM CDT

For more information visit:
www.halfmoonseminars.org/webinars/

The Distributed Battery Webinar Series

- **The Distributed Battery Webinar, Part I**
Wed., Aug. 1, 2018, 11:00 AM - 2:15 PM CDT
- **The Distributed Battery Webinar, Part II**
Thurs., Aug. 2, 2018, 11:00 AM - 2:15 PM CDT

Handling Ethical Issues in Professional Engineering Practice
Fri., Aug. 3, 2018, 11:00 AM - 12:00 PM CDT

Technical Writing

- **Technical Writing Basics**
Thurs., Aug. 9, 2018, 12:00 PM - 2:00 PM CDT
- **Planning Documents**
Thurs., Aug. 9, 2018, 2:30 - 4:30 PM CDT
- **Writing Documents**
Fri., Aug. 10, 2018, 12:00 PM - 2:00 PM CDT
- **Revising and Editing Documents**
Fri., Aug. 10, 2018, 2:30 - 4:30 PM CDT

Continuing Education Credit Information

This seminar is open to the public and offers 7.0 PDHs to professional engineers and 7.0 credit hours to landscape architects. Educators and courses are not subject to preapproval in Louisiana. The Landscape Architecture Continuing Education System has approved this program for 7.0 HSW PDHs. Only full attendance can be reported to the LA/CES.

HalfMoon Education is an approved continuing education sponsor for professional land surveyors and engineers in Indiana, Maryland, New York (NYSED Sponsor No. 35), North Carolina, and North Dakota. HalfMoon Education is also an approved education provider for Florida and New Jersey engineers (Approval No. 24GP00000700).

The Association of State Floodplain Managers has approved this event for 7.0 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.

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.

Registration

Introduction to HEC-RAS Modeling

Baton Rouge, LA - Thursday, August 16, 2018

How to Register	Registrant Information	
Online: www.halfmoonseminars.org	Name: _____	
Phone: 715-835-5900	Company/Firm: _____	
	Address: _____	
Fax: 715-835-6066	City: _____ State: _____ Zip _____	
	Occupation: _____	
Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278	Email: _____	
	Phone: _____	
	Name: _____	
	Occupation: _____	
	Email: _____	
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.
- () **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.

Credit Card: *Mastercard, Visa, American Express, or Discover*

Credit Card Number: _____

Expiration Date: _____ CVV2 Code: _____

Cardholder Name: _____

Billing Address: _____

City: _____ State: _____ Zip: _____

Signature: _____

Email: _____