

Agenda

Presented by E. Christian Naidu, PE

Applications for Open Channel Hydraulic Analysis

Flood risk assessment Floodplain management
Roadways, bridge and culvert design
New channel or channel modification projects

Hydraulic Principles

Conservation of energy and momentum
Energy losses and Manning's equation
Backwater effects Need for computer models

History and Development of US Army Corps HEC-RAS Software

Working with the HEC-RAS User Interface

File management Data entry and editing
Displays, mapping, animations and reporting

Steady Flow Water Surface Profiling

Types of flow: uniform flow, rapidly and gradually varied flow
Data required
Locating cross sections
Setting boundary conditions
Calculating water profiles in HEC-RAS

Special Elements

Bridge and culvert modeling
Lateral and diversion structures

Steady Flow Simulation 1

Demonstration for standard stream flow
Project file setup
Setting geometry and boundary conditions
Modeling tips

Steady Flow Simulation 2

Demonstration for a standard bridge
Modeling tips

There will be two HEC-RAS demonstrations during the afternoon session. Those wishing to participate should download and install the HEC-RAS 5.0.3 program from the Software section of www.hec.usace.army.mil before arriving at the seminar (internet access may not be available at the location). All HEC-RAS files used by the presenter during the live demonstrations will be distributed to attendees on a DVD prior to the start of the seminar. No internet connection or licensing is required to run HEC-RAS. Participation in the live HEC-RAS demonstrations is the choice of the attendees, and is not required.

Introduction to HEC-RAS Modeling
Albuquerque, NM - Thursday, October 3, 2019

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Learning Objectives

You'll be able to:

Explain HEC-RAS's application to floodplain management and flood risk assessment.

Understand key hydraulic principles, including conservation of momentum, backwater effects and Manning's equation.

Discuss displays, mapping, animations and reporting in HEC-RAS.

Learn about steady flow water surface profiling.

Participate in or observe steady flow simulations for standard stream flows and bridges.



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Understand hydraulic principles

Identify applications for open channel hydraulic analysis

Examine how to work with the HEC-RAS user interface

Learn about steady flow water surface profiling

Explore steady flow simulations

Discuss special elements like bridge and culvert modeling

Continuing Education Credits

Professional Engineers

7.0 HSW PDHs

Floodplain Managers

7.0 ASFPM CECs

Landscape Architects

7.0 HSW CPE Hours
7.0 LA CES HSW PDHs

Contractors

Non-Credit Continuing Ed.



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Faculty

Chris Naidu, PE
VP, Water Resources Civil Engineer, Team Leader at Smith Engineering Company

Mr. Naidu has more than eight years of experience in drainage and flood control projects throughout New Mexico and is the water resources team leader at Smith. His experience includes preparation of drainage management plans (DMP), hydrologic analysis, hydraulic analysis of flood control structures, sediment transport, and scour analysis for unlined arroyos and bridge structures. Using modeling/analysis software, Mr. Naidu produces high-quality hydrologic and hydraulic models. He has a proven record of preparing easy-to-understand reports and corresponding maps and figures. He has prepared hydrographs and analyzed storm drains, weirs, pump stations, and detention/surge ponds. Additional skills include preparation of plan specifications, bidding and construction plans, cost estimates, and bidding services. He is familiar with Arc Geographic Information System (ArcGIS); Hydrologic Engineering Center (HEC) Hydrologic Modeling System, HEC Geospatial Hydrologic Modeling Extension (geoHMS0, HEC River Analysis System, US Environmental Protection Agency Storm Water Management Model (EPA SWMM), StormCad, and CulvertMaster.

Seminar Information

Albuquerque Marriott Pyramid North	Registration	Lunch (On your own)
5151 San Francisco Road NE	8:00 - 8:30 am	12:00 - 1:00 pm
Albuquerque, NM 87109	Morning Session	Afternoon Session
(505) 821-3333	8:30 am - 12:00 pm	1:00 - 5:00 pm

Tuition
\$289 for individual registration
\$269 for three or more simultaneous registrations.

Included with your registration:
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 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, 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

Structural Design and Ethics

- **Structural Design: Ethical Issues**
Thurs., August 15, 2019, 11:00 AM - 12:00 PM CDT
- **Structural Design: Gravity Forces**
Thurs., August 15, 2019, 12:30 - 2:30 PM CDT
- **Structural Design: Lateral Forces**
Fri., August 16, 2019, 11:00 AM - 12:30 PM CDT
- **Structural Design: Wind, Seismic and Connections**
Fri., August 16, 2019, 1:00 - 2:30 PM CDT

Technical Writing

- **Planning Documents**
Wed., August 14, 2019, 11:00 AM - 1:00 PM CDT
- **Writing Documents**
Wednesday, August 14, 2019, 1:30 - 3:30 PM CDT
- **Revising and Editing Documents**
Thurs., August 15, 2019, 11:00 AM - 1:00 PM CDT
- **Technical Writing Best Practices**
Thurs., August 15, 2019, 1:30 - 3:30 PM CDT

Introduction to Hydro Energy Logic Modeling Software (HELP-FL)

- **Introduction to Hydro Energy Logic Program Modeling Software (HELP-FL), Part I**
Tues., August 20, 2019, 11:00 AM - 2:00 PM CDT
- **Introduction to Hydro Energy Logic Program Modeling Software (HELP-FL), Part II**
Wed., August 21, 2019, 11:00 AM - 2:30 PM CDT

Small Wind Energy Systems

- **Small Wind Energy System Components**
Thurs., August 22, 2019, 11:00 AM - 1:00 PM CDT
- **Small Wind Energy Siting and Sizing**
Fri., August 23, 2019, 11:00 AM - 1:00 PM CDT

Deep Foundations and Excavations

- **Earth Retention.**
Tues., August 27, 2019, 11:00 AM - 1:30 PM CDT
- **Deep Foundations**
Wed., August 28, 2019, 11:00 AM - 1:30 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 7.0 PDHs to professional engineers and 7.0 HSW CPE hours to landscape architects in most states, including New Mexico. Educators and courses are not subject to preapproval in New Mexico.

This seminar is approved by the Landscape Architecture Continuing Education System for 7.0 HSW PDHs. Only full attendance can be reported to the LA/CES.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700), North Carolina, and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York landscape architects.

This course offers a non-credit continuing education opportunity to construction contractors. It has not been approved by any state contractor licensing entity.

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	
Online: www.halfmoonseminars.org	
Phone: 715-835-5900	
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Complete the entire form. Attach duplicates if necessary.	
Registrant Information	
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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 - **\$289.00**. Three or more registrants from the same company registering at the same time - **\$269.00** each.

Checks: Make payable to HalfMoon Education Inc.

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

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