

HEC-RAS 2D Workshop

Course Information

The Oklahoma Water Resources Board Dam Safety program will host a Hydrologic Engineering Center's River Analysis System (HEC-RAS) 2D workshop:

April 11 – 13, 2017

8:00am - 5:00pm

Associated General Contractors of America

636 NE 41st St. Oklahoma City, OK 73105

This three-day technical course is recommended for intermediate and advanced HEC-RAS users who have experience with previous versions of the software. The course will include lectures and hands-on activities led by instructors from Freese and Nichols, Inc., a regional engineering firm. Discussions and activities will focus on the following topics:

- HEC-RAS 1D Unsteady/1D vs. 2D Modeling;
- Application and benefits of HEC-RAS 2D;
- RAS Mapper and terrain preparation;
- Running 1D and 2D models;
- Dams, levees, and breach modeling;
- Viewing results with RAS Mapper, model review, and troubleshooting; and
- In-depth modeling exercises.

Upon completion of this course, participants will receive 18 hours of Continuing Education Units. Please note that the class is limited to 50 participants, and each is required to bring a laptop equipped with the latest version of HEC-RAS.

Fees

Dam owners and public officials:

- \$200 before March 11
- \$300 after March 11

Nonpublic officials/private:

- \$400 before March 11
- \$500 after March 11

For more information, please contact Emma Moradi at emma.moradi@owrb.ok.gov.

Instructors

John Rutledge, P.E. is a nationally recognized water resources professional with extensive experience in the design of dams, spillways, and related hydraulic and riverine structures. John's experience has focused on all aspects of hydraulic structures from H&H models for large basins to the civil and hydraulic design of dams and spillways.

Patrick Miles, P.E. is a Project Engineer in FNI's Water Resources Design Group. He has provided H&H modeling for dam evaluations and rehabilitation design, dam inspections, PMF analyses, breach analyses and levee certifications. His H&H modeling abilities include significant experience in HEC-HMS and HEC-RAS, developed by the USACE. Patrick's experience in HEC-RAS extends to both steady-flow and unsteady-flow scenarios, as well as utilizing corresponding GIS applications for model development and map production. Applications of these modeling efforts consists of the evaluation of existing dams, analysis of proposed dam modification and design of new dams and reservoirs as well as flood hazard mapping.

Garrett Johnston, P.E. is a FNI Stormwater Engineer with professional experience in watershed level floodplain mapping projects, open-channel modeling, stream assessments, traditional storm sewer modeling and design, Hec-Ras 2D stormwater modeling, and developing conceptual designs for flood mitigation. He specializes in Hec-Ras 2D stormwater modeling and automating the processing of those results in GIS to present clear, consistent deliverables to FNI clients. His strengths lie in innovative integrations of 1D and 2D stormwater modeling techniques with one another and with GIS. With FNI's GIS analysts, he helped develop an in-house procedure for translating watershed-level 2D stormwater modeling results into flood depths and approximate cost of damages at hundreds of individual houses. This procedure enables FNI's stormwater group to quickly and consistently calculate the damage reduction in dollars of any particular design alternative, along with a benefit-cost ratio for the project.



**WORKSHOP REGISTRATION FORM
HEC-RAS 2D**

Name: _____

Organization: _____

Occupation/Job Title: _____

Address: _____

Phone: _____

Email: _____

Workshop Fee:	By March 11	After March 11	Amount
Dam owners and public officials	\$200	\$300	\$ _____
Nonpublic officials/private	\$400	\$500	\$ _____

Payment: _____ **PO** _____ **Check** (Payable to the Oklahoma Water Resources Board)

Save and email form as an attachment to emma.moradi@owrb.ok.gov, or print and mail with payment to:

Oklahoma Water Resources Board
3800 N. Classen Boulevard
Oklahoma City, OK 73118