

# River Course 301 Stream Restoration Design-Hydraulic Modeling November 10-12, 2009

Monteith Research Center (Rm # 246)  
NCSU's Centennial Campus  
2410 Campus Shore Dr.  
Raleigh, NC 27606

This three (3) day workshop will cover applications of stream restoration design including development of dimensionless ratios from a reference reach survey, stream channel layout, hydraulic modeling, and sediment transport analysis. Participants will work in small teams to create and evaluate a real-world design project using AutoCAD, HEC-RAS, and Microsoft Excel spreadsheets. Participants are encouraged to bring a laptop computer for spreadsheet and modeling applications. This workshop requires completion of RC 101 and RC 201 or equivalent background in stream morphology assessment and natural channel design.

## Tuesday, November 10, 2009

8:00 AM Registration  
8:30 AM Welcome and Introductions—**Greg Jennings**  
Overview of Stream Restoration Design—**Greg Jennings**  
Natural Channel Design Based on Reference Reach Design Parameters—**Greg Jennings**  
Gage Station Bankfull Discharge Verification—Barbara Doll  
11:30 AM Lunch  
12:00 PM Restoration Site Field Visit—Maynard Road  
Morphological Table (Team Exercise)  
Review Morphological Table—**Greg Jennings**  
Preliminary Design (Team Exercise)  
5:00 PM Adjourn

## Wednesday, November 11, 2009

8:30 AM Hydraulic Modeling for Stream Restoration—**Kris Bass**  
Introduction to HEC-RAS – **Kris Bass**  
HEC-RAS Modeling of Existing Conditions (Team Exercise)  
Review of Existing Conditions Model—**Kris Bass**  
12:00 PM Lunch  
12:30 PM Finish Preliminary Design (Team Exercise)  
HEC-RAS Modeling of Proposed Design – **Kris Bass**  
Prepare Design Model (Team Exercise)  
5:00 PM Adjourn

## Thursday, November 12, 2009

8:30 AM Sediment Transport Analysis—**Jason Zink**  
Sediment Transport Analysis (Team Exercise)  
Finalize Modeling and Analysis of Proposed Design (Team Exercise)  
12:00 PM Lunch  
12:30 PM Finalize Designs (Team Exercise)  
Team Presentations and Open Discussion  
HEC-RAS for Stream Restoration (Case Studies) – **Kris Bass**  
3:30 PM Adjourn

Field visits will be held rain or shine. Please bring clothing and boots appropriate for stream surveys in a variety of weather conditions.