Course Title: Applied Research in Watershed Restoration
Prefix and Course Number: ENVS 235

Applied Research courses are project based learning experiences - occupational experience with real world responsibilities

Applied Research performed by Environmental Sciences Department’s Center for Applied Technology and Environmental Research (CATER) will enable students to demonstrate their skills by applying them to real-world tangible projects.

Applied Research courses emphasize critical thinking skills and understanding the big picture. Outcomes include:

- Problem solving and personal accountability will be required as students define problems, gather applicable information, perform analysis and produce professional reporting.
- Students and instructors will work in collaborative teams on projects with public and private entities.
- Prepare scientific findings for publication within the Center Environmental Research and of a caliber suitable for professional publications and conferences.
- Understand and develop conceptual models for projects.
- Apply the principles of restoration design to on the ground projects.
- Be able to perform habitat assessments and determine proper functioning conditions using industry standard protocols.

Applied Research in Watershed Restoration - Course Outline

I. Basics of Performing Applied Research in Environmental Sciences
   a. Define the Problem
      i. Research background information pertaining to project(s)
      ii. Develop a conceptual model of the problem and environmental setting
      iii. Plan work to be done
   b. Gather Information
      i. Gather specific information needed to achieve project work planned
      ii. Data collection
   c. Data Analysis / Installation
      i. Process and analyze data gathered and determine if additional data or information are warranted
      ii. Installation and/or additional on-site work
   d. Reporting
      i. Create professional articles, posters or presentations documenting the work
      ii. Provide electronic records of the data collected and results of analysis performed.

II. Applied Research in Watershed Restoration - projects may include:
   a. Habitat Characterization (surveying, plants, fish/bugs, discharge, canopy, substrate)
   b. Wetland delineation
   c. Project Design
   d. Project Management
e. Installation