Course Objectives/Course Outline
Spokane Community College

Course Title: Applied Research in Hydrology
Prefix and Course Number: ENVS 232

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 reports.
- Work in collaborative teams with students and instructors 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.
- Be proficient in making discharge measurements and in the collection of stream gaging data using a range of industry standard equipment.
- Understand and develop conceptual models of watersheds.

Applied Research in Hydrology - 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 Hydrology - projects may include:
   a. Discharge measurement
   b. Stream gaging
   c. Surveying
   d. Ratings – Stream gage installation and operation