

Environmental Science 525
Environmental Hydrology

Master Course Syllabus Outline

Department: Chemistry, Geosciences, and Environmental Science

Course Prefix/Number: ENVS 525

Official Course Title: Environmental Hydrology

Master Syllabus Approved by Department on: _____/_____/_____
month date year

I. Catalog Description

An examination of the processes that govern the earth's hydrologic cycle such as precipitation, evaporation and transpiration, runoff, infiltration and ground water and an exploration of anthropogenic effects on the hydrologic cycle. Topics include land-atmosphere interactions, movement of water in subsurface environments, contaminant transport in groundwater systems, streamflow generation, surface-water flow dynamics, urban runoff and flood control.

II. Prerequisites

Prerequisites:

III. Expanded Course Description

This course will provide a quantitative understanding of hydrologic processes and an introduction to methods for quantifying hydrologic parameters and processes. This course focuses on freshwater flow on and near the ground, including precipitation, evapotranspiration, stream flow, soil moisture, watershed properties, and storm water. A comprehensive understanding of the presented topics and problems should provide sufficient knowledge for students to make an assessment of hydrologic processes associated with watershed issues and to develop initial conceptual evaluations that are part of most assessments.

IV. Intended Student Learning Outcomes

Knowledge outcomes

Upon completion of this course students will:

- understand the hydrologic cycle from plot to watershed scales
- understand the climate and weather drivers of the water balance
- understand how hydrology is used in watershed assessments

Skill outcomes

Upon completion of this course students will:

- be able to find specific hydrological information
- be able to use equations needed to develop a water balance
- be able to distill and present complex subjects in a timely fashion

Value outcomes

Upon completion of this course students will have an appreciation of the interdisciplinary nature of hydrology and the technical issues needed for the management of water issues.

V. Unless otherwise stipulated in this master syllabus by the department, the following items are subject to faculty discretion as described in each faculty member's individual course outline/syllabus:

Course Requirements (grading/evaluation procedures; class attendance policy; term papers, projects, field assignments; examinations; class participation, etc.)

Typically 2 tests, presentation, and 1-2 reports as well as in-class discussion

Required Text(s) TBA

Department Head Signature/Date:

Signature

_____/_____/_____
Date