

**Environmental Science 535**  
**Watershed Modeling**

Master Course Syllabus Outline

**Department:** Chemistry, Geosciences, and Environmental Science

**Course Prefix/Number:** ENVS 535

**Official Course Title:** Watershed Modeling

Master Syllabus Approved by Department on: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
month      date      year

**I. Catalog Description**

The course will explore commonly used watershed models that can be used in linking sources of pollutants to receiving waterbodies. The course will explore large watershed, streamflow, water quality, urban watershed, and agricultural watershed models. Information will include model calibration and evaluation techniques.

**II. Prerequisites**

Prerequisites:

**III. Expanded Course Description**

Watershed modeling supplies the broad, integrated knowledge necessary for solving the complex and ongoing problems involved in resource and environmental water management. Models are commonly used as an assessment tool and for TMDL development. Watershed models play an important role in linking sources of pollutants to receiving waterbodies particularly for nonpoint source loads. This course will emphasize GIS based models.

IV. Intended Student Learning Outcomes

**Knowledge outcomes**

Upon completion of this course students will:

- Understand when and how modeling can contribute to watershed assessment.
- Learn approaches and tools that are useful for watershed modeling.
- Understand the considerations in choosing models for watershed assessments

**Skill outcomes**

Upon completion of this course students will:

- Be able to calibrate and use a variety of watershed models

**Value outcomes**

Upon completion of this course students will have an appreciation of the watershed modeling 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, paper/presentation, and model outputs

**Required Text(s)** TBA

Department Head Signature/Date:

\_\_\_\_\_  
Signature

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Date