



# WISCONSIN

## UNIVERSITY OF WISCONSIN-MADISON

University of Wisconsin - Madison  
College of Engineering [EGR]  
Last Offered: 2014 Spring [1144]  
Direct Link to this Syllabus :

<http://aefis.engr.wisc.edu/index.cfm/page/CourseAdmin.ViewABET?coursecatalogid=491&pdf=True>

1. **CIV ENGR 322, Environmental Engineering Processes**
  2. **Credits : 3    Contact Hours : 2.5**
  3. **Textbook and Materials :** Unit Operations and Processes in Environmental Engineering; Reynolds and Richards; Second; 1996
  4. **Specific Course Information :**
    - a. **Brief description of the content of the course (Course Catalog Description) :** Combination of theory and laboratory practice to study basic unit operations and processes in environmental engineering. Emphasis on water and wastewater treatment processes, such as coagulation/flocculation, chemical precipitation, filtration, adsorption, activated sludge, anaerobic digestion, and substrate utilization kinetics.
    - b. **Pre-requisites or Co-requisites :** Civ Engr 320
    - c. **This is a Selected Elective course.**
- **Specific Goals for the Course :**
    - a. **Course Outcomes :**
      1. The objective of this course is to introduce, through a combination of theory and laboratory practice, the basic unit operations and processes in environmental engineering. A theoretical discussion of each operation and process will be followed by laboratory experiments that will introduce specific applications in the fields of water and wastewater treatment.
      2. Examples of operations and processes studied in the laboratory include: coagulation/flocculation/precipitation, filtration, adsorption, activated sludge, anaerobic digestion, and substrate utilization kinetics.
  - **ABET Student Learning Outcomes :**
    - (a) Ability to apply mathematics, science and engineering principles.
    - (b) Ability to design and conduct experiments, analyze and interpret data.
    - (e) Ability to identify, formulate and solve engineering problems.
    - (g) Ability to communicate effectively.
    - (i) Recognition of the need for and an ability to engage in life-long learning.
    - (j) Knowledge of contemporary issues.
    - (k) Ability to use the techniques, skills and modern engineering tools necessary for engineering practice.