



CE 433 – Water Quality Engineering

Code and Name: CE 433 – Water Quality Engineering

Credit Hours: 3 (Lecture: 3, Tutorial: 1)

Textbook:

- Introduction to Environmental Engineering and Science, Masters M. G Pearson 3rd edition, 2014

Other References:

- *Wastewater Engineering: Treatment and Resource Recovery*, 5th edition by Inc. Metcalf & Eddy

- Course handouts: distributed on a regular basis to provide more information on the topic.

Course Description:

Fundamental theories underlying the unit processes utilized in water and wastewaters treatment processes. Ground water quality control processes

Pre-requisites: CE 331 Environmental Engineering Processes

Co-requisites: None

Course Learning Outcomes:

With relation to ABET Student Outcomes (From Fall 2019-SOs: 1-7)

1. Establish the background to solve water and wastewater treatment problem (1)
2. Design different water and wastewater treatment elements(1)
3. Know theories related to ground water quality control and treatment (4)
4. Know relevant design techniques of different water and wastewater treatment elements (2)
5. Recognize the impact of economic and environmental context of treatment processes (4)

Topics to be covered:

- Ground water contamination and transport
- Ground water remediation technology
- Introduction to softening process
- Introduction to RO systems for water treatment
- Introduction to removal of specific constituents from water

Grading Policy:

The grading for the course is: 60% coursework and 40% Final Exam. The course work consists of two Midterm Exams, where each midterm exam is worth 20%. It also includes quizzes, and/or projects for the remaining 20% that is modified by the course instructor.

