



CE231–Fundamentals of Environmental Engineering

Code and Name: CE231–Fundamentals of Environmental Engineering

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

Textbook:

- Introduction to Environmental Engineering and Science: Gilbert M. Masters, and Wendell P. Ela, 3rd Edition, Pearson, 2014

Other References:

- M.J. Hammer, Water and Wastewater Technology, 3rd edition, Pearson, 1996

Course Description:

Considers the sources, characteristics, transport and effects of air and water contaminants; biological, chemical, and physical processes in water; atmospheric structure and composition; unit operations for air and water quality control; solid waste management; and environmental quality standards.

Pre-requisites: CHEM 103, General Chemistry

Co-requisites: CE241 Fluid Mechanics

Course Learning Outcomes:

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

1. Define fundamental concepts, principles and theories of environmental engineering (4)
2. Describe principles of mathematics and basic sciences relevant to water and air pollution (1)
3. Demonstrate competence to identify, define and solve water quality and air quality problems (1)
4. Know relevant design water treatment and air stacks, and codes of practice (2)
5. Realize environmental responsibilities of water and air quality profession (4)

Topics to be covered:

- Introduction to water and wastewater properties.
- Mass and energy transfer.
- Environmental chemistry.
- Water pollution
- Water quality control
- Air pollution

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 projects for the remaining 20% that is modified by the course instructor.

