

NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY

CIV 280 - INTRODUCTION TO ENVIRONMENTAL ENGINEERING – (3CR.)

Course Description

Introduces the engineering elements of water and wastewater treatment, water distribution and wastewater collection systems, solid and hazardous waste, erosion and sediment control, and storm water management. Lecture 3 hours per week.

General Course Purpose

This course is designed to introduce students to the concepts and properties of environmental engineering. This is a course that is recommended for the Civil Engineering Technology specialization of the Engineering Technology AAS Degree. The course will be offered as a second year topic.

Course Prerequisites/Corequisites

None

Course Objectives

Upon completing the course, the student will be able to;

- Identify and define the concepts and properties of environmental engineering, including public health, hydrology, water quality, water and wastewater treatment, water distribution and wastewater collection systems, erosion control, and storm-water management.
- Describe the main regulations pertaining to environmental engineering.
- Solve basic environmental engineering problems, such as mass balances with and without reactions, BOD determinations, hydraulic and contaminant mass loadings, detention time and required treatment, unit size, and life of a landfill.
- Describe contemporary environmental engineering issues, and discuss solutions

Major Topics to be Included

- Environment and Basic concepts, Mass Balance and BOD determination
- Hydrology, Water quality, Water pollution
- Wastewater treatment and disposal
- Site Development concerns In Environmental context
- Storm water management and its systems, Soil and Erosion Control

- Sanitary sewer systems
- Water distribution systems
- Drinking water purification
- Trees, preservation and urban forest