CE 3702: Introduction to Environmental Engineering

3 Credit Hours

Prerequisite: CHEM 1212, ENGR 3343, and Engineering Standing

The course introduces environmental engineering issues such as: legal aspects, engineering solutions, and basic approaches to abatement system design including water supply, water treatment, water quality management, wastewater treatment, air pollution control, solid and hazardous waste management, and environmental impacts.

CE 3703: Environmental Engineering Design

3 Credit Hours

Prerequisite: CE 3702, CE 3704, and Engineering Standing

This course introduces students to environmental engineering design of unit processes and pollution abatement systems such as: water treatment plant design, wastewater treatment plant design, and sludge management system design.

CE 3704: Introduction to Environmental Engineering Laboratory

1 Credit Hours

Prerequisite: CE 3702 or concurrent registration

This course applies the basic chemistry and chemical calculations to measure physical, chemical, and bacteriological parameters of water and wastewater. Laboratory methods and interpretation of results with regard to environmental engineering applications such as design and operation of water and wastewater treatment processes, and to the control of the quality of natural waters are also covered.

CE 3708: Geotechnical Engineering Lab

1 Credit Hours

Prerequisite: ENGR 3131

Concurrent: CE 3701

A study of standard laboratory tests (ASTM and/or AASHTO) on soils. The lab will reinforce the principles of Geotechnical Engineering studied in CE 3701, and developing experimental data into effective laboratory reports will be emphasized.

CE 4103: Design of Steel Structures

3 Credit Hours

Prerequisite: CE 3201 and Engineering Standing

Behavior and design of structural members and connections using Load and Resistance Factor Design (LRFD) methods; mechanical properties of structural steel; design of tension members, compression members, beams and beam-columns; typical shear and moment connections, welded and bolted; and steel joist design.