

CE 4705: Advanced Soil Mechanics

3 Credit Hours

Prerequisite: CE 3701 and Engineering Standing

The course is offered as a technical elective to junior and senior undergraduate students and represents a transition between the introductory and fundamental nature of the material covered in ENGR 3131 and applied soil materials. The course will cover modified Mohr-Coulomb diagrams, triaxial extension and triaxial compression tests, and drained and undrained failure at principle stress.

CE 4706: Pavement Engineering

3 Credit Hours

Prerequisite: CE 3201 and Engineering Standing

A study of the methods used to determine the thickness and composition of layers in both flexible and rigid pavements. Class work will also include various types of pavement, stress-strain behavior of pavement systems, characterization of paving materials, consideration of traffic in pavement design, performance prediction models and failure criteria, theoretically analysis and design of highway pavements with critical evaluation of current design practices. Hands on practice sessions with AASHTO and PCA, the Asphalt Institute methods will be provided.

CE 4707: Design of Wood Structures

3 Credit Hours

Prerequisite: CE 3201 and Engineering Standing

The course introduces the design of wood structure and properties of wood. The course will cover the topics such as determination of horizontal and vertical loads, horizontal and vertical load-resisting systems, design of horizontal diaphragms, and bolted and nailed connections.

CE 4708: Hazardous Waste Engineering

3 Credit Hours

Prerequisite: CE 3702 and Engineering Standing

Students examine the definition, characterization, classification, regulation, treatment, and disposal of hazardous waste. Evaluation of unit operations and processes of importance in the treatment and disposal of common organic and inorganic hazardous wastes are also covered.