

Eng Tech: Civil & Construction (ETCC)

ETCC 173. Architectural Const & Material. 3 Credits.

Introduction to construction materials and methods. Building systems and construction details. Emphasis is placed on selection of materials and methods. Laboratory section performs site investigations observing materials and their properties.

ETCC 302. Soils & Foundations. 4 Credits.

Engineering properties of soil. Laboratory testing to determine soil characteristics. Shallow foundations and retaining structures.

ETCC 307. Structural Analysis. 3 Credits.

Loads on building according to Uniform Building Code (UBC). Internal forces and deformations of statically determinate trusses and frames. Influence lines and moving loads. Introduction to matrix-displacement method of structural analysis. Using software for structural analysis.

ETCC 361. Design/Details Steel Building. 4 Credits.

Design of steel members according to American Institute of Steel Construction Code. Both calculations and construction details are emphasized.

ETCC 375. Applied Mechanics of Fluids. 3 Credits.

Introduction to fluids, fluid properties, hydrostatic forces, fluid flow, pipeline systems, open channels, and fluid machinery.

ETCC 385. Highway Design & Construction. 4 Credits.

Intended as a first course in highway engineering. It is inclusive of surveying topics pertinent to the design and layout of highways. The transportation engineering profession, geometry, pavement selection, highway soil mechanics and characteristics of the vehicle, driver, pedestrian, and the road will be discussed. A semester design project based on fieldwork will be completed as part of the laboratory section.

ETCC 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ETCC 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ETCC 411. Reinforced Concrete Dsgn/Detls. 4 Credits.

Design of reinforced concrete members according to American Concrete Institution (ACI) code. Both calculations and details of reinforcing steel are emphasized. Prerequisite: EGEN 208.

ETCC 489. Senior Project I. 1 Credit.

This course is the proposal phase for a program faculty-approved technical project. Emphasis is placed on library research, design, specification, cost analysis, and project management. The student will submit a formal written report and give a public explanation of the project. This course meets part of the general education requirements for a capstone course. Prerequisites: Senior standing and advisor consent.

Course Fees: \$2.15

ETCC 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ETCC 499. Capstone: Senior Project II. 2 Credits.

This course is the implementation phase for a program faculty-approved technical project. Emphasis is placed on construction, design, testing, and formal presentation. The student will submit a formal written report and give a public explanation and demonstration of the project. The student will furnish all necessary materials. This course completes the general education requirements for a capstone course. Prerequisites: Senior standing and advisor consent, ETCC 489.