Civil Engineering, BSCVE

Program Description

Civil engineering is the oldest of the engineering disciplines and involves the planning, design, and construction of facilities essential to modern life.

Graduates can look forward to employment by construction companies; city and county engineering departments; state and federal transportation organizations (such as the Georgia Department of Transportation); and civil engineering consulting and design firms. Graduates have the qualifications to enter careers in areas such as, but not limited to, transportation engineering, structural engineering, environmental engineering, geotechnical engineering, water resource engineering, and construction engineering. Typical job titles for graduates may include construction engineer, project engineer, planner, project supervisor, consulting engineer, and design engineer.

Civil Engineering requires rigorous training in basic engineering principles along with the development of skills in the areas of planning and management of construction projects and the associated systems and resources. Graduates in the area of Civil Engineering will be required to master technical elements and to demonstrate particular competence in the areas of communication, fiscal management, and project control. The broad-based background is tailored to develop professionals who will be able to move between the technical and managerial aspects of civil engineering projects and to serve in key leadership positions within the engineering profession.

The first two years of each undergraduate engineering program's curriculum are considered to be lower division while the remaining two years are considered the upper division. For the most part, upper division engineering courses are those with course numbers in the 3000's and 4000's. In addition to the stated prerequisites and unless otherwise noted in the catalog, students must apply for and be granted Engineering Standing in order to enroll in any upper division engineering course taught in the School of Engineering. (Note: Courses requiring Engineering Standing will include in their list of prerequisites "Test ENGR with a minimum score of Y" or "Engineering Standing" or words to that affect.)

All students enrolled prior to Fall 2014 semester who are majoring in Engineering or Engineering Technology are automatically granted Engineering Standing.

 This program is a part of the Southern Polytechnic College of Engineering and Engineering Technology.

Accreditation

The Bachelor of Science in Civil Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

Admission, Enrollment, and Graduation Policies

Admission Requirements

This program does not have specific admission requirements and only admission to Kennesaw State University is required. For more information, please visit the Admissions section of the Catalog.

Enrollment Requirements

Upper division engineering courses require Engineering Standing.

Graduation Requirements

Each student is expected to meet the requirements outlined in Academic Policies 5.0 PROGRAM REQUIREMENTS & GRADUATION.

Program Course Requirements

Core IMPACTS Curriculum (42 Credit Hours)

General Education Core IMPACTS Curriculum.

Core IMPACTS Curriculum Requirements Specific to This Major

Engineering Majors: Must take MATH 1190 in Mathematics & Quantitative Skills, MATH 2202 in Applied Math, and PHYS 2211 / 2211L and PHYS 2212 / 2212L in Natural Sciences.

Note: Students cannot take both PHYS 1111/L and PHYS 2211/L nor PHYS 1112/L and PHYS 2212/L.

Core Field of Study (18 Credit Hours)

Students must earn a "C" or better in these courses.

- ENGR 1000: Introduction to Engineering
- ENGR 2214: Engineering Mechanics - Statics
- SURV 2221: Surveying I
- SURV 2221L: Surveying I Lab

- CHEM 1211: Principles of Chemistry I
- CHEM 1211L: Principles of Chemistry Laboratory I
- CHEM 1212: Principles of Chemistry II
  One (1) credit hour carried over from Mathematics & Quantitative Skills.
  Two (2) credit hours carried over from Technology, Mathematics, and Sciences.

Major Requirements (52 Credit Hours)

Students must earn a grade of "C" or better in these courses.

- ENVS 2202: Environmental Science
  or
- BIOL 1107: Principles of Biology I
- MATH 2306: Ordinary Differential Equations
- EDG 2160: Civil Graphics and Computer Aided Drafting
- ENGR 3131: Strength of Materials
- ENGR 3132: Strength of Materials Lab
- ENGR 3305: Data Collection and Analysis in Engineering
- ENGR 3324: Project Cost Analysis
- ENGR 3343: Fluid Mechanics
- ENGR 3345: Fluid Mechanics Laboratory
- CE 1001L: Introduction to Civil and Environmental Engineering Lab
- CE 3201: Structural Analysis
- CE 3202: Design of Concrete Structures
- CE 3501: Materials for Civil & Construction Engineering
- CE 3502: Materials for Civil & Construction Engineering Lab
- CE 3701: Geotechnical Engineering
- CE 3708: Geotechnical Engineering Lab
- CE 3702: Introduction to Environmental Engineering
- CE 3704: Introduction to Environmental Engineering Laboratory
- CE 4177: Transportation Engineering
- CE 4179: Transportation Engineering Lab
- CE 4703: Engineering Hydrology
- CE 4800: Senior Project

Major Electives (12 Credit Hours)

Students must earn a grade of "C" or better in these courses. Select 3 credit hours from each of the Civil Engineering Discipline Groups (CEDG) 1 and 2. Take 6 credit hours may be selected from a combination of courses not previously taken from Civil Engineering Discipline Groups 1, 2, or 3.

CEDG 1 - Environmental Engineering

Select 3 credit hours from the following list of courses:

- CE 3703: Environmental Engineering Design
- CE 4343: Solid Waste Engineering
- CE 4353: Air Pollution Control
- CE 4708: Hazardous Waste Engineering

CEDG 2 - Geotechnical/Transportation Engineering

Select 3 credit hours from the following list of courses:

- CE 4105: Foundation Design
- CE 4705: Advanced Soil Mechanics
- CE 4178: Highway Design and Construction
- CE 4706: Pavement Engineering

CEDG 3 - Other Engineering

Select 6 credit hours from any course not previously taken in groups 1 or 2.

- CE 3398: Internship in Civil Engineering
- CE 4400: Directed Study in Civil and Environmental Engineering
- CE 4490: Special Topics in CE/CnE
- CE 4103: Design of Steel Structures
- CE 4704: Engineering Hydraulic Analysis and Design
- CE 4707: Design of Wood Structures
- CM 3040: Building Information Modeling I
  Any 3000-4000 level SURV/GIS course.

Program Total (124 Credit Hours)