CIVIL ENGINEERING, BACHELOR OF SCIENCE IN CIVIL ENGINEERING

This undergraduate civil engineering program leads to the Bachelor of Science in Civil Engineering (BSCE) degree. The degree program prepares graduates for entry level positions in activities associated with the analysis, planning, design, construction, and maintenance of infrastructure systems including airports, bridges, buildings, water supply, water treatment and disposal, flood mitigation, and roadway systems. Civil engineers are concerned with the impact that projects have to the public and the environment. This baccalaureate program will expose students to the following areas of civil engineering.

- Structural Engineering
- Transportation systems engineering
- Hydraulic and Hydrologic engineering
- Construction Engineering
- Geotechnical Engineering

Specific Admission Requirements

In order to be considered for admission to the BSCE as an incoming freshman, a student must:

- Be placed into MATH 126 Calculus and Analytic Geometry I (5 Credit Hours) or higher.
- Have a high school GPA of 2.50 or higher on a 4.0 scale.

Student Learning Outcomes

1. to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Specific Program Requirements

Course	Title	Credits
General Education	**CID 103 is a preferred for Humanities**	**24**
Required Courses		**95**
CE 101	Introduction to Civil Engineering	2
CE 233	Strength of Materials with Lab	3
CE 321	Geotechnical Engineering I	3
CE 331	Structural Analysis	3
CE 341	Introduction to Transportation Engineering	3
CE 351	Hydraulics with Lab	3
CE 361	Construction Engineering	4
CE 404	Structural Steel Design	3
CE 405	Reinforced Concrete Design	3
CE 412	Hydrology	3
CE 415	Water & Sewer System Design	3
CE 421	Geotechnical Engineering II	3
CE 473	Highway Design	3
CE 487	Senior Project Seminar	1
CE 489	Senior Design Project	3
CET 102	Surveying I	3
CET 208	Concrete and Asphalt Materials	3
CET 115	Civil Drafting I	3
CET 116	Civil Drafting II	3
CET 207	Construction Materials and Methods	3
CHEM 111	Principles of Chemistry (GT-SC2)	3
CHEM 111L	Principles of Chemistry Lab (GT-SC1)	1
EN 103	Problem Solving for Engineers	3
EN 212	Engineering Mechanics II	3
EN 211	Engineering Mechanics I	3
EN 375	Stochastic Systems Engineering	3
MATH 207	Matrix and Vector Algebra with Applications	3
MATH 126	Calculus & Analytic Geometry I (GT-MA1)	5
MATH 224	Calculus and Analytic Geometry II	5
MATH 337	Differential Equations I	3
PHYS 221	General Physics I	4
PHYS 221L	General Physics I Lab	1
Additional Science Course	**Must be BIOL, GEOL, or similar prefix. Must have advisor approval.**	**3**
Technical Electives	**Must be upper division. Must be BSAD, CET, CM, EN, MGMT, MKTG or similar prefix. Advisor approval required.**	**6**
Total Credits		**128**

[1] CID 103 is preferred

Specific Graduation Requirements

1. Completion of minimum of 128 credit hours, as follows:

- Social Sciences, Humanities, & History: 24 hours
- Math & Basic Sciences: 28 hours
- Engineering Science (EN): 12 hours
- Civil Engineering (CE) & Civil Engineering Technology (CET): 58 hours
- Technical Electives: 6 hours

2. Earning of the minimum cumulative GPA of 2.00 in the Civil Engineering (CE) and Civil Engineering Technology (CET) courses.