The Civil Engineering Program prepares graduates for local, regional or world-wide employment in the engineering profession or placement in a graduate school. The program affords students opportunities to meet and interact with practicing engineers, businesses and government agencies; to participate in professional engineering organizations and in research. The faculty endeavor to be accessible, maintain state of the art instruction and facilities, and to provide liberal access to laboratories and academic support.

A - GENERAL EDUCATION CORE - 42 HOURS

Students must fulfill the General Education Core requirements. The courses listed below satisfy both degree requirements and General Education core requirements.

Required

020 - Mathematics - 3 hours
MATH 2413 Calculus I (or MATH 2487 Honors) three-hour lecture

030 - Life and Physical Science - 6 hours
PHYS 2425 Physics for Scientists and Engineers I three-hour lecture
PHYS 2426 Physics for Scientists and Engineers II three-hour lecture

040 - Language, Philosophy, and Culture - 3 hours
PHIL 2326 Ethics, Technology, and Society

090 - Integrative and Experiential Learning - 6 hours
Choose any 3 credit hour English Course, and complete:
PHYS 2425 Physics for Scientists and Engineers I one-hour lab
PHYS 2426 Physics for Scientists and Engineers II one-hour lab
Choose corresponding lab from Basic Science section below:
CHEM 1107 Chemistry for Engineers Lab
CHEM 1111 General Chemistry I Lab

B - MAJOR REQUIREMENTS - 76 HOURS (53 advanced)

1 - Civil Engineering Core - 64 hours (41 advanced)
CIVE 1101 Introduction to Civil Engineering
CIVE 2220 Civil Engineering Measurements
CIVE 2440 Civil Engineering Materials
CIVE 3315 Fluid Mechanics and Hydraulics
CIVE 3115 Fluid Mechanics and Hydraulics Laboratory
CIVE 3324 Structural Analysis
CIVE 3331 Environmental Engineering
CIVE 3341 Structural Steel Design
CIVE 3345 Transportation Engineering
CIVE 3475 Geotechnical Engineering and Applications
CIVE 4335 Water Resources Engineering
CIVE 4346 Reinforced Concrete Design
CIVE 4347 Foundation Design
CIVE 4349 Construction Planning and Management
MANE 2332 Engineering Statistics
MANE 3337 Engineering Economics
MECE 2301 Statics
MECE 2302 Dynamics
MECE 2350 Numerical Methods for Engineers
MECE 3321 Mechanics of Solids
MATH 2415 Calculus III
MATH 3341 Differential Equations

2 - Senior Design - 6 hours (6 advanced)
CIVE 4391 Civil Engineering Senior Fundamentals
CIVE 4392 Civil Engineering Senior Project

3 - Technical Electives - 6 hours (6 advanced)
Choose from:
CIVIL ENGINEERING
BACHELOR OF SCIENCE

CIVE 4315 Applied Hydrology
CIVE 4333 Water and Wastewater Treatment
CIVE 4348 Highway Engineering
CIVE 4350 Open Channel Flow
CIVE 4351 Structural System Design
CIVE 4352 Earthwork Engineering and Design
CIVE 4359 Construction Scheduling
CIVE 3300 UG Directed Research, Internship/Co-Op in Civil Engineering

C – SUPPORT COURSES – 11 HOURS MINIMUM

1 – Basic Science – 6 hours minimum

Choose one:
   CHEM 1307 Chemistry for Engineers
   CHEM 1311 General Chemistry I

Choose one:
   GEOL 3408 Introduction to Geographic Information Systems
   GEOL 1403 Physical Geology
   ENVR 3304 Sustainable Development
   ENVR 4301 Environmental Regulations
   BIOL 1406 General Biology I (or BIOL 1487 Honors)
   GEOL 1401 Earth Sciences I
   GEOL 1404 Historical Geology
   ENVR 1401 Introduction to Environmental Science I
   ENVR 1402 Introduction to Environmental Science II

2 – Mathematics – 5 hours

   MATH 2413 Calculus I (or MATH 2487 Honors) one-hour lecture
   MATH 2414 Calculus II (or MATH 2488 Honors)

TOTAL CREDIT HOURS FOR GRADUATION – 129 HOURS
TOTAL ADVANCED HOURS – 53 HOURS

ADMISSION, PROGRESSION, AND GRADUATION REQUIREMENTS, if applicable:

Progression requirements
   Students must receive a grade of ‘C’ or better in all courses that are prerequisites for civil engineering courses.

Graduation requirements
   1. Students must receive a grade of ‘C’ or better in all civil engineering courses.
   2. In addition to the graduation requirements listed in the UTRGV 2017-2018 Undergraduate Catalog, demonstration of proficiency in a language other than English is required at the undergraduate level equivalent to a minimum of six credit hours. Proficiency can be demonstrated by a college credit exam, a placement test approved through the UTRGV Department of Writing and Language Studies, and/or up to six credit hours of college-level language coursework.