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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>020</td>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATH 2413 Calculus I (or MATH 2487 Honors)</td>
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<tr>
<td>030</td>
<td>Life and Physical Science</td>
<td>6</td>
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<tr>
<td></td>
<td>PHYS 2425 Physics for Scientists and Engineers I</td>
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<td>PHYS 2426 Physics for Scientists and Engineers II</td>
<td></td>
</tr>
<tr>
<td>040</td>
<td>Language, Philosophy, and Culture</td>
<td>3</td>
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<tr>
<td></td>
<td>PHIL 1310 Ethics, Happiness, and the Good Life</td>
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<tr>
<td></td>
<td>PHIL 2326 Ethics, Technology, and Society</td>
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<tr>
<td>090</td>
<td>Integrative and Experiential Learning</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Choose any 3 credit hour English Course, and complete:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PHYS 2425 Physics for Scientists and Engineers I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PHYS 2426 Physics for Scientists and Engineers II</td>
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<tr>
<td></td>
<td>Choose corresponding lab from Basic Science section below:</td>
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</tr>
<tr>
<td></td>
<td>CHEM 1107 Chemistry for Engineers Lab</td>
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<tr>
<td></td>
<td>CHEM 1111 General Chemistry I Lab</td>
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</tbody>
</table>

B – MAJOR REQUIREMENTS – 76 HOURS (54 advanced)

1 – Civil Engineering Core – 67 hours (45 advanced)

- CIVE 1221 Engineering Graphics
- CIVE 2220 Civil Engineering Measurements
- CIVE 2240 Materials of Construction
- CIVE 3315 Fluid Mechanics and Hydraulics
- CIVE 3115 Fluid Mechanics and Hydraulics Laboratory
- CIVE 3252 Civil Engineering Systems Analysis
- CIVE 3324 Structural Analysis
- CIVE 3331 Environmental Engineering
- CIVE 3341 Structural Steel Design
- CIVE 3345 Transportation Engineering
- CIVE 3475 Geotechnical Engineering and Applications
- CIVE 4315 Applied Hydrology
- CIVE 4335 Water Resources Engineering
- CIVE 4346 Reinforced Concrete Design
- CIVE 4349 Constructional Planning and Management
- MANE 2332 Engineering Statistics
- MECE 2301 Statics
- MECE 2302 Dynamics
- MECE 2340 Engineering Materials
- MECE 2140 Engineering Materials Lab
- MECE 2350 Numerical Methods for Engineers
- MECE 3321 Mechanics of Solids
- MECE 3449 Mechanical Engineering Analysis I
- MECE 3450 Mechanical Engineering Analysis II

2 – Senior Design – 3 hours (3 advanced)

- CIVE 4190 Civil Engineering Senior Design Project I
CIVE 4290 Civil Engineering Senior Design Project II

3 – Technical Electives – 6 hours (6 advanced)
Choose from:
- CIVE 4333 Water and Wastewater Treatment
- CIVE 4347 Foundation Design
- CIVE 4348 Highway Engineering
- CIVE 4350 Open Channel Flow
- CIVE 4351 Masonry and Timber Design
- CIVE 4352 Earthwork Engineering and Design
- CIVE 3300 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 3308 Introduction to Geographic Information Systems
- GEOL 1403 Physical Geology
- ENVR 3304 Environmental Approaches to 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 Environmental Science I
- ENVR 1402 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 – 54 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 2015-2017 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.