ENVIRONMENTAL
ENGINEERING - BS

The BS in Environmental Engineering degree coursework is specifically
designed to educate students to solve environmental challenges facing
public and environmental health, such as water treatment, waste
management, and climate change. The degree offers a broad range
of coursework in the natural sciences and engineering, providing a
multidisciplinary approach that merges with engineering principles
to solve emerging and existing environmental issues. The program is
appropriate for those who wish to protect human health and welfare while
minimizing the adverse effects of human activity on the environment.

This program is approved to be offered at the Texas A&M University at
Galveston campus.

Program Requirements

The freshman year is identical for degrees in aerospace engineering,
arable engineering, civil engineering, computer engineering,
computer science, electrical engineering, electronic systems engineering
technology, environmental engineering, industrial distribution, industrial
engineering, interdisciplinary engineering, manufacturing and mechanical
engineering technology, mechanical engineering, multidisciplinary
engineering technology, nuclear engineering, ocean engineering, and
petroleum engineering (Note: not all programs listed are offered in
Qatar). The freshman year is slightly different for chemical engineering,
petroleum engineering (Note: not all programs listed are offered in
Qatar). The freshman year is identical for degrees in aerospace engineering,

First Year

Fall Semester Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 107</td>
<td>General Chemistry for Engineering Students</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>General Chemistry for Engineering Students Lab</td>
<td></td>
</tr>
<tr>
<td>ENGL 103 or ENGL 104</td>
<td>Introduction to Rhetoric and Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 102</td>
<td>Engineering Lab I - Computation</td>
<td>2</td>
</tr>
<tr>
<td>MATH 151</td>
<td>Engineering Mathematics I 1,2</td>
<td>4</td>
</tr>
<tr>
<td>University Core Curriculum</td>
<td>University core curriculum</td>
<td>3</td>
</tr>
</tbody>
</table>

Semester Credit Hours 16

Spring Semester Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 216/PHYS 216</td>
<td>Experimental Physics and Engineering Lab II Mechanics</td>
<td>2</td>
</tr>
<tr>
<td>MATH 152</td>
<td>Engineering Mathematics II 1</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 206</td>
<td>Newtonian Mechanics for Engineering and Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Table: University Core Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>3-4 Semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 120</td>
<td>Fundamentals of Chemistry II 1,4</td>
</tr>
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<td>University Core Curriculum</td>
<td>University core curriculum</td>
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</tbody>
</table>

Select one of the following:

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<td>Fundamentals of Chemistry II 1,4</td>
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<tbody>
<tr>
<td>CHEM 120</td>
<td>Fundamentals of Chemistry II 1,4</td>
</tr>
</tbody>
</table>

1 A grade of C or better is required.
2 Entering students will be given a math placement exam. Test results
   will be used in selecting the appropriate starting course which may be at
   a higher or lower level.
3 Of the 21 hours shown as University Core Curriculum electives, 3 must be from
   creative arts (see AREN curriculum for more information), 3 from social and
   behavioral sciences (see IDIS curriculum for more information), 3 from language, philosophy and culture (see CVEN,
   EVEN and PETE curriculum for more information), 6 from American history and 6 from government/political science. The required 3
   hours of international and cultural diversity and 3 hours of cultural
discourse may be met by courses satisfying the creative arts, social
and behavioral sciences, language, philosophy and culture, and
American history requirements if they are also on the approved list
of international and cultural diversity (http://catalog.tamu.edu/
undergraduate/general-information/degree-information/international-
cultural-diversity-requirements/) courses and cultural discourse
(http://catalog.tamu.edu/undergraduate/general-information/degree-
information/cultural-discourse-requirements/) courses.
4 BMEN, CHEN and MSEN require 8 hours of fundamentals of chemistry
   which are satisfied with CHEM 119 or CHEM 107/CHEM 117 and CHEM 120.
   Students pursuing degrees in biological and agricultural engineering
   should refer to the specific curriculum for this major. It is recognized that
   many students will change the sequence and number of courses taken in
   any semester. Deviations from the prescribed course sequence, however,
   should be made with care to ensure that prerequisites for all courses are met.

Second Year

Fall Semester Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 113 or ECCR 205</td>
<td>Essentials in Biology or Fundamentals of Ecology</td>
<td>3</td>
</tr>
<tr>
<td>CVEN 221</td>
<td>Engineering Mechanics: Statics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 217/PHYS 217</td>
<td>Experimental Physics and Engineering Lab III - Electricity and Magnetism</td>
<td>2</td>
</tr>
<tr>
<td>EVEN 201</td>
<td>Introduction to the Environmental Engineering Profession</td>
<td>1</td>
</tr>
<tr>
<td>MATH 251</td>
<td>Engineering Mathematics III</td>
<td>3</td>
</tr>
<tr>
<td>STAT 211</td>
<td>Principles of Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 207</td>
<td>Electricity and Magnetism for Engineering and Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Semester Credit Hours 18
### Spring
- **CVEN 302** Computer Applications in Engineering and Construction 3
- **EVEN 301/ CVEN 301** Environmental Engineering 3
- **EVEN 304/ CVEN 304** Environmental Engineering Lab 1
- **EVEN 311/ CVEN 311** Fluid Dynamics 3
- **MATH 308** Differential Equations 3

**Earth Science**

Select one of the following:
- **ATMO 201 & ATMO 202** Weather and Climate and Weather and Climate Laboratory 4
- **ATMO 210 & ATMO 212** Climate Change and Weather and Climate Laboratory
- **GEOG 203 & GEOG 213** Planet Earth and Planet Earth Lab
- **GEOL 104** Physical Geology
- **OCNG 251 & OCNG 252** The Blue Planet - Our Oceans and The Blue Planet - Our Oceans Laboratory
- **SCSC 301** Soil Science

#### Semester Credit Hours 17

### Third Year

#### Fall
- **BAEN 320** Engineering Thermodynamics 3
- **CVEN 322** Civil Engineering Systems 3
- **EVEN 320** Principles of Environmental Engineering Chemistry 3
- **EVEN 339/ CVEN 339** Water Resources Engineering 3
- **University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/)** 3
- **High Impact Experience** 6
- **EVEN 399** Mid-Curriculum Professional Development

#### Semester Credit Hours 15

#### Spring
- **COMM 205 or ENGL 210** Communication for Technical Professions or Technical and Professional Writing 3
- **EVEN 402/ CVEN 402** Engineered Environmental Systems 3
- **EVEN 404** Environmental Unit Operations Laboratory 1
- **EVEN 406** Environmental Protection and Public Health 3
- **EVEN 413/ CVEN 413** Natural Environmental Systems 3

**Engineering Science**

Select one of the following:
- **CHEN 204** Elementary Chemical Engineering
- **CVEN 305** Mechanics of Materials
- **ECEN 215** Principles of Electrical Engineering
- **MEEN 222/ MSEN 222** Materials Science

**Technical elective** 8, 9

#### Semester Credit Hours 14

#### Total Semester Credit Hours 97

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6 All students are required to complete a high-impact experience in order to graduate. The list of possible high-impact experiences is available in the EVEN advising office.
All students must take at least two courses in their major that are designated as writing intensive (W) or communications intensive (C). EVEN 201 and EVEN 400 taken at Texas A&M satisfy this requirement. Other EVEN courses may be approved as W/C courses at a later date. A grade of C or better is required in these courses.


Up to 3 hours of EVEN 485 (https://catalog.tamu.edu/search/?P=CVEN%20485) or EVEN 491 (https://catalog.tamu.edu/search/?P=CVEN%20491) may be used. A proposal must be submitted to the undergraduate office and approved before credit can be awarded towards the degree.

A grade of C or better is required in all science, mathematics and engineering courses taken to satisfy degree requirements.

Total Program Hours 128