# ENVIRONMENTAL ENGINEERING - BS

## Program Requirements

The freshman year is identical for degrees in aerospace engineering, architectural 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, biomedical engineering and materials science and engineering degrees in that students take 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.

### First Year

#### Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 107</td>
<td>3</td>
</tr>
<tr>
<td>General Chemistry for Engineering Students (^1,4)</td>
<td></td>
</tr>
<tr>
<td>CHEM 117</td>
<td>1</td>
</tr>
<tr>
<td>General Chemistry for Engineering Students Laboratory (^1,4)</td>
<td></td>
</tr>
<tr>
<td>ENGL 103 or ENGL 104</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Rhetoric and Composition (^1) or Composition and Rhetoric</td>
<td></td>
</tr>
<tr>
<td>ENGR 102</td>
<td>2</td>
</tr>
<tr>
<td>Engineering Lab I - Computation (^1)</td>
<td></td>
</tr>
<tr>
<td>MATH 151</td>
<td>4</td>
</tr>
<tr>
<td>Engineering Mathematics I (^1,2)</td>
<td></td>
</tr>
<tr>
<td>University Core Curriculum (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/</a>) (^3)</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Semester Credit Hours

16

#### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 216/PHYS 216</td>
<td>2</td>
</tr>
<tr>
<td>Experimental Physics and Engineering Lab II - Mechanics (^1)</td>
<td></td>
</tr>
<tr>
<td>MATH 152</td>
<td>4</td>
</tr>
<tr>
<td>Engineering Mathematics II (^1)</td>
<td></td>
</tr>
<tr>
<td>PHYS 206</td>
<td>3</td>
</tr>
<tr>
<td>Newtonian Mechanics for Engineering and Science (^1)</td>
<td></td>
</tr>
<tr>
<td>University Core Curriculum (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/</a>) (^3)</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following: 3-4

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 120</td>
<td>3</td>
</tr>
<tr>
<td>Fundamentals of Chemistry II (^1,4)</td>
<td></td>
</tr>
<tr>
<td>University Core Curriculum (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/</a>) (^3,5)</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Semester Credit Hours

15-16

#### Total Semester Credit Hours

31-32

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1 A grade of C or better is required.

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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 with an interest in BMEN, CHEN and MSEN can take CHEM 120 second semester freshman year. CHEM 120 will substitute for CHEM 107/CHEM 117.

5 For BS-PETE, allocate 3 hours to core communications course (ENGL 210, COMM 203, COMM 205, or COMM 243) and/or 3 hours to UCC elective. For BS-MEEN, allocate 3 hours to core communications course (ENGL 203, ENGL 210, or COMM 205) and/or 3 hours to UCC elective.
ATMO 201 & ATMO 202
Weather and Climate and Weather and Climate Laboratory

ATMO 210 & ATMO 202
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: 3
CHEN 204
Elementary Chemical Engineering
CVEN 305
Mechanics of Materials
ECEN 215
Principles of Electrical Engineering
MEEN 222/ MSEN 222
Materials Science
MSEN 201
Fundamentals of Materials Science and Engineering

Semester Credit Hours 16

Fourth Year

Fall
BAEN 477
Air Pollution Engineering 3
CVEN 423
Geomatics for Civil Engineering 3
EVEN 400
Design Problems in Environmental Engineering I 2
Environmental Engineering
Select two of the following: 6
BAEN 465
Design of Biological Waste Treatment Systems
BAEN 469
Water Quality Engineering
EVEN 458/ CVEN 458
Hydraulic Engineering of Water Distribution Systems
CVEN 465
Coastal Resilience
EVEN 462/ CVEN 462
Engineering Hydrogeology
EVEN 463/ CVEN 463
Engineering Hydrology
EVEN 466
Sustainability and Life Cycle Analysis
University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) 3

Semester Credit Hours 14

Total Semester Credit Hours 97

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.
7 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.
9 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

Technical elective 8, 9

3
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**