ARCHITECTURAL ENGINEERING - BS, STRUCTURAL SYSTEMS FOR BUILDINGS TRACK

The BS in Architectural Engineering degree prepares graduates for professional engineering careers within the architectural, engineering and construction industry. Specifically, it prepares graduates to become licensed professional engineers, achieve leadership positions in consulting firms, suppliers or government agencies, as well as successfully complete graduate studies in engineering or other areas. The Structural Building Systems Track to fulfill the BS in Architectural Engineering degree prepares students for careers with more emphasis on the structural design and safety of buildings. The focus electives prepare students to design and analyze structural systems for buildings.

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

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>CHEM 107</td>
<td>General Chemistry for Engineering Students</td>
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<td>CHEM 117</td>
<td>General Chemistry for Engineering Students Laboratory</td>
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<tr>
<td></td>
<td>ENGL 103 or ENGL 104</td>
<td>Introduction to Rhetoric or Composition</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ENGR 102</td>
<td>Engineering Lab I - Computation</td>
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<tr>
<td></td>
<td>MATH 151</td>
<td>Engineering Mathematics</td>
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<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>)</td>
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Semester Credit Hours: 16

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Semester Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>Spring</td>
<td>ENGR 216/PHYS 216</td>
<td>Experimental Physics and Engineering Lab II - Mechanics</td>
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<tr>
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<td>MATH 152</td>
<td>Engineering Mathematics II</td>
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Semester Credit Hours: 15-16

Second Year

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<th>Semester</th>
<th>Course Code</th>
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<tbody>
<tr>
<td>Fall</td>
<td>AREN 175/COSC 175</td>
<td>Construction Graphics Communication</td>
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<tr>
<td></td>
<td>AREN 200</td>
<td>Architectural Engineering Foundations</td>
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<tr>
<td></td>
<td>CVEN 221</td>
<td>Engineering Mechanics: Statics</td>
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<tr>
<td></td>
<td>ENGR 217/PHYS 217</td>
<td>Experimental Physics and Engineering Lab III - Electricity and Magnetism</td>
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<td>MATH 251</td>
<td>Engineering Mathematics III</td>
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<td>PHYS 207</td>
<td>Electricity and Magnetism for Engineering and Science</td>
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</table>

Semester Credit Hours: 16

Notes:
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, 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 cultural, 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/)
4. BMEN, CHEN and MSEN require 7 hours of freshman chemistry, which may be satisfied by CHEM 119 or CHEM 107/CHEM 117 and CHEM 120; Credit by Examination (CBE) for CHEM 119 plus CHEM 120; or 8 hours of CBE for CHEM 119 and CHEM 120. BMEN, CHEN and MSEN should 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.
<table>
<thead>
<tr>
<th>Spring</th>
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<tbody>
<tr>
<td></td>
<td>COMM 205 or ENGL 210</td>
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<tr>
<td></td>
<td>CVEN 302</td>
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<tr>
<td></td>
<td>CVEN 305</td>
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<tr>
<td></td>
<td>CVEN 306</td>
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<td></td>
<td>MATH 308</td>
<td>3</td>
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<tr>
<td></td>
<td>CVEN 302</td>
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<td>CVEN 302</td>
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<tr>
<td></td>
<td>CVEN 305</td>
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<tr>
<td></td>
<td>CVEN 306</td>
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<tr>
<td></td>
<td>MATH 308</td>
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<tr>
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<td>ARCH 345</td>
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<tr>
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<td>ARCH 350</td>
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<td>Summer</td>
<td>High Impact Experience</td>
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<td>Third Year</td>
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<tr>
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<tr>
<td></td>
<td>COSC 333</td>
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<td></td>
<td>CVEN 342</td>
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<tr>
<td></td>
<td>CVEN 345</td>
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<tr>
<td></td>
<td>MEEN 315</td>
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<td>Semester Credit Hours</td>
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<tr>
<td>Spring</td>
<td>AREN 330</td>
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<tr>
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<td>CVEN 311/ EVEN 311</td>
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<td>ECEN 215</td>
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<td>MEEN 437</td>
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<td>Semester Credit Hours</td>
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<td>Fourth Year</td>
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<tr>
<td>Fall</td>
<td>AREN 320</td>
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<td>AREN 401</td>
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<tr>
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<td>CVEN 444</td>
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</tr>
<tr>
<td>Spring</td>
<td>AREN 402</td>
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</table>

**Total Program Hours 128**

6. All students must take at least two courses in their major that are designated as writing intensive (W). AREN 175/ COSC 175 and AREN 200 taken at Texas A&M University satisfy this requirement. Other AREN courses may be approved as W courses at a later date. A grade of C or better is required in these courses.

7. 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 AREN advising office.

8. Select from ARCH 327, ARCH 328, ARCH 335, ARCH 421, COSC 253, COSC 321, COSC 323, CVEN 343, CVEN 363, CVEN 365, CVEN 445; MEEN 421, MEEN 439, MEEN 461, MEEN 463, MEEN 469, MEEN 477; AREN 440.

9. At least two (2) Technical Electives must be engineering courses.

10. Select from ARCH 327, ARCH 328, ARCH 335, ARCH 421; COSC 253, COSC 321, COSC 325, COSC 326, COSC 461; CVEN 343, CVEN 363, CVEN 365, CVEN 445; MEEN 421, MEEN 439, MEEN 461, MEEN 463, MEEN 469, MEEN 477; AREN 440.

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

This curriculum lists the minimum number of classes required for graduation. Additional courses may be taken.