MANUFACTURING AND MECHANICAL ENGINEERING TECHNOLOGY - 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 107 General Chemistry for Engineering Students 1,4</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 117 General Chemistry for Engineering Students Laboratory 1,4</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 103 Introduction to Rhetoric and Composition 1,4 or ENGL 104 Composition and Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 102 Engineering Lab I - Computation 1</td>
<td>2</td>
</tr>
<tr>
<td>MATH 151 Engineering Mathematics I 1,2</td>
<td>4</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>
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<table>
<thead>
<tr>
<th>Spring</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 216/ Experimental Physics and Engineering Lab</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 216 II - Mechanics 1</td>
<td>2</td>
</tr>
<tr>
<td>MATH 152 Engineering Mathematics II 1</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 206 Newtonian Mechanics for Engineering and Science 1</td>
<td>3</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>
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</table>

Select one of the following: CHEM 120 Fundamentals of Chemistry II 1,4

| Semester Credit Hours | 3-4 |

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>ENGR 217/ Experimental Physics and Engineering Lab III - Electricity and Magnetism 1</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 217</td>
<td>2</td>
</tr>
<tr>
<td>MMET 105 Engineering Graphics 1</td>
<td>2</td>
</tr>
<tr>
<td>MMET 181 Manufacturing and Assembly Processes I 1</td>
<td>3</td>
</tr>
<tr>
<td>MMET 206 Nonmetallic Materials 1</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 207 Electricity and Magnetism for Engineering and Science 1</td>
<td>3</td>
</tr>
<tr>
<td>STAT 211 Principles of Statistics 1</td>
<td>3</td>
</tr>
</tbody>
</table>

| Semester Credit Hours | 16 |

<table>
<thead>
<tr>
<th>Spring</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISEN 302 Economic Analysis of Engineering Projects 1</td>
<td>2</td>
</tr>
<tr>
<td>MMET 207 Metallic Materials 1</td>
<td>3</td>
</tr>
<tr>
<td>MMET 275 Mechanics for Technologists 1</td>
<td>3</td>
</tr>
<tr>
<td>MMET 281 Manufacturing and Assembly Processes II 1</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following: ENGL 210 Technical and Professional Writing

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 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 220) and/or 3 hours to UCC elective.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 203</td>
<td>Public Speaking</td>
<td></td>
</tr>
<tr>
<td>COMM 205</td>
<td>Communication for Technical Professions</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>)</td>
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**Semester Credit Hours**: 17

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESET 300</td>
<td>Industrial Electricity</td>
<td>4</td>
</tr>
<tr>
<td>MMET 303</td>
<td>Fluid Mechanics and Power ¹</td>
<td>4</td>
</tr>
<tr>
<td>MMET 376</td>
<td>Strength of Materials ¹</td>
<td>4</td>
</tr>
<tr>
<td>MMET 380</td>
<td>Computer-Aided Manufacturing ¹</td>
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</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>)</td>
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**Semester Credit Hours**: 18

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMET 320</td>
<td>Quality Assurance ¹</td>
<td>3</td>
</tr>
<tr>
<td>MMET 361</td>
<td>Product Design and Solid Modeling ¹</td>
<td>3</td>
</tr>
<tr>
<td>MMET 363</td>
<td>Mechanical Design Applications ¹</td>
<td>3</td>
</tr>
<tr>
<td>MMET 383</td>
<td>Manufacturing Information Systems ¹</td>
<td>4</td>
</tr>
<tr>
<td>Technical elective ¹, 6</td>
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<td>3</td>
</tr>
<tr>
<td>High Impact Experience 7</td>
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<td>0</td>
</tr>
<tr>
<td>ENTC 399</td>
<td>High Impact Experience</td>
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**Semester Credit Hours**: 16

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMET 370</td>
<td>Thermodynamics for Technologists ¹</td>
<td>4</td>
</tr>
<tr>
<td>MMET 402</td>
<td>Inspection Methods and Procedures ¹</td>
<td>3</td>
</tr>
<tr>
<td>MMET 410</td>
<td>Manufacturing Automation and Robotics ¹</td>
<td>3</td>
</tr>
<tr>
<td>MMET 429</td>
<td>Managing People and Projects in a Technological Society ¹</td>
<td>3</td>
</tr>
<tr>
<td>MMET 463</td>
<td>Mechanical Design Applications II ¹</td>
<td>3</td>
</tr>
</tbody>
</table>

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</thead>
<tbody>
<tr>
<td>Spring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMET 412</td>
<td>Production and Inventory Planning ¹</td>
<td>3</td>
</tr>
<tr>
<td>MMET 422</td>
<td>Manufacturing Technology Projects ¹</td>
<td>2</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>)</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Technical elective ¹, 6</td>
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<td>3</td>
</tr>
</tbody>
</table>

**Semester Credit Hours**: 14

**Total Semester Credit Hours**: 97

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6 See departmental advisor for a list of approved technical electives. Students interested in Co-op may use ENGR 385 for up to 3 semester credit hours. ENTC 485 is not for general use as a technical elective.

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 ETID advising office.

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