# Program Map: Mechanical Engineering Technology

Engineering Technology Department, College of Science and Technology

<table>
<thead>
<tr>
<th>Name:</th>
<th>SID:</th>
<th>Advisor:</th>
<th>Start Date:</th>
<th>Catalog Date:</th>
<th>Expected Graduation Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Freshman

<table>
<thead>
<tr>
<th>Fall Courses</th>
<th>Spring Courses</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1101* Core Area A</td>
<td>Composition I Pre-requisite: None</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1113* Core Area A</td>
<td>Pre-Calculus Pre-requisite: MATH 1111</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1231* Area F</td>
<td>Principles of Chemistry I Pre-requisite: None</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1211L* Area F</td>
<td>Principles of Chemistry I Lab Pre-requisite: None</td>
<td>1</td>
</tr>
<tr>
<td>COST 1103 Area F</td>
<td>COST First Year Experience Pre-requisite: None</td>
<td>2</td>
</tr>
<tr>
<td>CSCI 1130 Area D (non-lab)</td>
<td>Computer &amp; its Applications Pre-requisite: None</td>
<td>3</td>
</tr>
</tbody>
</table>

**Fall Milestones**

- Students must take MATH 1113 to prevent delay in graduation: 15

**Spring Milestones**

- Students must take ENGT 2101K, & PHYS 1111K to prevent delay in graduation: 17

## Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Name</th>
<th>Hours</th>
<th>Pre-req:</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2111* Area F</td>
<td>Calculus II Pre-requisite: MATH 2101</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS 1112K* Area D Lab</td>
<td>Introductory Physics II Pre-requisite: PHYS 1111K</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGT 3101* Or ENGR 2201* Major</td>
<td>Statics Pre-requisite: MATH 1113/PHYS 1111K OR PHYS 2111K, MATH 2111</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MECT 3101K* Major</td>
<td>Engineering Materials Pre-requisite: CHEM 1112 &amp; CHEM 1112L</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fall Milestones**

- Students must take MATH 2111 to prevent delay in graduation: 14

**Spring Milestones**

- Students must take CSCI 1301 to prevent delay in graduation: 15

## Junior

<table>
<thead>
<tr>
<th>Course</th>
<th>Name</th>
<th>Hours</th>
<th>Pre-req:</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECT 3301K* Major</td>
<td>Fluid Mechanics Pre-requisite: ENGT 3101 or ENGR 2201 &amp; MATH 2111</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MECT 3411K* Major</td>
<td>Thermodynamics Pre-requisite: PHYS 1111K</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MECT 4101K* Major</td>
<td>Machine Design Pre-requisite: ENGT 3601 &amp; MECT 3101K</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core Area C Option</td>
<td>Pre-requisite: Varies</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fall Milestones**

- Students must take MECT 3301K and MECT 3411 to prevent delay in graduation: 15

## Senior

<table>
<thead>
<tr>
<th>Course</th>
<th>Name</th>
<th>Hours</th>
<th>Pre-req:</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECT 4211K* Major</td>
<td>Introduction to Mechatronics Pre-requisite: ELET 3101K &amp; CSCI 1301 or 1371</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MECT 4701K* Major</td>
<td>Fundamentals of HVAC Pre-requisite: MECT 4301K</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core Area C Option</td>
<td>Pre-requisite: Varies</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGT 3301* Major</td>
<td>Quality Control Pre-requisite: MATH 1113</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUMN 1201 Bore Area B</td>
<td>Critical Thinking &amp; Communications Pre-requisite: None</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fall Milestones**

- Total: 16

**Spring Milestones**

- Total: 15
Program Map: Mechanical Engineering Technology
Engineering Technology Department, College of Science and Technology

Core Curriculum (Programmed Preferred Options in Bold)

Area B – Institutional Options 5 hrs
i. AFRS 1501 Survey of African-American Experience 2 hrs
ii. HUMN 1201 Critical Thinking & Communication 3 hrs

Area C – Humanities/Fine Arts, and Ethics 6 hrs,
1. Select one of the following:
   i. ENGL 2111 World Literature I 3 hrs
   ii. ENGL 2112 World Literature II 3 hrs
   iii. ENGL 2121 British Literature I 3 hrs
   iv. ENGL 2122 British Literature II 3 hrs
   v. ENGL 2131 American Literature I 3 hrs
   vi. ENGL 2132 American Literature II 3 hrs
   vii. ENGL 2222 African American Literature 3 hrs
   viii. PHIL 2010 Introduction to Philosophy 3 hrs
    ix. PHIL 2030 Introduction to Ethics 3 hrs
2. Select one of the following:
   i. ARTS 1101 Introduction to Visual Art 3 hrs
   ii. DNCE 2010 Dance Appreciation 3 hrs
   iii. ENGL 2521 Introduction to Film 3 hrs
   iv. HUMN 2011 Humanities 3 hrs
   v. MUSC 1101 Introduction to Music 3 hrs
    vi. THEA 2101 Introduction to Theatre 3 hrs

Area D – Natural Sciences, Math & Technology 11 hrs
1. Select one of the following:
   i. BIOL 1107 Principles of Biology I 3 hrs
   ii. BIOL 1108 Principles of Biology II 3 hrs
   iii. CHEM 1211 Principles of Chemistry I 3 hrs
   iv. CHEM 1212 Principles of Chemistry II 3 hrs
   v. CISM 1130 Computer Applications 3 hrs
   vi. CSCI 1130 Computer Applications 3 hrs
   vii. CSCI 1301 Computer Science I 3 hrs
   viii. ENVS 1140 Environmental Issues 3 hrs
2. Select two of the following lab sciences:
   i. BIOL 1107/1107L Principles of Biology I 4 hrs
   ii. BIOL 1108/1108L Principles of Biology II 4 hrs
   iii. CHEM 1211/1211L Principles of Chemistry I 4 hrs
   iv. CHEM 1212/1212L Principles of Chemistry II 4 hrs
   v. PHYS 1111K Introductory Physics I 4 hrs
   vi. PHYS 1112K Introductory Physics II 4 hrs
   vii. PHYS 2211K Principles of Physics I 4 hrs
   viii. PHYS 2212K Principles of Physics II 4 hrs

Area E – Social Science 12 hrs
1. POLS 1101 American Government 3 hrs
2. Select one of the following:
   i. HIST 2111 U.S. History to the Post-Civil War Period 3 hrs
   ii. HIST 2112 U.S. History from the Post-Civil War to Pre 3 hrs
3. Select two of the following:
   i. AFRS 2000 Introduction to Africana Studies 3 hrs
   ii. ANTH 1101 Introduction to Anthropology 3 hrs
   iii. ECON 2105 Principles of Macro-Economics 3 hrs
   iv. GEOG 1101 Introduction to Human Geography 3 hrs
   v. HIST 1111 World Hist to Early Modern Times 3 hrs
   vi. HIST 1112 World History Early Modern Times to Pres 3 hrs
   vii. POLS 2401 Global Issues 3 hrs
   viii. PSYC 1101 Intro to General Psychology 3 hrs
   ix. PSYC 2103 Human Growth & Development 3 hrs
   x. SOCI 1101 Introduction to Sociology 3 hrs
   xi. SOCI 1160 Social Problems 3 hrs

Mechanical Engineering Technology Major Technical Electives (3-hours)
Select from the following:
- MECT 3201K Manufacturing Processes 3 credits
- MECT 4611 Lean Engineering 3 credits
- MECT 4621 Operations Research 3 credits
- MECT 4911 Renewable Energy Concepts 3 credits

Distinctive Courses/Descriptions

Mechanical Engineering Technology
The curriculum of Mechanical Engineering Technology program provides students with the foundation to design, develop, test, troubleshoot, and manufacture mechanical devices, including tools, engines and machines. Emphasis is placed on a broad range of courses including, properties and processes of engineering materials, thermal-fluid-energy sciences and applications, computer aided design and analysis, mechanical design and analysis, robotics, mechatronics, manufacturing and industrial engineering areas.

Students learn how to apply the basic engineering principles and utilize technical skills to the diversified mechanical and manufacturing fields. Graduates work with the latest technologies in a broad range of fields like automotive, logistics, materials, maintenance, quality assurance, reliability and testing, manufacturing, robotics, supply chain, aerospace, alternative/clean energies, nanotechnology, biomedical and more.