**ELECTRO-MECHANICAL ENGINEERING TECHNOLOGY, B.S. (ENGINEERING)**

*Begin Campus: Any Penn State Campus*

*End Campus: Fayette, New Kensington, York*

**Degree Requirements**

For the Bachelor of Science degree in Electro-Mechanical Engineering Technology, a minimum of 130 credits is required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>45</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>110-116</td>
</tr>
</tbody>
</table>

24 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 6 credits of GQ courses; 9 credits of GN courses; 6 credits of GWS courses; 3 credits of GH or GS courses.

**Requirements for the Major**

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPET 211</td>
<td>Embedded Processors and DSP</td>
<td>3</td>
</tr>
<tr>
<td>EDSGN 100</td>
<td>Cornerstone Engineering Design</td>
<td>3</td>
</tr>
<tr>
<td>EET 105</td>
<td>Electrical Systems</td>
<td>3</td>
</tr>
<tr>
<td>EET 275</td>
<td>Introduction to Programmable Logic Controls</td>
<td>3</td>
</tr>
<tr>
<td>EGT 114</td>
<td>Spatial Analysis and Computer-Aided Drafting</td>
<td>2</td>
</tr>
<tr>
<td>EMET 100</td>
<td>Computation Tools for Engineering Synthesis</td>
<td>1</td>
</tr>
<tr>
<td>EMET 215</td>
<td>Manufacturing Engineering</td>
<td>3</td>
</tr>
<tr>
<td>EMET 225</td>
<td>Applied Dynamics</td>
<td>2</td>
</tr>
<tr>
<td>EMET 325</td>
<td>Electric Drives</td>
<td>3</td>
</tr>
<tr>
<td>EMET 326</td>
<td>Mechanical Drives</td>
<td>3</td>
</tr>
<tr>
<td>EMET 350</td>
<td>Quality Control, Inspection, and Design</td>
<td>3</td>
</tr>
<tr>
<td>EMET 403</td>
<td>Electromechanical Design Project Preparation</td>
<td>1</td>
</tr>
<tr>
<td>EMET 405</td>
<td>Fluid Mechanics and Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>EMET 410</td>
<td>Automated Control Systems</td>
<td>4</td>
</tr>
<tr>
<td>EMET 440</td>
<td>Electro-Mechanical Project Design</td>
<td>3</td>
</tr>
<tr>
<td>IET 101</td>
<td>Manufacturing Materials, Processes, and Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>IET 333</td>
<td>Engineering Economics for Technologists</td>
<td>2</td>
</tr>
</tbody>
</table>

**Prescribed Courses: Require a grade of C or better**

- CMPET 117: Digital Electronics
- CMPET 120: Digital Electronics Laboratory
- EET 114: Electrical Circuits II
- EET 118: Electrical Circuits Laboratory
- EET 212W: Op Amp and Integrated Circuit Electronics

**Prescribed Courses**

- EMET 222: Applied Mechanics
- EMET 230: Computerized I/O Systems
- EMET 330: Measurement Theory and Instrumentation
- ENGL 202C: Effective Writing: Technical Writing
- MET 111: Mechanics for Technology: Statics

**Additional Courses**

- MATH 210: Calculus with Engineering Technology Applications
- or MATH 141: Calculus with Analytic Geometry II

Select 3 credits of GH or GS from the following:

- ENGR 320Y: Design for Global Society
- STS 200: Critical Issues in Science, Technology, and Society
- STS/PHIL 233Z: Ethics and the Design of Technology
- STS 245Z: Globalization, Technology, and Ethics

Select 6-8 credits of GN courses from two of the following groups:

**Group 1**

- CHEM 110: Chemical Principles I
- CHEM 111: and Experimental Chemistry I

**Group 2**

- PHYS 150: Technical Physics I
- PHYS 211: General Physics: Mechanics
- PHYS 250: Introductory Physics I

**Group 3**

- PHYS 151: Technical Physics II
- PHYS 212: General Physics: Electricity and Magnetism
- PHYS 251: Introductory Physics II

Select 3 credits from the following:

- CMPSC 121: Introduction to Programming Techniques
- CMPSC 131: Programming and Computation I: Fundamentals
- CMPSC 200: Programming for Engineers with MATLAB
- CMPSC 201: Programming for Engineers with C++

**Additional Courses: Require a grade of C or better**

- MATH 83: Technical Calculus
- or MATH 140: Calculus With Analytic Geometry I
- MATH 250: Ordinary Differential Equations
- or MATH 211: Intermediate Calculus and Differential Equations with Applications

Select 3 credits from the following:

- CAS 100: Effective Speech
- CAS 100A: Effective Speech
- CAS 100B: Effective Speech

Select 3-5 credits from the following:

- MATH 26: Plane Trigonometry and Applications of Trigonometry
- MATH 40: Algebra, Trigonometry, and Analytic Geometry
- MATH 82: Technical Mathematics II

**Supporting Courses and Related Areas**

- Select 3-4 credits of science courses, in consultation with an adviser, from the approved department list
- Select 6 credits of General Technical Elective courses, in consultation with an adviser, from the approved department list

1 Students taking MATH 83 must take MATH 210 and MATH 211.
2 Note that MATH 250 does not carry a C-requirement.
3 Students taking MATH 81 and MATH 82 must take MATH 83.

General Education
Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

Foundations (grade of C or better is required and Inter-Domain courses do not meet this requirement.)
- Quantification (GQ): 6 credits
- Writing and Speaking (GWS): 9 credits

Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)
- Arts (GA): 3 credits
- Health and Wellness (GHW): 3 credits
- Humanities (GH): 3 credits
- Social and Behavioral Sciences (GS): 3 credits
- Natural Sciences (GN): 3 credits

Integrative Studies
- Inter-Domain Courses (Inter-Domain): 6 credits

Exploration
- GN, may be completed with Inter-Domain courses: 3 credits
- GA, GH, GN, GS, Inter-Domain courses. This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student’s degree program, whichever is higher: 6 credits

University Degree Requirements
First Year Engagement
All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

Cultures Requirement
6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

Writing Across the Curriculum
3 credits required from the college of graduation and likely prescribed as part of major requirements.

Total Minimum Credits
A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

Quality of Work
Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

Limitations on Source and Time for Credit Acquisition
The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80)). For more information, check the Suggested Academic Plan for your intended program.