ELECTROMECHANICAL ENGINEERING TECHNOLOGY (B.S.E.T.E.M.)

The Bachelor of Science in Electromechanical Engineering Technology (B.S.E.T.E.M.) offers an interdisciplinary education, resulting from the integration of electronics and computers in engineering systems. This major offers an individual plan of study with coursework in electronics, electrical, manufacturing, and mechanical areas, with appropriate prerequisite courses. The program is designed to extend the practical and applied base of the associate degree program with more theoretical and comprehensive engineering technology courses, and additional courses in mathematics, science, and socio-humanities.

Admission Requirements

This program is designed to admit students who satisfy the general undergraduate admission (http://bulletins.wayne.edu/undergraduate/general-information/admission) requirements of the University and have an associate degree in electrical, electronics, industrial, manufacturing, mechanical, or related technology from a community college or equivalent college-level coursework. A minimum grade point average (g.p.a.) of 2.50 is required for admission to the program. Students with a g.p.a. of 2.0 to 2.5 may be admitted as pre-engineering technology students, and may be transferred into the engineering technology program upon successful completion of MAT 1800 and PHY 2130 with a g.p.a. of 2.50.

Required Background: Any student deficient in any courses listed under Lower Division Technical Transfer Credit will be required to remove deficiencies before completing fifteen credits in basic science/mathematics and technical core courses.

A Mathematics Placement Examination is required of entering students who have not already earned advanced credit in pre-calculus.

Candidates for the B.S.E.T.E.M. degree must earn a minimum of 130 credits, as outlined in one of the following major programs and including the University General Education Requirements (http://bulletins.wayne.edu/undergraduate/general-information/general-education). University policy allows a maximum of sixty-four semester credits transferred from community colleges to Wayne State, but students following University-approved articulation agreements with community colleges are able to exceed the maximum of sixty-four credits; a minimum of thirty semester credits must be earned from Wayne State, at least twenty-four of which must be in Division of Engineering Technology courses. All coursework must be completed in accordance with the academic procedures of the University (http://bulletins.wayne.edu/undergraduate/general-information/academic-regulations) and the College (http://bulletins.wayne.edu/undergraduate/engineering-technology/division/#academicregulations) academic standards.

In order to graduate, the University requires a minimum 2.0 g.p.a. in total resident credit, and the Division a minimum 2.0 g.p.a. in total coursework in the area of specialization; as well as satisfaction of all University Undergraduate General Education Requirements including satisfactory achievement of the Critical Thinking Requirement either by completion of a (CT) course or by passing the Critical Thinking Competency Examination (administered by Testing, Evaluation, and Student Life Research Services).

Program Requirements: The Bachelor of Science in Electromechanical Engineering Technology requires 130 credits as outlined in the following curriculum.

Basic Science and Mathematics

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 1020</td>
<td>(PS) Survey of General Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>MAT 1800</td>
<td>Elementary Functions</td>
<td>4</td>
</tr>
<tr>
<td>MAT 3430</td>
<td>Applied Differential and Integral Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MAT 3450</td>
<td>Applied Calculus and Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>PHY 2130</td>
<td>(PS) Physics for the Life Sciences I</td>
<td>4</td>
</tr>
<tr>
<td>PHY 2131</td>
<td>Physics for the Life Sciences Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>PHY 2140</td>
<td>(PS) Physics for the Life Sciences II</td>
<td>4</td>
</tr>
<tr>
<td>PHY 2141</td>
<td>Physics for the Life Sciences Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>

Life Sciences (LS) elective

EMT Technical Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 3030</td>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>ET 3050</td>
<td>Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>ET 3850</td>
<td>Reliability and Engineering Statistics</td>
<td>3</td>
</tr>
<tr>
<td>ET 3870</td>
<td>Engineering Economic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ET 4999</td>
<td>(WI) Senior Project</td>
<td>3</td>
</tr>
<tr>
<td>ET 5870</td>
<td>Engineering Project Management</td>
<td>3</td>
</tr>
<tr>
<td>EET 3150</td>
<td>Network Analysis</td>
<td>4</td>
</tr>
<tr>
<td>EET 3500</td>
<td>Electrical Machines and Power Systems</td>
<td>3</td>
</tr>
<tr>
<td>EET 3720</td>
<td>Micro and Programmable Controllers</td>
<td>3</td>
</tr>
<tr>
<td>EET 4200</td>
<td>Control Systems</td>
<td>4</td>
</tr>
<tr>
<td>MCT 3010</td>
<td>Instrumentation</td>
<td>3</td>
</tr>
<tr>
<td>MIT 3500</td>
<td>Machine Tool Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>

EMT Upper Division Technical Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 2140</td>
<td>Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ET 2160</td>
<td>Computer Applications for Engineering Technology</td>
<td>2</td>
</tr>
<tr>
<td>ET 2200</td>
<td>Engineering Materials</td>
<td>3</td>
</tr>
<tr>
<td>EET 2000</td>
<td>Electrical Principles</td>
<td>3</td>
</tr>
<tr>
<td>EET 2720</td>
<td>Microprocessor Fundamentals</td>
<td>3</td>
</tr>
</tbody>
</table>

Other technology courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
</table>

Communication Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>(BC) Basic Composition course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(IC) Intermediate Composition course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(OC) Oral Communication course</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Other General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Society and Institutions (AI)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Critical and Analytic Thinking (CT) Competency Examination</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Foreign Culture (FC)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Historical Studies (HS)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Philosophy and Letters (PL)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Sciences (SS)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Engineering Technology Honors

Engineering Technology Honors demands a higher level of performance and offers more personal supervision by faculty than the regular curriculum. It is recommended for qualified students who have an interest in research and plan to go on to graduate or professional schools. The Honors Program is open to students seeking the Bachelor of Science in Computer Technology, Electrical/Electronic Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology. A cumulative grade point average of at least 3.3 is required for consideration for admission to and continuance in the program. Students are admitted on the recommendation of the Departmental Honors Program advisor. Interested students should contact the advisor and complete the Honors Plan of Work form when declaring their engineering technology major or at the beginning of the senior year. If a student has declared a major in engineering technology prior to entering the Honors Program, a new Declaration of Major must be completed for the Bachelor of Science with Honors.

Department Honors Requirements (12 credits minimum)

- Students must meet all the ordinary requirements of the Engineering Technology major, and must have a 3.3 GPA overall
- One 4200- level HON seminar (HON 4200-4280) (Cr. 3)
- Thesis-Honors Option with ET 4999 (Cr. 3)
- Two Honors Options courses within the engineering technology major, taught by full-time faculty member (Cr. 3-4 each)