## Lower Division General Education Requirements (27 units)

**BLOCK A – Basic Subjects (9 units)**
- **A1:** COMM 1100 or HNRS 1100 (Oral Communication, 3 units)
- **A2:** ENGL 1005B or ENGL 1010 (Written Communication, 3 units)
- **A3:** COMM1200/ENGL 1050/PHIL 1600/POLS 1555 (Critical Thinking and Composition, 3 units)

**American Institutions (6 units)**
- U.S. History (3 units)
- U.S. Constitution (3 units)

**BLOCK B – Natural Sciences & Mathematics/Quantitative Reasoning (9 units)**
- **B1:** Met in major with PHYS 1560/1570 (Physical, 3 units)
- **B2:** Biological (1 course, 3 units)
- **B3:** Interdisciplinary Physical/Biological (1 course, 3 units)
- **B4:** Mathematics/Quantitative Reasoning (Met in Major with Math 2110, 4 units)

**BLOCK C – Arts and Humanities (6 units)**
- **C1:** 1 course (3 units)
- **C2:** 1 course (3 units)

**BLOCK D – Social Sciences (3 units)**
- Met in major with ME/CE/EE 3000

**BLOCK E – Lifelong Understanding and Self-Development (3 units)**
- Met in major with ENGR 1500

**BLOCK F – Ethnic Studies (3 units)**
- 1 course (3 units)

### Lower Division Core Courses (34 units)

- **CHEM 1000** Molecules Matters (3) Prerequisites: None
- **ENGR 1500** Introduction to Engineer and Technology (3) Prerequisites: None
- **ETEC 1000** Introduction to Automotive Mechanisms (3) Prerequisites: None
- **ETEC 1020** Industrial Safety (3) Prerequisites: None
- **ETEC 1100** Introduction to Design Application (3) Prerequisites: None
- **ETEC 1200** Practical Electronics (3) Prerequisites: PHYS 1560 and PHYS 1570 both with minimum C-
- **ETEC 1600** Introduction to Metalworking (3) Prerequisites: ETEC 1020
- **ETEC 2070** Engineering Tech. Materials (3) Prerequisites: CHEM 1000 or CHEM 1040 with min C-
- **MATH 2110** Calculus I (4) Prerequisites: MATH 1040 or (MATH 1081 or MATH 1082 and MATH 1083) with min C
- **PHYS 1560** Physics for the 21st Century (2) Corequisites: PHYS 1570
- **PHYS 1570** Physics for the 21st Century Lab (1) Prerequisite/Corequisite: 1560
- **TECH 1300** Introduction to Graphics Communication (3) Prerequisites: None

### Upper Division Core Courses (26 units)

- **ETEC 3600** Lean Manufacturing (3) Prerequisites: PHYS 1560/1570, MATH 2110 all with a minimum C-; and ETEC 1600.
- **ETEC 3700** Sustainable Engineering and Transportation (3) Prerequisites: MATH 2110, PHYS 1560, and PHYS 1570 All with a minimum grade of C-
- **ETEC 4210** Internetworking Technology (3) Prerequisites: ETEC 1200
- **ETEC 4880** Fluid Power (3) Prerequisites: MATH 2110, PHYS 1560, and PHYS 1570 all with minimum grade C-
- **ETEC 4890** Industrial Training Methods (2) Prerequisites: ETEC 3600, ETEC 3700
- **ETEC 4950** Engineering Technology Senior Project I (3) Prerequisites: ETEC 3600, ETEC 3700, Senior Standing
- **ETEC 4951** Engineering Technology Senior Project II (3) Prerequisites: ETEC 4950 with grade C or better.
- **TECH 3300** Graphic Communication Processes and Materials (3) Prerequisites: Junior Standing.
- **TECH 4000** Written Communication Skills for Technology (3) Prerequisites: Completion of GE A2

### Related Core Courses (9 units)

- **ACCT 2100** Principles of Financial Accounting (3) Prerequisites: None
- **ECON 3060** Statistics for Business Analysis and Decision Making (3) Prerequisites: GE 4 basic subject.
- **ME/CE/EE 3000** Economics for Engineers (3) Prerequisites: Junior or Senior Standing.
Elective Courses (15 units): Students must choose five courses from any combination of Categories below.

Category 1: Elective Courses in Manufacturing System & Processes

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETEC 3130</td>
<td>Product Design and Development</td>
<td>3</td>
<td>ETEC 1100</td>
</tr>
<tr>
<td>ETEC 3150</td>
<td>Project Design and Document Control</td>
<td>3</td>
<td>ETEC 3130</td>
</tr>
<tr>
<td>ETEC 3820</td>
<td>Metrology and Statistical Process Control</td>
<td>3</td>
<td>MATH 2110, and ETEC 1600</td>
</tr>
<tr>
<td>ETEC 4600</td>
<td>Advanced Manufacturing Processes</td>
<td>3</td>
<td>MATH 2110, and ETEC 3600</td>
</tr>
<tr>
<td>ETEC 4620</td>
<td>Digital Manufacturing</td>
<td>3</td>
<td>ETEC 1100, ETEC 3600</td>
</tr>
<tr>
<td>ETEC 4660</td>
<td>Additive Manufacturing</td>
<td>3</td>
<td>ETEC 1100 / Corequisite: ETEC 3600</td>
</tr>
<tr>
<td>ETEC 4670</td>
<td>Emerging Manufacturing Technologies</td>
<td>3</td>
<td>ETEC 1100 / Corequisite: ETEC 3600</td>
</tr>
</tbody>
</table>

Category 2: Sustainable Energy and Transportation Technologies

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETEC 4700</td>
<td>Electric and Hybrid Vehicles</td>
<td>3</td>
<td>ETEC 3700 or with consent of instructor</td>
</tr>
<tr>
<td>ETEC 4710</td>
<td>Engine Design and Performance</td>
<td>3</td>
<td>ETEC 3700 or with consent of instructor</td>
</tr>
<tr>
<td>ETEC 4720</td>
<td>Photovoltaic Applications</td>
<td>3</td>
<td>ETEC 3700 or with consent of instructor</td>
</tr>
<tr>
<td>ETEC 4740</td>
<td>Fuel Cell Applications and Hydrogen Infrastructure</td>
<td>3</td>
<td>ETEC 3700 or with consent of instructor</td>
</tr>
<tr>
<td>ETEC 4760</td>
<td>Measurement, Instrumentation and Control</td>
<td>3</td>
<td>ETEC 3700</td>
</tr>
<tr>
<td>ETEC 4780</td>
<td>Emerging Sustainable Technologies</td>
<td>3</td>
<td>ETEC 3700 or with consent of instructor</td>
</tr>
</tbody>
</table>

Category 3: Management

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 3060</td>
<td>Operations Management</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>MGMT 4505</td>
<td>Project Management</td>
<td>3</td>
<td>None</td>
</tr>
</tbody>
</table>

Elective Courses (3 units): Students must take any 3 unit additional elective course to make the total units to 120.

General Education Upper Division Theme (6 units)

- UPPER DIVISION GE B – NATURAL SCIENCES AND QUANTITATIVE REASONING (3 units) Met with ECON 3060 (3)
- UPPER DIVISION GE C – ARTS AND HUMANITIES (3 units) 1 course (3)
- UPPER DIVISION GE D – SOCIAL SCIENCES (3 units) 1 course (3)

Notes:
- GE requirements must add up to at least 48 semester units. (39 Lower Division, 9 Upper Division units).
- An Introduction to Higher Education course (IHE) is required of all first-time freshman.
- A minimum C-grade in A1, A2, A3, and B4 classes is required. This does not apply to meeting prerequisite for courses that require these courses to be completed with a grade of C or better.
- A minimum C grade average in general education is required of all students following the Fall 2016 or later catalog.
- Civic Learning/Community Engagement Requirement (6 semester units). Three semester units will be fulfilled by completing the IHE course. One (cl) course must be completed at the upper division general education level. These courses are designated as (cl) after the course listing.
- Diversity Requirement (6 semester units). Students must complete one race/ethnicity (re) course and one diversity(d) course or another race/ethnicity (re) course. These courses are designated as (re) and (d) after the course listing.
- Writing Intensive Requirement (3 semester units). Students must complete one writing intensive (wi) course in their major. These courses are designated as (wi) after the course listing.