ENGINEERING TECHNOLOGY - DEGREE

Associates of Applied Science Degree Program | mhcc.edu/EngineeringTechnology

Faculty Adviser
Troy Donaldson: 503-491-7681 | AC2579 | Troy.Donaldson@mhcc.edu

The Associate of Applied Science in Engineering Technology degree is designed specifically for students seeking a degree that equips them for entry-level technician jobs in the engineering field. Engineering technicians work in support of engineers completing drawings, contributing to design or overseeing manufacturing/construction processes. Engineering is a technical profession that applies science and mathematics to design, manufacturing, construction, environmental management and sustainability. Engineering technicians provide a critical link between professional engineers and the craftspeople doing the work.

Program Outcomes
At the completion of this program, students should be able to:

• Demonstrate technical expertise in a minimum of three subject areas chosen from: engineering materials, applied mechanics, applied fluid sciences and fundamentals of electricity
• Use graphics software to enhance creativity and productivity in engineering design
• Calculate loads and determine stresses and displacements in elementary structural and mechanical systems
• Working in a team, apply technical expertise in creating a product from concept to working prototype
• Conduct standardized field and laboratory testing on concrete and soils
• Use both traditional and modern electronic surveying equipment
• Describe the ethical responsibilities of the engineering profession
• Describe sustainability in engineering and how it impacts products, business and communities

Course Title Credits

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>First Quarter</td>
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Fall

ET120 Engineering Problem Solving 4
MEC110 Introduction to Manual Machine Tools 3
MEC115 Print Reading 2
MTH095 Intermediate Algebra with Right Triangle 5
Trigonometry ★
CIS120L Computer Concepts Lab I ★ 1

Credits 15

Winter

GE101 Engineering Orientation 4
GE115 Engineering Graphics 3
ET221 Statics 4

Credits 11

Second Quarter

Fall

ET220 Fluid Mechanics 3
ET227 Engineering Project Management 4
MEC131 AC/DC Electrical Systems 3
Select one of the following: 3-4
ET150 Plane Surveying

Credits 16

Winter

ENGR248 Engineering Graphics: Solidworks 3
ET231 Basic Strengths of Materials 4
WR121 English Composition ★ 4
Health and Physical Education (https://catalog.mhcc.edu/degree-certificate-requirements/aas/#health) 3

Credits 17

Third Quarter

Spring

ET222 Fluid Mechanics 3
ET227 Engineering Project Management 4
MEC131 AC/DC Electrical Systems 3
Select one of the following: 3-4
ET150 Plane Surveying

Credits 16

Fourth Quarter

Spring

ET222 Fluid Mechanics 3
ET227 Engineering Project Management 4
MEC131 AC/DC Electrical Systems 3
Select one of the following: 3-4
ET150 Plane Surveying

Credits 16

Fifth Quarter

Winter

ET226 Concrete and Soil Technology 4
ET210 Sustainable Engineering 3
ET270 Intro to Thermodynamics 4
MEC141 Pneumatics I or FT228 Introduction to Geographic Information Systems 3

Credits 16

Spring

ET249 Advanced Solidworks or FT221 Aerial Photo Interpretation and GPS 3-4
ET250 Project Capstone 4
ET263 Structural Design 3
WR227 Technical Report Writing ★ 4

Credits 16

Sixth Quarter

Winter

ET220 Fluid Mechanics 3
ET227 Engineering Project Management 4
MEC131 AC/DC Electrical Systems 3
Select one of the following: 3-4
ET150 Plane Surveying

Credits 16

Spring

ET222 Fluid Mechanics 3
ET227 Engineering Project Management 4
MEC131 AC/DC Electrical Systems 3
Select one of the following: 3-4
ET150 Plane Surveying

Credits 16

Related Electives

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>CH104</td>
<td>General, Organic and Biological Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CH151</td>
<td>Basic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>COMM111</td>
<td>Fundamentals of Public Speaking ★</td>
<td>3</td>
</tr>
<tr>
<td>G201</td>
<td>Principles of Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>GS104</td>
<td>Physical Science - Physics</td>
<td>4</td>
</tr>
<tr>
<td>GS106</td>
<td>Physical Science: Geology</td>
<td>4</td>
</tr>
<tr>
<td>PH201</td>
<td>General Physics I</td>
<td>5</td>
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<tr>
<td>WE280ET</td>
<td>Coop-Ed Engineering Technology</td>
<td>4</td>
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★ Course offered online
Cultural Literacy course