

# MECHANICAL ENGINEERING TECHNOLOGY, A.A.S. - MET3

The Mechanical Engineering Technology curriculum equips the graduate for:

- performing a key role in the mechanical design process;
- installing, troubleshooting and repairing mechanical and electro-mechanical equipment;
- programming CNC machine tools, computers, programmable controllers and robots and performing general maintenance functions.

Most industrial products are mechanical in nature, and almost nothing can be made without the use of machines and structures. Electives allow students to focus on electro-mechanical coursework or maintain the mechanical program focus.

## Requirements

Courses	Course Title	Credit Hours
<b>General Education Courses</b>		
ENG 101 or ENG 165	English Composition I Professional Communications	3
MAT 110	College Algebra	3
MAT 111	College Trigonometry	3
PSY 103 or PSY 201	Human Relations General Psychology	3
Elective Humanities/Fine Arts ( <a href="https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/">https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/</a> )		3
Subtotal		15
<b>Required Core Subject Areas</b>		
CIM 131	Computer Integrated Manufacturing	3
EGR 170	Engineering Materials	3
EGR 175	Manufacturing Processes	3
EGR 194	Statics and Strength of Materials	4
EGT 152	Fundamentals of CAD	3
Subtotal		16
<b>Other Courses Required for Graduation</b>		
EET 113	Electrical Circuits I	4
EET 212	Industrial Robotics	3
EGR 130	Engineering Technology Applications and Programming	3
EGT 110	Engineering Graphics I	4
MET 214	Fluid Mechanics	3
MET 231	Machine Design	4
MET 240	Mechanical Senior Project	1
PHY 201	Physics I <sup>1</sup>	4
PHY 202	Physics II <sup>2</sup>	4
Subtotal		30

Electives		
Select on of the following sets:		7-8
MET 213	Dynamics	
MET 222	Thermodynamics	
or		
EET 131	Active Devices	
EET 231	Industrial Electronics	
Subtotal		7-8
Total Hours		68-69

- <sup>1</sup> or for transfer PHY 221 University Physics I (if prerequisite MAT 140 has been completed)
- <sup>2</sup> or for transfer PHY 222 University Physics II

## Graduation Plan

**For Summer 2021: EGR 130 is available for the summer semester. Student who have not yet completed EGR 130 are encouraged to include this course on their Summer 2021 schedule.**

### Fall Start

Course	Title	Hours
<b>First Year</b>		
<b>Fall Semester</b>		
EGT 110	Engineering Graphics I	4
EGR 130	Engineering Technology Applications and Programming	3
EET 212	Industrial Robotics	3
ENG 101	English Composition I	3
MAT 110	College Algebra	3
Hours		16

### Spring Semester

EET 113	Electrical Circuits I	4
MAT 111	College Trigonometry	3
PHY 201	Physics I <sup>1</sup>	4
Elective Humanities/Fine Arts ( <a href="https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/">https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/</a> )		3
Hours		14

### Summer Semester

EGT 152	Fundamentals of CAD	3
EGR 175	Manufacturing Processes	3
MET 214	Fluid Mechanics	3
PHY 202	Physics II <sup>2</sup>	4
Hours		13

### Second Year

<b>Fall Semester</b>		
CIM 131	Computer Integrated Manufacturing	3
EGR 170	Engineering Materials	3
EGR 194	Statics and Strength of Materials	4
PSY 103	Human Relations	3
Hours		13



### Spring Semester

MET 213	Dynamics	3
MET 222	Thermodynamics	4
MET 231	Machine Design	4
MET 240	Mechanical Senior Project	1
Hours		12
Total Hours		68

<sup>1</sup> or for transfer PHY 221 University Physics I (if prerequisite MAT 140 has been completed)

<sup>2</sup> or for transfer PHY 222 University Physics II

### Spring Start

Course	Title	Hours
--------	-------	-------

#### First Year

#### Spring Semester

EET 113	Electrical Circuits I	4
EGT 110	Engineering Graphics I	4
PHY 201	Physics I <sup>1</sup>	4
MAT 110	College Algebra	3
Hours		15

#### Summer Semester

EGT 152	Fundamentals of CAD	3
MAT 111	College Trigonometry	3
PHY 202	Physics II <sup>2</sup>	4
Hours		10

#### Fall Semester

EGR 130	Engineering Technology Applications and Programming	3
EET 112	AC Circuits	4
ENG 101	English Composition I	3
EGR 170	Engineering Materials	3
Hours		13

#### Second Year

#### Spring Semester

EGR 194	Statics and Strength of Materials	4
MET 214	Fluid Mechanics	3
Elective Humanities/Fine Arts ( <a href="https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/">https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/</a> )		3
Hours		10

#### Summer Semester

EGR 175	Manufacturing Processes	3
MET 214	Fluid Mechanics	3
Hours		6

#### Fall Semester

CIM 131	Computer Integrated Manufacturing	3
---------	-----------------------------------	---

MET 213	Dynamics	3
Hours		6
Total Hours		60

<sup>1</sup> or for transfer PHY 221 University Physics I (if prerequisite MAT 140 has been completed)

<sup>2</sup> or for transfer PHY 222 University Physics II

### Summer Start

Course	Title	Hours
--------	-------	-------

#### First Year

#### Summer Semester

EGT 152	Fundamentals of CAD	3
MAT 110	College Algebra	3
ENG 101	English Composition I	3
Hours		9

#### Fall Semester

EGT 110	Engineering Graphics I	4
EET 212	Industrial Robotics	3
EGR 130	Engineering Technology Applications and Programming	3
MAT 111	College Trigonometry	3
Hours		13

#### Spring Semester

EET 113	Electrical Circuits I	4
PSY 103	Human Relations	3
PHY 201	Physics I <sup>1</sup>	4
Elective Humanities/Fine Arts ( <a href="https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/">https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/</a> )		3
Hours		14

#### Second Year

#### Summer Semester

EGR 175	Manufacturing Processes	3
MET 214	Fluid Mechanics	3
PHY 202	Physics II <sup>2</sup>	4
Hours		10

#### Fall Semester

CIM 131	Computer Integrated Manufacturing	3
EGR 194	Statics and Strength of Materials	4
EGR 170	Engineering Materials	3
Hours		10

#### Spring Semester

MET 213	Dynamics	3
MET 222	Thermodynamics	4
MET 231	Machine Design	4
MET 240	Mechanical Senior Project	1
Hours		12
Total Hours		68

<sup>1</sup> or for transfer PHY 221 University Physics I (if prerequisite MAT 140 has been completed)

<sup>2</sup> or for transfer PHY 222 University Physics II

## Application and Advising

If you are ready to start your education, there are a few simple steps involved in enrolling at Piedmont Technical College.

Get Started Today (<https://www.ptc.edu/admissions/new-students/>)

## Advising Information

The following information provides a guide for advisors who are helping students enroll in this program.

Mechanical Engineering Technology Enrollment and Degree Data (<https://www.ptc.edu/sites/default/files/documents/academics/Engineering/MET%20Enrollment%20and%20Degree%20Data.pdf>)

**For Summer 2021: EGR 130 is available for the summer semester. Student who have not yet completed EGR 130 are encouraged to include this course on their Summer 2021 schedule.**

## Program Notes

Courses for this program may be offered in the day or evening, and/or online as available.

Starting program courses in the fall semester is preferred. However, developmental, transitional and general education courses can be taken any semester.

If a student is not ready to take college-level courses, he or she should enroll in the appropriate developmental or transitional coursework. Students who need MAT, ENG or RDG 032 courses as prerequisites should not enroll in EET, EGR, or EGT courses.

Students need to register for EGR 130 and EGT 110 during their first semester classes if they have the test scores to enter these courses.

Recent high school graduates should be asked if they have participated in Project Lead the Way. If so, high school transcripts should be forwarded to Christina Knight for possible exemption credit. When students enter this program, with Project Lead the Way course credit in high school, they may receive the following credit:

- Introduction to Engineering Design (IED) - EGT 152
- Principles of Engineering (POE) - EGR 130
- Computer Integrated Manufacturing (CIM) - CIM 131

All Engineering classes are only offered on Greenwood Campus for now.

Students will need to purchase a calculator (approximately \$75).

## Notes About Individual Classes

The English required for this program is ENG 165. Students will follow this progression, with their starting point being determined by their placement test scores: ENG 032/012 and/or RDG 032/012 (or RWR 032/012) > ENG 100 and/or RDG 100 (or RWR 100) > ENG 165 or ENG 101. If students are

planning to transfer to a four-year school, they should choose to take ENG 101 instead of ENG 165.

The first math course required for this program is MAT 110. Students will follow this progression, with their starting point being determined by their placement test scores: MAT 032/012 > MAT 152 or MAT 101 > MAT 102 > MAT 110.

To enroll in EGR 130, students must have completed MAT 152 or MAT 101 or have placement scores indicating readiness for MAT 102. Completion of MAT 102 is preferred, but student may take MAT 102 along with EGR 130.

## Program Student Learning Outcomes Purpose Statement

In the struggle to compete in the world market, American industry is rapidly replacing low-skill human labor with high technology machines. People who understand these machines and can keep them running will prosper in this new industrial revolution. This program prepares students to fill today's available positions.

## Program Student Learning Outcomes

Students completing Mechanical Engineering Technology will be able to demonstrate:

1. An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the Mechanical Engineering Technology discipline.
2. An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the Mechanical Engineering discipline.
3. An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments and an ability to identify and use appropriate technical literature.
4. An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results.
5. An ability to function effectively as a member of a technical team.