

# MECHATRONICS TECHNOLOGY I CERTIFICATE - MCT6

This certificate is designed to prepare students for system approach analysis and troubleshooting on advanced automated equipment and machinery, combining electronic, mechanical, robotics and information system technology found in today's automated manufacturing facilities.

## Requirements

Courses	Course Title	Credit Hours
<b>Required Course Information</b>		
EEM 117 or EET 111	AC/DC Circuits I DC Circuits	4
EEM 118 or EET 112	AC/DC Circuits II AC Circuits	4
EEM 151 or EET 231	Motor Controls I Industrial Electronics	4
EEM 162 or EET 233	Introduction to Process Control Control Systems	3-4
EEM 200 or EET 131	Semiconductor Devices Active Devices	4
EEM 231 or EET 145	Digital Circuits I Digital Circuits	3-4
IMT 112 or IMT 210	Hand Tool Operations Basic Industrial Skills I	3
IMT 131	Hydraulics and Pneumatics	4
Subtotal		29-31
Total Hours		29-31

## Graduation Plan

### Fall Start

Course	Title	Hours
<b>First Year</b>		
<b>Fall Semester</b>		
EEM 117	AC/DC Circuits I	4
IMT 112	Hand Tool Operations	3
Hours		7

### Spring Semester

EEM 118	AC/DC Circuits II	4
EEM 151	Motor Controls I	4
IMT 131	Hydraulics and Pneumatics	4
Hours		12

### Summer Semester

EEM 162	Introduction to Process Control	3
EEM 200	Semiconductor Devices	4

EEM 231	Digital Circuits I	3
Hours		10
Total Hours		29

## 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.

### Program Notes

The Mechatronics program's five-semester cycle starts every fall semester on the Greenwood, Newberry, Center for Advanced Manufacturing Campus in Laurens, Abbeville, and Saluda campuses. Saluda Campus offers a limited number of courses.

## Program Student Learning Outcomes

### Purpose Statement

The purpose of the Mechatronics Technology I certificate is to prepare students for systems approach analysis on high tech automated equipment, machines and processes found in today's manufacturing facilities.

### Student Learning Outcomes

1. Demonstrate a logical sequence for isolating problems within a Mechatronics process.
2. Analyze a process control system operation and select the appropriate sensing equipment for that operation.
3. Operate and adjust robots and automated systems equipment.
4. Analyze the operating difficulties of an automated system and perform the corrective actions needed.
5. Demonstrate the correct procedures in the breakdown, inspection, and repair of hydraulic and pneumatic equipment.
6. Test, analyze, and troubleshoot an industrial machine or process using a programmable logic controller (PLC).
7. Demonstrate an understanding of the use of PLC software and interface applications.