



# Program Planning Guide

## Industrial Systems Technology, Mechanical Maintenance Certificate (C5024050)

**Program Length:** 2 semesters

**Program Sites:** Lee Main Campus, Day Program

**Career Pathway Options:** Associate in Applied Science in Industrial Systems Technology; Diploma in Industrial Systems; Certificate in Mechanical Maintenance

Suggested Course Schedule		Class	Lab	Work	Credits	Notes:
<b>1st Semester (fall)</b>						
ELC 112	DC/AC Electricity	3	6	0	5	
MEC 111	Machine Processes I	1	4	0	3	
MNT 110	Intro to Maintenance Procedures	1	3	0	2	
<b>Total Semester Hours</b>		<b>5</b>	<b>13</b>	<b>0</b>	<b>10</b>	
<b>2nd Semester (spring)</b>						
BPR 111	Print Reading	1	2	0	2	
ISC 110	Workplace Safety	1	0	0	1	
MNT 111	Maintenance Practices	2	2	0	3	
WLD 112	Basic Welding Processes	1	3	0	2	
<b>Total Semester Hours</b>		<b>5</b>	<b>7</b>	<b>0</b>	<b>8</b>	
<b>Total Semester Hours Credit Required for Graduation: 18</b>						



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## Course Descriptions

### **BPR 111      Print Reading**

This course introduces the basic principles of print reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic prints and visualize the features of a part or system.

### **ELC 112      DC/AC Electricity**

This course introduces the fundamental concepts of and computations related to DC/AC electricity. Emphasis is placed on DC/AC circuits, components, operation of test equipment; and other related topics. Upon completion, students should be able to construct, verify, and analyze simple DC/AC circuits.

### **ISC 110      Workplace Safety**

This course introduces the basic concepts of workplace safety. Topics include fire, ladders, lifting, lock-out/tag-out, personal protective devices, and other workplace safety issues related to OSHA compliance. Upon completion, students should be able to demonstrate an understanding of the components of a safe workplace.

### **MEC 111      Machine Processes I**

This course introduces shop safety, hand tools, machine processes, measuring instruments, and the operation of machine shop equipment. Topics include use and care of tools, safety, measuring tools, and the basic setup and operation of common machine tools. Upon completion, students should be able to manufacture simple parts to specified tolerance.

### **MNT 110      Intro to Maintenance Procedures**

This course covers basic maintenance fundamentals for power transmission equipment. Topics include equipment inspection, lubrication, alignment, and other scheduled maintenance procedures. Upon completion, students should be able to demonstrate knowledge of accepted maintenance procedures and practices according to current industry standards.

### **MNT 111      Maintenance Practices**

This course provides in-depth theory and practical applications relating to predictive and preventive maintenance programs. Emphasis is placed on equipment failure analysis, maintenance management software, and techniques such as vibration and infrared analysis. Upon completion, students should be able to demonstrate an understanding of modern analytical and documentation methods.

### **WLD 112      Basic Welding Processes**

This course introduces basic welding and cutting. Emphasis is placed on beads applied with gases, mild steel fillers, and electrodes and the capillary action of solder. Upon completion, students should be able to set up welding and oxy-fuel equipment and perform welding, brazing, and soldering processes.