

## Contact Us:

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## Program Overview

Because of the rapid advances made in industrial technology over the past decade, few career fields have grown as much as metalworking. Students in this program get a full introduction to the field and practical experience in machining operations used in practically every manufacturing industry.

The graduate, highly skilled in the use of precision machines and instruments, is capable of making intricate parts meeting precise specifications. With practical experience in bench work, floor work, assembly layout, selected milling machine operations, lathe, shaper, drill press, numerical control programming and machining, machine tool maintenance and inspection, the graduate is prepared to handle a wide range of responsibilities in the metalworking industry.

## PROGRAM REQUIREMENTS

### A.A.S., Major in Machine Tool Technology

Because of the rapid advances made in industrial technology over the past decade, few career fields have grown as much as metalworking. Students in this program get a full introduction to the field and practical experience in machining operations used in practically every manufacturing industry.

The graduate, highly skilled in the use of precision machines and instruments, is capable of making intricate parts meeting precise specifications. With practical experience in bench work, floor work, assembly layout, selected milling machine operations, lathe, shaper, drill press, numerical control programming and machining, machine tool maintenance and inspection, the graduate is prepared to handle a wide range of responsibilities in the metalworking industry. This curriculum offers a certificate in Machine Tool Operator.

Upon completion of 65 credit hours, a student will be awarded an Associate in Applied Science degree with a major in Machine Tool Technology. A student may elect to receive a Diploma in Applied Science with a major in Machine Tool after completion of 40 credit hours.

### GENERAL EDUCATION COURSES

COURSES	CREDIT HOURS
ENG 165 Professional Communications.....	3.0
<i>or approved ENG course</i>	
MAT 170 Algebra, Geometry and Trigonometry I.....	3.0
<i>or MAT 110 College Algebra</i>	
<i>or MAT 120 Probability and Statistics</i>	
MAT 171 Algebra, Geometry and Trigonometry II .....	3.0
<i>or MAT 111 College Trigonometry</i>	
Elective Social/Behavioral Sciences .....	3.0
Elective Humanities/Fine Arts .....	3.0

**SUBTOTAL: 15.0**

### REQUIRED CORE SUBJECT AREAS

COURSES	CREDIT HOURS
MTT 120 Machine Tool Print Reading.....	3.0
MTT 121 Machine Tool Theory I .....	3.0
MTT 123 Machine Tool Theory II .....	3.0
MTT 130 Fundamentals of Geometric Dimensions	
and Tolerancing .....	2.0
MTT 141 Metals and Heat Treatment .....	3.0
MTT 250 Principles of CNC .....	3.0

**SUBTOTAL: 17.0**

### OTHER COURSES REQUIRED FOR GRADUATION

COURSES	CREDIT HOURS
CPT 169 Industrial Computer Applications .....	3.0
MTT 122 Machine Tool Practice I .....	4.0
MTT 124 Machine Tool Practice II .....	4.0
MTT 126 Machine Tool Practice III.....	4.0
MTT 143 Precision Measurement.....	2.0
MTT 161 Machine Tool Maintenance Theory .....	2.0
MTT 222 Tool and Diemaking Practice I.....	4.0
MTT 224 Tool and Diemaking Practice II .....	4.0
MTT 251 CNC Operations .....	3.0
MTT 253 CNC Programming and Operation.....	3.0

**SUBTOTAL: 33.0**

**TOTAL CREDIT HOURS: 65.0**

## D.A.S., Major in Machine Tool

This diploma provides students with a primary technical specialty. All courses within this diploma will be awarded for credit toward an Associate in Applied Science degree with a major in Machine Tool Technology.

### GENERAL EDUCATION COURSES

COURSES	CREDIT HOURS
ENG 165 Professional Communications..... 3.0 <i>or approved ENG course</i>	
MAT 170 Algebra, Geometry and Trigonometry I..... 3.0 <i>or MAT 110 College Algebra or MAT 120 Probability and Statistics Elective Social/Behavioral Sciences ..... 3.0</i>	

**SUBTOTAL: 9.0**

### REQUIRED CORE SUBJECT AREAS

COURSES	CREDIT HOURS
MTT 120 Machine Tool Print Reading..... 3.0	
MTT 121 Machine Tool Theory I ..... 3.0	
MTT 123 Machine Tool Theory II ..... 3.0	
MTT 141 Metals and Heat Treatment ..... 3.0	
MTT 143 Precision Measurement..... 2.0	

**SUBTOTAL: 14.0**

### OTHER COURSES REQUIRED FOR GRADUATION

COURSES	CREDIT HOURS
MTT 122 Machine Tool Practice I ..... 4.0	
MTT 124 Machine Tool Practice II ..... 4.0	
MTT 126 Machine Tool Practice III..... 4.0	
MTT 161 Machine Tool Maintenance Theory ..... 2.0	
MTT 250 Principles of CNC ..... 3.0	

**SUBTOTAL: 17.0**

**TOTAL CREDIT HOURS: 40.0**

## Machine Tool Operator Certificate

The Machine Tool Operator certificate is designed for those students who would like to learn basic machining skills without being enrolled in a full-time degree program. The certificate consists of all the machine tool courses given in the first two semesters of the diploma program. All the classes can be used for credit toward a diploma or associate degree.

### REQUIRED COURSE INFORMATION

COURSES	CREDIT HOURS
MTT 120 Machine Tool Print Reading..... 3.0	
MTT 121 Machine Tool Theory I ..... 3.0	
MTT 122 Machine Tool Practice I..... 4.0	
MTT 123 Machine Tool Theory II ..... 3.0	
MTT 124 Machine Tool Practice II ..... 4.0	
MTT 143 Precision Measurement..... 2.0	
MTT 250 Principles of CNC ..... 3.0	
CPT 169 Industrial Computer Applications ..... 3.0	

**SUBTOTAL: 25.0**

## Computerized Numerical Control Certificate

The CNC certificate is designed for people with a machinist background who desire to learn about the basic operations of CNC (computerized numerical controlled) machinery. Good math and blueprint reading skills are essential for those who would like to study CNC programming. This certificate requires students to write simple CNC programs using the G and M codes to define tool paths and other CNC functions. The student will then program and operate CNC machines. The graduate will have a good working knowledge of CNC and the jobs associated with this type of work.

### REQUIRED COURSE INFORMATION

COURSES	CREDIT HOURS
MAT 170 Algebra, Geometry and Trigonometry I..... 3.0	
MAT 171 Algebra, Geometry and Trigonometry II ..... 3.0	
MTT 120 Machine Tool Print Reading..... 3.0	
MTT 121 Machine Tool Theory I ..... 3.0	
MTT 130 Fundamentals of Geometric Dimensions and Tolerances ..... 2.0	
MTT 143 Precision Measurement..... 2.0	
MTT 251 CNC Operations ..... 3.0	
MTT 253 CNC Programming and Operation..... 3.0	
CPT 169 Industrial Computer Applications ..... 3.0	

**SUBTOTAL: 25.0**

**TOTAL CREDIT HOURS: 25.0**

>>> Visit [www.ptc.edu/machinetool](http://www.ptc.edu/machinetool) to learn more.