

Major and Related Course Requirements

	Class	Lab	Hours Clinical	Work Exper.	Credits
MAC 111X Machining Technology I (Basic Lathe)	1	6	0	0	3
MAC 111Y Machining Technology I (Basic Milling)	1	6	0	0	3
MAC 114 Introduction to Metrology	2	0	0	0	2
MAC 131 Blueprinting Reading/ Machining I	1	2	0	0	2
MAC 151 Machining Calculations	1	2	0	0	2
Total Credit Hours					12

Machining Technology Certificate with a Specialization in Motorsports Machining Certificate I (C50300-C4)

This certificate provides the graduate with basic skills in the set-up and operation of conventional and computer numerical control machine tools used in the Motorsports machining labs.

Certificate Awarded

A certificate is awarded in Motorsports Machining by the College upon completion of the program.

Admissions

- Completion of a high school diploma or equivalent is encouraged as a foundation of a career in this area.

Additional Information

Contact Information

The Machining Technology Program is in the Engineering Technologies Division. For more information, call 704.330.6608.

Major and Related Course Requirements

	Class	Lab	Hours Clinical	Work Exper.	Credits
MAC 111X Machining Technology I	1	6	0	0	3
MAC 111Y Machining Technology I	1	6	0	0	3
MAC 114 Introduction to Metrology	2	0	0	0	2
MAC 121 Introduction to CNC	2	0	0	0	2
MAC 122 CNC Turning	1	3	0	0	2
MAC 124 CNC Milling	1	3	0	0	2
MAC 151 Machining Calculation I	1	2	0	0	2
Total Credits Hours:					16

Machining Technology Certificate with a Specialization in Advanced Machine Tool Operations (C50300-C5)

This certificate provides the graduate with advanced skills in the set-up and operation of conventional machines tools used in the Motorsports machining labs.

Certificate Awarded

A certificate is awarded in Advanced Machine Tool Operations by the College upon completion of the program.

Admissions

- Completion of a high school diploma or equivalent is encouraged as a foundation of a career in this area.

Contact Information

The Machining Technology Program is in the Engineering Technologies Division. For more information, call 704.330.6608.

Major and Related Course Requirements

	Class	Lab	Hours Clinical	Work Exper.	Credits
MAC 113X Machining Technology III	1	6	0	0	3
MAC 113Y Machining Technology III	1	6	0	0	3
MAC 132 Blueprint Reading/ Machining II	1	2	0	0	2
MAC 152 Advanced Machining Calculations	1	2	0	0	2
MEC 172 Introduction to Metallurgy	2	2	0	0	3
Total Credits Hours:					13

Manufacturing Technology (A50320)

The Manufacturing Technology curriculum provides an introduction to the principles and practices of manufacturing in today's global marketplace. The student will be exposed to valuable high-tech concepts applicable in a variety of industries such as plastics, metals, furniture, textiles, and electronics. Students will gain real-world knowledge in manufacturing management practices, manufacturing materials and processes, research and development, and quality assurance.

Course work will include machining processes, CAD/CAM, CNC principles, and other computerized production techniques.

Graduates should qualify for employment as a manufacturing technician, quality assurance technician, CAD/CAM technician, team leader, or research and development technician. The student will be able to advance in the workplace and develop with new technologies.

Degree Awarded

The Associate in Applied Science Degree - Manufacturing Technology is awarded by the College upon completion of this program.

Admissions

- A high school diploma or equivalent is required. High school students preparing for this program should complete courses in algebra and geometry. Skills and proficiencies should be developed in writing, computer literacy, and science.
- Placement tests in English and mathematics determine the entry-level courses that match individual needs. Developmental Studies mathematics and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.
- Many courses have prerequisites or corequisites; check the Course Descriptions section for details.

Additional Information

Notes

The Manufacturing Technology curriculum at Central Piedmont Community College is a comprehensive program featuring extensive hands-on instruction in practical application of both fundamental and highly specialized manufacturing technology principles. Students advance from basic courses to specialized manufacturing, industrial, and mechanical technology courses that provide concentrated study in the practical application of project management encountered in today's modern manufacturing facilities.

Completion of this program requires that students use college-level algebra, trigonometry, and physics in applying scientific principles to solve problems often encountered in a production environment.

Contact Information

The Manufacturing Technology program is in the Engineering Technologies Division. For more information, call 704.330.6553.

Major and Related Course Requirements

	Class	Lab	Hours Clinical	Work Exper.	Credits
ATR 112 Intro. to Automation	2	3	0	0	3
DFT 111 Technical Drafting I	1	3	0	0	2
DFT 121 Introduction to G. D. & T.	1	2	0	0	2
DFT 151 CAD I	2	3	0	0	3
ELC 111E Introduction to Electricity	2	2	0	0	3
ISC 112 Industrial Safety	2	0	0	0	2
ISC 132 Manufacturing Quality Control	2	3	0	0	3
MAC 114 Metrology	2	0	0	0	2
MAC 131 Blue Print Reading 1	1	2	0	0	2
MAC 132 Blue Print Reading 2	1	2	0	0	2
MAC 151 Machining Calculations 1	1	2	0	0	2
MAC 152 Advanced Machining Calculations	1	2	0	0	2
MEC 111 Machine Processes	1	1	0	0	1.3
MEC 161 Manufacturing Processes	3	0	0	0	3
MEC 180 Engineering Materials	2	3	0	0	3
MEC 265 Fluid Mechanics	2	2	0	0	3
PHY 131 Physics-Mechanics	3	2	0	0	4
Technical Elective (6 credit hours to be chosen from the following)					50
COE 111E Co-Op Work Experience I	0	0	0	10	1
COE 112E Co-Op Work Experience I	0	0	0	20	2
COE 121E Co-Op Work Experience 2	0	0	0	10	1
COE 122E Co-Op Work Experience 2	0	0	0	20	2
CIS 115 Intro. to Programming and Logic	2	2	0	0	3
CSC 139 Visual BASIC Programming	2	2	0	0	3
DFT 154 Intro. to Solid Modeling	2	2	0	0	3
ISC 211 Production Planning	2	2	0	0	3
MEC 210 Applied Mechanics	2	2	0	0	3
MEC 260 Fundamentals of Machine Design	2	3	0	0	3
MEC 293 Selected Topics in Mech. Egr. Tech.					1-3
PLA 110 Introduction to Plastics	2	0	0	0	2
General Education Requirements:					
ENG 111 Expository Writing	3	0	0	0	3
ENG 114 Professional Research and Reporting	3	0	0	0	3
MAT 121 Algebra/Trigonometry I	2	2	0	0	3
Students must choose a minimum of 3 credit hours from the list of approved humanities courses listed at the end of this section of the catalog.					3
Students must choose a minimum of 3 credit hours from the list of approved behavioral and social sciences courses listed at the end of this section of the catalog.					3
Total Credit Hours					68

Mechanical Drafting Technology Diploma (D50340)

The Mechanical Drafting Technology curriculum prepares technicians to produce drawings of mechanical parts, components of mechanical systems, and mechanisms. CAD and the importance of technically correct drawings and designs based on current standards are emphasized.

Course work includes mechanical drafting, CAD, and proper drawing documentation. Concepts such as machine shop processes, basic materials, and physical sciences as they relate to the design process are also included. The use of proper dimensioning and tolerance techniques is stressed.

Graduates should qualify for employment in mechanical areas such as manufacturing, fabrication, research and development, and service industries.

Diploma Awarded

A Diploma in Mechanical Drafting Technology is awarded by the College upon completion of this program.

Students may apply appropriate courses toward the Mechanical or Manufacturing Engineering Technology programs.

Admissions

- A high school diploma or equivalent is required. Skills and proficiencies should be developed in writing, computer literacy, and science.
- Placement tests in English and mathematics determine the entry-level courses that match individual needs. Developmental Studies mathematics and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.
- Many courses have prerequisites or corequisites; check the Course Descriptions section for details.

Additional Information

Notes

The Mechanical Drafting Technology program at CPCC is a comprehensive Computer Aided Drafting (CAD) curriculum that emphasizes CAD throughout the program from basic part drawings to complete detailing and assembly and working drawings.

Contact Information

The Mechanical Drafting Technology program is in the Engineering Technologies Division. For more information, call 704.330.6553.

Major and Related Course Requirements

	Class	Lab	Hours Clinical	Work Exper.	Credits
DFT 111 Technical Drafting 1	1	3	0	0	2
DFT 112 Technical Drafting 2	1	3	0	0	2
DFT 151 CAD 1	2	3	0	0	3
DFT 154 Intro. Solid Modeling	2	3	0	0	3
EGR 125 Software Apps. for Technicians	1	2			2
ISC 112 Industrial Safety	2	0			2
DDF 221 Design Drafting Project	0	4	0	0	2
DFT 121 Intro to G. D. & T.	1	2	0	0	2
ISC 212 Metrology	1	2	0	0	2
MEC 111X Machine Processes I (Conventional)	1	2	0	0	1.7
MEC 111Y Machine Processes I (CNC)	1	1	0	0	1.3
MEC 161 Manufacturing Processes 1	3	0	0	0	3