

Piedmont Technical College Course Syllabus

COURSE INFORMATION

Course Prefix/Number: MTT 251

Title: CNC Operations

Responsible Division: Industrial/Engineering

Last Day to Withdraw from this Course: For the last date to withdraw from this course, consult the current *Student Calendar*.

Course Description:

For course, credit hour, pre-requisite(s) and co-requisite(s) information, visit the Detailed Course Information page: www.ptc.edu/courses/mtt251.

Textbook and Other Materials:

For textbook information and additional required and/or supplemental materials, visit the [college bookstore](http://www.ptc.edu/bookstore) (www.ptc.edu/bookstore).

Proctored Examinations:

Proctored examinations for distance learning courses taken at non-PTC campuses may require a proctoring fee for each exam taken.

COURSE POLICIES

Course policies are available online through the *Academic Catalog* and *Student Handbook*. Visit the [Course Policies page](http://www.ptc.edu/syllabus/policies) (www.ptc.edu/syllabus/policies) for a detailed list of important policies and more information.

GRADE POLICY

Detailed grading policy information can be found on the [Grading Policy webpage](http://www.ptc.edu/grading-policy) (http://www.ptc.edu/grading-policy). Final grade appeal information is available in the [Academic Catalog](http://www.ptc.edu/catalog/) (http://www.ptc.edu/catalog/).

ACCOMMODATIONS

Accommodations for ADA:

Information is available on the [Student Disability Services webpage](http://www.ptc.edu/ada) (<http://www.ptc.edu/ada>).

RATIONALE

Why do I need this course?

The CNC Programmer, Set-up Person and Operator are all key positions in the CNC manufacturing environment. The services of this highly skilled craftsman are much in demand. High production metal working manufacturing facilities are very dependent on these highly skilled persons. The skilled CNC technician must possess a wide knowledge of shop practices and the working properties of various metals.

It is important for the successful CNC technician to develop skills in the use of hand tools as well as power saws, bench grinders, drilling machines, lathes and milling machines. Thus the purpose of this course as the title implies is to acquaint the student with programming and operating procedures that apply to CNC equipment as well as CNC's relationship to manual equipment.

PROGRAM INFORMATION

For program information including required courses, program learning outcomes, gainful employment information and advisement information, refer to the Academic Program webpage. Go to [Academics](http://www.ptc.edu/academics) (<http://www.ptc.edu/academics>), select your program, and then select Credentials Offered.

COURSE STUDENT LEARNING OUTCOMES

Upon successful completion of this course and/or clinical, each student will be able to:

- Demonstrate proficiency with basic CNC programming practices.
- Manually set-up and operate CNC machine.
- Edit programs to correct problems or enhance the operations.
- Manufacture, evaluate, and explain CNC projects.
- Explain aspects of CNC practices.

- Operate machinery in a safe and responsible manner.

GENERAL EDUCATION COMPETENCIES

Piedmont Technical College General Education Competencies for All Graduates:

This course may address one or more of the following General Education Competencies (assessment will be stated when applicable):

Communicate effectively.

Assessment:

The student will explain the functions for CNC equipment.

Apply mathematical skills appropriate to an occupation.

Assessment:

The student will develop CNC programs using the coordinate system.

Employ effective processes for resolving problems and making decisions.

Assessment:

The student will analyze incorrect CNC programs and rewrite the program until it is viable.

Demonstrate the basic computer skills necessary to function in a technological world.

Assessment:

The student will use the computer interface with the CNC machinery to correctly prepare the machine for CNC operations.

To validate proficiency in the general education competencies, students in some programs will be tested using Work Keys.