

## Computer Numerical Control (CNC) Programming 26-27 unit certificate • 60 unit degree

The CNC Programming program teaches how to design and carry out the operations needed to make machined products that meet precise specifications.

### Required Courses (to earn certificate)

#### ENE-30 Computer Aided Drafting (3 units)\*

Advisory: CIS-1A

Two-dimensional computer aided drafting class for drafters.

#### ENE-42 SolidWorks I (3 units)\*

Introduction to three-dimensional parametric solid modeling with SolidWorks.

#### ENE-51 Blueprint Reading (2 units)\*

Beginning course in the study of blueprints and their interpretation, types of projection, symbols and abbreviations.

#### ENE-52 Geometric Dimensioning & Tolerancing (2 units)\*

Helps students to read and use ANSI Y14.M, the current standard for drafting.

#### ENE-60 Math for Engineering Technology (3 units)

Mathematical problems commonly used by students enrolled in the trade and industrial and engineering programs.

OR

#### MAT-36 - Trigonometry (4 units)\*

Prerequisite: MAT-35 and 53 or qualifying placement level

The study of trigonometric functions, their inverses and their graphs; identities and proofs related to trigonometric expressions.

#### MAN-35 Computer Aided Manufacturing-Mastercam (5 units)

A course in computer aided manufacture of parts and assemblies using Mastercam software.

#### MAN-55 Occupational Safety & Health Administration (OSHA) Standards for General Industry (1 unit)

Covers OSHA policies, procedures, and standards as well as safety for general industry and health principles.

#### MAN-56 CNC Machine Setup and Operation (4 units)

Fundamental skills related to setup and operation of CNC (Computer Numerically Controlled) machine tools.

#### MAN-57 CNC Program Writing (3 units)

Introduction to manual CNC program writing.

\*This class transfers toward one or more CSUSB or CalPoly majors. Visit [www.assist.org](http://www.assist.org) or the Counseling office for details.

## Computer Numerical Control (CNC) Programming

Tuition \$46/unit • Duration of Study: 20 months

An AS Degree in Computer Numerical Control Programming will be awarded upon completion of the required courses (26-27 units) plus the General Education requirements. Please refer to the Norco College Catalog or visit the Counseling Center.

### Job & Wage Information

- **Computer Controlled Tool Operators**  
Wage Range\*: \$14.95-\$22.68  
0% increase expected in CA 2019-2029; 1,190 openings annually  
More information: <http://bit.ly/ToolOperatorNC>
- **Multiple Machine Tool Setters**  
Wage Range\*: \$14.39-19.28  
2% increase expected in CA 2019-2029; 550 openings annually  
More information: <http://bit.ly/MachineSetterNC>
- **Machinists**  
Wage Range\*: \$15.13-27.93  
4% increase expected in CA 2019-2029; 3,770 openings annually  
More information: <http://bit.ly/MachinistsNC>

\*2020, Riverside/Ontario/San Bernardino Metro Area

### What type of interests might be a good fit for this career choice?



## Realistic

People who have athletic or mechanical ability and prefer to work with objects, machines and tools. Preference for working with things over people.

For more information on careers that fit this category of interests, visit the Career Center in the Center for Student Success.

### What's Your School?

 SCHOOL OF  
**Science, Technology,  
Engineering & Mathematics**

Visit [www.norcocollege.edu/STEM](http://www.norcocollege.edu/STEM)  
for more information about this program.