Manufacturing Technology

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.

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.

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.

*This class transfers toward one or more CSUSB or CalPoly majors. Visit www.assist.org or the Counseling office for details.

For more information regarding program, course sequencing or scheduling, contact the Norco College Counseling Department at 951 • 372 • 7101 or visit www.norcocollege.edu/counseling
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

- **Multiple Machine Tool Setters**
  - Wage Range*: $14.39-19.28
  - 2% increase expected in CA 2019-2029; 550 openings annually

- **Machinists**
  - Wage Range*: $15.13-27.93
  - 4% increase expected in CA 2019-2029; 3,770 openings annually

*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?

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