

COMPUTER NUMERICAL CONTROL (CNC) MACHINIST SPECIALIST – ASSOCIATE IN SCIENCE DEGREE, CERTIFICATE OF ACHIEVEMENT

Top Code:

0956.30

The Computer Numerical Control (CNC) Machinist Specialist program provides students with the knowledge and hands-on skills required to set up, program, and operate CNC milling and turning machines. Coursework emphasizes blueprint interpretation, precision measurement, Mastercam programming, and quality assurance practices. Students gain practical experience in machining operations, tooling, and process optimization to meet industry standards. Graduates are prepared for employment as CNC machinists, machine tool operators, or CNC programmers in advanced manufacturing environments.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

Program Outcomes

- Set up and operate CNC milling and turning machines to produce precision parts that meet engineering specifications.
- Program and verify CNC toolpaths using Mastercam and related software to optimize manufacturing efficiency and accuracy.
- Apply industry-standard safety protocols, precision measurement techniques, and quality assurance practices to ensure compliance with manufacturing standards.

Requirements for the Certificate of Achievement

Code	Title	Units
MACH 101	BEGINNING METALWORKING SKILLS	3
MACH 110	BLUEPRINT READING	1
MACH 120	COMPUTER-AIDED MANUFACTURING (CAM): FUNDAMENTALS IN 2D	3
MACH 121	COMPUTER-AIDED MANUFACTURING (CAD): ADVANCED 3D	3
MACH 130	CNC MILLING FUNDAMENTALS	3
MACH 131	CNC MILLING ADVANCED	3
MACH 135	CNC TURNING FUNDAMENTALS	3
MACH 136	CNC TURNING ADVANCED	3
Total Units		22

General Education Requirements for the Associate in Science Degree

- General Information (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/>)
- PCC Local Gen Ed (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#pcclocaltext>)
- Students who have previously been awarded a bachelor's degree or higher from a U.S. institutionally accredited institution shall be deemed to have fulfilled the general education and elective course requirements for the Associate in Science degree.
- Cal-GETC (<https://curriculum.pasadena.edu/degree-certificate-requirements/#calgetctext>)
- Students with rights to the former general education patterns can complete IGETC or CSU GE in lieu of Cal-GETC. Students should consult with an Academic Counselor to determine which general education pattern to complete and may refer to an appropriate archived College Catalog (<https://curriculum.pasadena.edu/previous-catalogs/>) or www.assist.org (<https://www.assist.org/>) for more information.