

COMPUTER NUMERICAL CONTROL - CAD & CAM CERTIFICATE OF ACHIEVEMENT

This certificate is designed to prepare students for entry-level employment as production machinists working with complex Computer Numerical Control (CNC) cutting machines.

Code	Title	Units
Required Courses:		
MACH 021	Machine Shop I	4
MACH 022	Machine Shop II	4
MACH 090	Mechanical Print Reading	3
MACH 120	Machine Shop Theory	2
MACH 123	Machine Shop III	4
MACH 124	Machine Shop IV	4
TECALC 087	Technical Calculations	4
Required Specialized Courses:		
MACH 070	Computer Numerical Control Programming (CNC) I	3
MACH 071	Computer Numerical Control Programming II	3
MACH 072	Computer Aided Design and Manufacturing Programming I	3
MACH 073	Computer Aided Design and Manufacturing Programming II	3
MACH 074	Computer Numerical Control (CNC) Machining Setup and Operation	3
MACH 129	Manufacturing Processes	3
Total Units		43

Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.

This is a Gainful Employment Program

Program Learning Outcomes

At the completion of this program, students will be able to:

- Accurately hold tolerances to a given print within a 1/64th for fractions and within .001" for NIMS decimals.
- Program a part print utilizing the Cartesian coordinate systems.
- Download files from computer disks to machine control.
- Generate a part model in SolidWorks from a detailed dimensioned illustration or a mechanical drawing.
- Demonstrate the use of a gage 2000 Browne & Sharpe coordinate measuring machine.