

# CNC, CAD/CAM MACHINIST - CERTIFICATE OF ACHIEVEMENT LEVEL 3

MACH 160	Introduction to CNC Laser Applications	5
MACH 165	Mill Setups I	1.5

San José City College offers an Associate in Science (AS) in CNC Machining and three certificates: CNC Machine Operator, Entry Level Machinist, and CNC, CAD/CAM Machinist. Successful completion of program prepares the graduate for entry into the machinist trade and positions in industry requiring technical skill and understanding of precision metalworking. Most courses applying to degree or certificate have basic language/math requirements and/or course prerequisites. A grade of "C" or better is required in all major, certificate and major elective courses.

## Program Learning Outcomes

- Demonstrate the proper use of machine tools, methods, recognition of different type of materials; and follow safety practices and procedures used in the industry.
- Demonstrate understanding of machine technology vocabulary, and be able to apply concepts in a practical manner. Students will solve problems related to set up applications.
- Read and interpret blueprints, sketches, ANSI specifications, shop drawings, and communicate with various groups the practical application of such interpretations.
- Apply and use new technologies that emerge in this changing field.

## Certificate Requirements

Course	Title	Credits
Completion of Certificate of Achievement - Level 2: CNC Machine Operator - or - Entry Level Machinist		18
MACH 110	Geometric Dimensioning & Tolerancing (GD&T) Measurement <sup>1</sup>	4
MACH 153A	Operator/Programmer I	5
MACH 153B	Operator/Programmer II	5
Approved Major Elective (See list below)		1
Total Units		33

<sup>1</sup> MACH 110 must be taken at San José City College.

## Approved Major Electives

Course	Title	Credits
CIS 041	Introduction to Computer Information Systems	3
MACH 098	Directed Study in Machine Technology	.5-9
MACH 109	Introduction to Coordinate Measurement Machine	3
MACH 138	Work Experience	1-8
MACH 154	Introductory CAD/CAM Operations for Machinists and Operators	2
MACH 158	Advanced CAD/CAM Operations for Machinists and Operators	2
MACH 159	Introduction to CNC Programming Macros	2