

PRECISION MANUFACTURING AND CNC (ITC)

Interm Technical Certificate

Career-Technical Program

Interest Areas:

Manufacturing and Trades

This program prepares students for entry-level employment in the machining and manufacturing industries. The curriculum features basic to advanced machining concepts involving machine tools such as conventional lathes, mills, grinders, and their Computer Numerical Control (CNC) counterparts. Coursework also involves blueprint reading, geometric dimensioning and tolerancing, shop math, and mechanical measurements. This program places emphasis in CNC, geometric dimensioning and tolerancing, reading and writing G-Code in preparation for employment in computerized manufacturing trades.

Successful completion of each semester or permission of the instructor is required to continue into the next semester. Prospective students should have solid math skills and demonstrate mechanical aptitude. Computer and keyboarding skills are recommended. Placement on specific English and math classes are determined by college assessment tests.

Current industry professionals may enroll in individual courses on a space-available basis and with the instructor's permission.

Contact Information:

**Trades & Industry Division
Parker Technical Education Center
7064 West Lancaster Road
Rathdrum, ID 83858
Phone: (208) 769-3448**

Program Website (<https://www.nic.edu/programs/machining-and-cnc-technology/>)

Program Requirements

Course	Title	Credits
Semester 1		
MACH-150	Machining Technology Theory I	6
MACH-151L	Machining Technology Lab I	6
MACH-171	Blueprint Reading	2
MCTE-105	Technical Mathematics for Machining and Computer Aided Design Technologies	3
Credits		17
Semester 2		
ATEC-117	Occupational Relations and Job Search	2
MACH-152L	Machining Technology Lab II	5
MACH-160	Manufacturing Processes	4
MACH-172	Blueprint Reading II	2

ENGL-101 or ENGL-101P	Writing and Rhetoric I or Writing and Rhetoric I	3
Credits		16
Total Credits		33

Course Key



GEM



AAS
Institutionally
Designated



Gateway



Milestone

Program Outcomes

Upon completion of the program, students will be able to:

1. Describe and execute basic and advanced machine setups and required operations on conventional lathes, mills, grinders, saws and CNC machines.
2. Demonstrate basic and advanced mechanical measurements using correct technique and equipment.
3. Develop and write G-Code program from a blueprint by hand in preparation to run it on a CNC machine.
4. Read and interpret blueprints including Geometric Dimensioning and Tolerancing.