

MACHINE TECHNOLOGIES

Associate of Applied Science Degrees

Advanced Manufacturing Center- Manufacturing Pathway
CCD.edu/Machining

CNC Manufacturing

This program prepares you with the entry-level skills necessary to perform tasks of developing 3D programming to operate a Computer Numerical Controlled (CNC) machining center.

PROGRAM ADMISSION REQUIREMENTS

You must meet the minimum assessment scores or prerequisites required for general education courses in the program. Refer to the course descriptions section of this catalog for course prerequisites. You may take individual courses, if the course prerequisites are met, prior to being accepted into this program.

COURSE MAP

Certificates

Advanced Manufacturing Center- Manufacturing Pathway
CCD.edu/Machining

Community College of Denver currently offers four certificates in machine technologies.

- Basic Machining
- Intermediate Machining
- CNC Machine Tool Operator
- Industrial Maintenance Technologies

Basic Machining

The basic machining certificate instructs students in the basics of shop safety, drill presses, machine shop math, basic CNC mill, and lathes. This certificate is the logical starting point for the more comprehensive certificates and degrees in the machine technologies program.

PROGRAM ADMISSION REQUIREMENTS

Meet minimum assessment scores or prerequisites required for general education courses in the program. You may take individual courses, if the course prerequisites are met, prior to being accepted into this program.

This program is not eligible for federal student aid.

COURSE MAP

Code	Title	Credits
MAC 1000	Machine Shop Safety	1
MAC 1020	Introduction to Milling Machine	3
MAC 1010	Introduction to Engine Lathe	3
MAC 1002	Print Reading for Machinists	3
Total Credits		10

Intermediate Machining

The manual machining certificate prepares you with the job-entry skills necessary to perform most operations on the vertical mill, horizontal mill, lathe and grinder/shaper. This certificate is the second logical step for the more comprehensive certificates and degrees in the machine technologies program.

PROGRAM ADMISSION REQUIREMENTS

Meet minimum assessment scores or prerequisites required for general education courses in the program. You may take individual courses, if the course prerequisites are met, prior to being accepted into this program.

COURSE MAP

Course	Title	Credits
First Semester		
MAC 1000	Machine Shop Safety	1
MAC 1020	Introduction to Milling Machine	3
MAC 1010	Introduction to Engine Lathe	3

MAT 1150	Technical Mathematics	4
MAC 1002	Print Reading for Machinists	3
Subtotal		14
Second Semester		
MAC 1011	Intermediate Engine Lathe	3
MAC 1021	Intermediate Milling Machine	3
Subtotal		6
Total Credits		20

CNC Machine Tool Operator

The computer numeric control (CNC) machine tool operator certificate prepares you with the job-entry skills necessary to perform most operations on the vertical mill, horizontal mill, lathe, grinder/shaper, CNC mill and CNC lathe. You will be prepared to enter positions as a CNC machine tool operator. All credits within this certificate apply toward the Associate of Applied Science in machining technologies degree with an emphasis in CNC machining technologies manufacturing.

PROGRAM ADMISSION REQUIREMENTS

Meet minimum assessment scores or prerequisites required for general education courses in the program. You may take individual courses, if the course prerequisites are met, prior to being accepted into this program.

COURSE MAP

Course	Title	Credits
First Semester		
MAC 1000	Machine Shop Safety	1
MAT 1150	Technical Mathematics	4
CAD 2464	Fusion/AutoDesk	3
MAC 1002	Print Reading for Machinists	3
MAC 2005	Introduction to CNC Milling Operations	3
Subtotal		14
Second Semester		
MAC 2006	CNC Milling Operations II	3
MAC 2001	Introduction to CNC Turning Operations	3
MAC 2002	CNC Turning Operations II	3
MAC 2050	Advanced Inspection Techniques	3
MAC 2040	CAD/CAM 2D	3
Subtotal		15
Total Credits		29

Industrial Maintenance Technologies

This certificate is designed to provide a rounded understanding of the entry-level skills in computer aided drafting, machining and welding. This set of skills will allow you to enter the field of manufacturing equipment servicing and repair.

PROGRAM ADMISSION REQUIREMENTS

Meet minimum assessment scores or prerequisites required for general education courses in the program. You may take individual courses, if the course prerequisites are met, prior to being accepted into this program.

COURSE MAP

Course	Title	Credits
First Semester		
MAC 1001	Introduction to Machine Shop	3
MAC 1002	Print Reading for Machinists	3
MAC 1010	Introduction to Engine Lathe	3
MAC 1020	Introduction to Milling Machine	3
MAT 1150	Technical Mathematics	4
Subtotal		16
Second Semester		
CAD 1101	Computer Aided Drafting I	3
CAD 1102	Computer Aided Drafting II	3
CAD 2460	Inventor I/Autodesk	3

CIS 1018	Introduction to PC Applications	3
Subtotal		12
Third Semester		
WEL 1000	Safety for Welders	1
WEL 1001	Allied Cutting Processes	4
WEL 1002	Oxyacetylene Joining Processes	4
WEL 1003	Basic Shielded Metal Arc I	4
Subtotal		13
Total Credits		41