

CNC Machinist – Certificate

(Manufacturing Technology – Associate Degree path)

This certificate program is well suited to prepare individuals with the foundation skills needed for programming, setup, and operation of CNC (Computer Numeric Control) machines. Advanced manufacturing methods are taught by employing state-of-the-art technology including 2-axis programming, CNC probing, high speed machining, and plunge and wire EDM (Electrical Discharge Machining).

This certificate program is designed to prepare students for success in careers in advanced manufacturing spanning many industries, such as automotive die/mold, medical, aerospace, defense, renewable energy, “green” technologies, and consumer products. This program is well suited for those who enjoy working with their hands and computers, with emphasis on the shop floor. Graduates of this certificate are well rounded in shop floor machining principles, CNC operation, and two dimensional G&M code programming.

A certificate will be awarded to those students who successfully complete the following courses:

Career Preparation and Related Courses

(See college catalog for any pre-requisite/co-requisite listing for the courses below)

		SUGGESTED SEQUENCE	CREDIT HOURS
ATAM-1160	Mathematics – Algebra	■ □ □ □	2
ATDD-1900	Drafting and Design – Machine Tool Blueprint Reading.....	■ □ □ □	2
ATAP-2912	CNC Essentials	■ □ □ □	3
ATAP-1030	Feeds, Speeds, and Advanced Cutting Tools.....	■ □ □ □	2
ATWD-1110	Fundamentals of Gas and Arc Welding.....	■ □ □ □	2
ATMT-1150	Machine Theory – Machine Tool Laboratory I	■ □ □ □	3
ATDD-1920	Drafting – Geometric Dimensioning & Tolerancing Fundamentals.....	□ ■ □ □	2
ATAP-2010	Drafting – 2D CAD with MasterCAM.....	□ ■ □ □	2
ATAP-2310	CNC Mill G&M Programming & CNC Machining.....	□ ■ □ □	2
ATAP-2330	Electrical Discharge Machining - RAM.....	□ ■ □ □	2
ATAP-2340	Electrical Discharge Machining - Wire.....	□ ■ □ □	2
ATWD-1140	Gas Metal Arc Welding (MIG).....	□ ■ □ □	2
ATAP-2320	CNC Lathe G&M Programming & CNC Machining	□ □ ■ □	2
ATMT-1160	Machine Theory - Machine Tool Laboratory II	□ □ ■ □	3
Total			31

In cases where prior training or education is documented, specific courses may be substituted for one or more of the above courses (as conditions warrant) by mutual agreement. Suggested alternative courses are listed below for consideration. See Applied Technology department for details.

Suggested Electives

ATMT-1300	Characteristics of Ferrous Metals	QUAL-1011	Quality Fundamentals
ATMT-1310	Characteristics of Non-Ferrous Metals	QUAL-1021	Inspection Techniques
ATMT-2350	Heat Treatment of Ferrous Alloys	QUAL-1101	Layout Methods & CMM Introduction
ATMT-1950	Physics I: Mechanics	QUAL-1201	GD&T w/LaB
ATMT-1930	Applied Statistical Process Control	ATWD-1130	Shielded Metal Arc Welding I
ATDD-1950	Drafting Essentials	ATTR-1600	Industrial Safety - Skilled Trades
ATDD-1960	Drafting - Conventions & Symbols	ATTR 1150	Technical Report Writing
ATDD-2220	Advanced Plastic Mold Design & Construction		

SEE REVERSE SIDE FOR ASSOCIATE DEGREE REQUIREMENTS

Associate of Applied Science Degree Requirements (Minimum 62 credit hours)

An Associate of Applied Science degree is offered for those enrolled or completing an apprenticeship, EIT, or certificate program. Other college requirements apply including attaining 62 credit hours. See Apprentice Coordinator or Advisor for details.

Students choosing an Associate Degree must take:

- Apprenticeship, EIT, or certificate program *20 – 38 credit hours, varies by program*

Degree concentration in Manufacturing Technology, Maintenance Technology, or Building Construction Technology is determined by program specialty

See requirements for Certificates in Applied Technology & Apprenticeship section of catalog for other conditions

- Arts and Sciences Component *Minimum credit hours 18*

See Degree & Certificates section of catalog for Group Area requirements

- Elective Courses *6 – 24 credit hours, varies by program*

Minimum credit hours: 62