

CAM Technologist – Certificate

(Manufacturing Technology – Associate Degree path)

This certificate program is well suited to prepare individuals with the skills needed for 3D CAD/CAM programming, setup, and operation of CNC (Computer Numeric Control) machines and related technologies. Advanced manufacturing methods are taught by employing state-of-the-art technology including two and three-axis programming, CNC probing, high speed machining, and plunge and wire EDM (Electrical Discharge Machining), rapid prototyping and reverse engineering, with emphasis on 3D CAD/CAM (Computer Aided Design/Computer Aided Manufacturing).

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 three dimensional CAD/CAM 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-2150	Mathematics – Trigonometry	■ □ □ □	2
PRDE-1400	Introduction to Solidworks & Parametric Solids.....	■ □ □ □	3
ATAP-2912	CNC Essentials	■ □ □ □	3
ATAP-2010	Drafting – 2D CAD with MasterCAM.....	□ ■ □ □	2
ATAP-2020	Art-to-Part - Digital Art to 3D CNC Machining.....	□ ■ □ □	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
ATAP-2360	3D Cimatron CAD/CAM Die/Mold Machining.....	□ ■ □ □	2
ATAP-2030	2D Mastercam - Mill Programming & Machining.....	□ □ ■ □	2
ATAP-2320	CNC Lathe G&M Programming & CNC Machining	□ □ ■ □	2
ATAP-2350	3D Mastercam - Die/Mold CNC Machining.....	□ □ ■ □	2
ATAP-2913	Advanced CNC Mill Prog & Machining.....	□ □ ■ □	3
ATAP-2370	3D Computer Aided Mold/Electrode Design.....	□ □ ■ □	2
ATAP-2380	Rapid Prototyping & Reverse Engineering.....	□ □ ■ □	2
ATAP-2914	Modular Tooling Systems.....	□ □ ■ □	2
Total			35

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

ATAM-2160	Trigonometry II	PRDE-2912	Introduction to Pro/Engineer
ATAM-2170	Compound Angles	PRDE-2912	Introduction to Pro/Engineer
ATMT-2250	Modern Metal Removal Processes	ATWD-1110	Fund of Gas & Arc Welding
ATMT-1300	Characteristics of Ferrous Metals	ATWD-1130	Shielded Metal Arc Welding
ATMT-1310	Characteristics of Non-Ferrous Metals	ATWD-1140	Gas Metal Arc Welding (MIG)
ATMT-2350	Heat Treatment of Ferrous Alloys	QUAL-1011	Quality Fundamentals
ATMT-1950	Physics I: Mechanics	QUAL-1021	Inspection Techniques
PRDE-1600	Catia V5: Intro to Solid Modeling	QUAL-1101	Layout Methods & CMM Introduction
PRDE-1475	Overview of Pro/Engineer	QUAL-1201	GD&T w/LaB
PRDE-1500	Unigraphics: Intro to Solid Modeling	ATTR-1150	Technical Report Writing

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***