

Advanced Manufacturing Technology* Program MANUF.TECH.AMT.AAS CIP 143601

Associate in Applied Science Degree

The Advanced Manufacturing Technology (AMT) A.A.S. degree program is designed to prepare students to move into the workforce in the modern manufacturing environment, and/or to transfer to an institution that offers a bachelor's degree in such studies as mechatronics, advanced manufacturing technology, or mechanical engineering technology.

With American manufacturers becoming increasingly dependent upon the use of high-tech equipment that involves multiple, integrated systems, it is crucial to recruit and employ individuals who know how to operate, troubleshoot, and maintain it. Skills learned in this program include operation of a manual lathe, manual milling machine, as well as computer numerically controlled (CNC) machines and programmable logic controllers (PLCs).

The AMT degree program prepares students for apprentice/entry-level positions in manufacturing facilities and machine shops locally as well as nearly anywhere in the country. Typical tasks include setting up and operating equipment such as engine or turret lathes, milling machines, and power presses. More advanced tasks may involve operating CNC manufacturing equipment as well as PLCs or robots for assembly lines.

AMT graduates are attractive to employers who implement team-oriented design, production, quality, and maintenance systems within the manufacturing environment. Students in this program are also eligible for NIMS (National Institute of Metalworking Skills) certifications.

PROGRAM OUTCOMES

- Pursue NIMS certification;
- Read blueprints and schematics;
- Use instruments such as micrometers, calipers, and scales;
- Set up and operate a milling machine;
- Set up and operate a lathe;
- Set up and operate CNC machines;
- Maintain a safe and organized work space;
- Make certain mathematical calculations related to shop work;
- Populate and repair printed circuit boards.

Admission to the program requires a high school diploma or its equivalent with one year of algebra or applied mathematics.

A.A.S. Curriculum

Code	Course (lecture/lab hours)	Credits
FIRST SEMESTER		
CSW 100	College Success and Personal Wellness (2/0)†	2
EET 144	DC/AC Electric Circuits (3/3)	4
MAT 146	Pre-Calculus (4/0)	4
MET 122	Industrial Measurements (2/3)	3
PHY 101	College Physics I (3/3)	4
SECOND SEMESTER		
COS 101	Introduction to Computer Science (3/2)	4
EET 140	Electronic Construction (1/3)	2
ENG 101	English Composition I (3/0)	3
MET 123	Machine Shop Techniques I (2/3)	3
PHY 102	College Physics II (3/3)	4
THIRD SEMESTER		
DRA 190	Introduction to Computer-Aided Drafting (1/2)	2
EET 219	Electronic Networks (3/3)	4
EET 251	Digital Circuit Fundamentals (3/3)	4
ENG 102	English Composition II (3/0)	3
MET 124	Machine Shop Techniques II (2/3)	3
FOURTH SEMESTER		
DRA 218	3-D Modeling / 3-D Printing (2/2)	3
ECO 111	Macroeconomics (3/0) ¹	3
EET 230	Linear Integrated Circuits (3/3)	4
AMT 231	Introduction to Computer Numerically Controlled (CNC) Machines (2/3)	3
AMT 290	Advanced Manufacturing Technology Internship	2
		64

¹ ECO 112 is an acceptable alternative.

† Some exemptions apply. Consult academic advisor for details.

NOTE: EET 266 (Programmable Logic Controllers) and AMT 232 (Advanced Computer Numerically Controlled (CNC) Machines) can be taken to enhance opportunities for transfer to a B.S. degree institution.

* State approval pending

