MERCER
COUNTY COMMUNITY COLLEGE

2024-2025 Academic Year

Advanced Manufacturing Technology

Associate in Applied Science Degree (A.A.S.)

B-STEM Division
Business, Science, Technology, Engineering and Math
609.570.3482 admiss@mccc.edu

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.

SEE ALSO:
Advanced Manufacturing Technology certificate program

DEGREE CURRICULUM

2024-2025 Academic Year

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The course sequence below represents a recommended example of how this degree program can be completed in two years, presuming a Fall Term start and satisfaction of all Developmental Studies (foundation courses) requirements and prerequisites. Actual approaches toward completion depend on each student's anticipated transfer institution, career objectives, or other individual circumstances.

Students are encouraged to meet regularly with an academic advisor or Success Coach to consider options, establish plans, and monitor progress.

Code	Course (lecture/lab hours)	Credits	To Do This Semester
FIRST SEMESTER			
AMT 101	Machine Shop Techniques I (2/3)	3	✓ Meet with your faculty advisor to complete an academic plan. Make sure you are aware of any course prerequisites you may need to take, and how long it will take to complete your degree. ✓ Use your online tools: Check your MercerMail daily, utilize features of Office 365, and get to know Student Planning. ✓ Take advantage of Learning Centers or Online Tutoring to support your studies and assignments.
DRA 190	Introduction to Computer-Aided Drafting (1/2)	2	
ENG 101	English Composition I (3/0)	3	
MAT 115	Algebra and Trigonometry I (3/0)	3	
— —	General Education elective	3	

SECOND SEMESTER		
AMT 102	Machine Shop Analysis Methods (3/0)	3
AMT 103	Blueprint Reading Basics (1/2)	2
CIV 106	Mechanics (3/0)	3
EET 130	Fundamentals of Electronics (2/2)	3
MAT 125	Elementary Statistics I (3/0)	3
SUMMER SESSION		
AMT 110	Machine Shop Techniques II (2/3)	3

✓ Transitioning to college can be challenging. Meet with your Success Coach for guidance and support.

✓ Apply for financial aid by May 1.

✓ Contact professors with questions and use their office hours to develop a connection. Talk with them to get the inside scoop on how your profession works.

✓ Be sure to visit the Career Services office to explore jobs, internships, and career information and get help with your resume and other career tools.

✓ Apply for Continuing Student scholarships at www.mccc.edu/m-scholarships.

THIRD SEMESTER		
AMT 122	Metrology and Quality Control (3/0)	3
AMT 220	Material and Manufacturing Process (3/0)	3
AMT 231	Introduction to Computer Numerical Controlled (CNC) Machines (2/3)	3
EET 140	Electronic Construction (1/3)	2
ENG 112	English Composition II with Speech (3/0)	3

✓ Keep in contact with each professor and your faculty advisor. Make sure you are on track to graduate on time.

✓ Work with Career Services to formulate plans for after you've earned this degree.

✓ Develop team and leadership skills by getting

			involved in activities and clubs. ✓ Apply for Continuing Student scholarships at www.mccc.edu/m-scholarships. ✓ Manage your stress! Take advantage of the MCCC pool, Fitness Center, free yoga and Zumba. Reach out for counseling or other support if you need it. Your Success Coach can connect you with resources.
FOURTH SEMESTER			
AMT 232	Advanced Computer Numerical Controlled (CNC) Machines (2/3)	3	✓ Get ready to start your career! Begin the job application process. ✓ Discuss your career plans with your faculty advisor. S/he can help you transition successfully.
AMT 291	Advanced Manufacturing Internship (1/6)	3	
DRA 218	3-D Modeling / 3-D Printing (2/2)	3	
— —	Humanities general education elective	3	
— —	General Education elective • Select from ECO 103, 111, 112.	3	