

Advanced Manufacturing Technology

Program MANUF.TECH.AMT.CERT
CIP 143601

Certificate of Proficiency

The Advanced Manufacturing Technology program is designed to prepare students for the modern manufacturing environment. This certificate of proficiency is attractive to employers who implement team-oriented design, production, quality, and maintenance systems within the manufacturing environment.

American manufacturers are becoming increasingly dependent upon the use of high-tech equipment that involves multiple, integrated systems. It is crucial that these companies be able to recruit and employ individuals who know how to operate, troubleshoot, and maintain it.

The certificate program prepares students for apprentice/entry-level positions in shops and manufacturing facilities not only in the local area but almost 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 computer-controlled manufacturing equipment (CNC) as well as programmable logic controllers (PLCs) or robots for assembly lines.

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

PROGRAM OUTCOMES

- Read prints and schematics;
- Use instruments such as micrometers, calipers, and scales;
- Set up and operate a milling machine;
- Set up and operate a lathe;
- Populate and repair printed circuit boards;
- Maintain a safe and organized work space;
- Make certain mathematical calculations related to shop work;
- Succeed in future courses, such as those involving PLC and CNC systems.

Certificate Curriculum

Code	Course (lecture/lab hours)	Credits
ECO 103	Basic Economics (3/0)	3
ENG 101	English Composition I (3/0)	3
EET 130	Fundamentals of Electronics (2/2)	3
EET 140	Electronic Construction (1/3)	2
IST 101	Computer Concepts with Applications (2/2)	3
MAT —	Mathematics elective ¹	3-4
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DRA 218	3-D Modeling / 3-D Printing (2/2)	3
ENT 116	Engineering Graphics (1/2)	2
MET 122	Industrial Measurements (2/3)	3
MET 123	Machine Shop Techniques I (2/3)	3
MET 124	Machine Shop Techniques II (2/3)	3
MET 290	Advanced Manufacturing Technology Internship	2
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¹ Select in consultation with an academic advisor.

