

MANUFACTURING TECHNOLOGY

Associate in Applied Science A.A.S.: Option 1: Advanced Manufacturing Technology Degree - Mechatronics/Automation

This 60 credit-hour Advanced Manufacturing Technology degree is designed to prepare students for the modern manufacturing environment. This program will prepare students for employment with companies that have implemented team-oriented design, production, quality and maintenance systems within the manufacturing environment. American manufacturers are increasingly using high-tech equipment that involves multiple integrated systems. It is critical that these companies be able to recruit and employ individuals who know how to operate, troubleshoot and maintain this high-tech equipment.

*This sequenced degree plan is one of four options that students may pursue to earn the Advanced Manufacturing Technology Associate in Applied Science (AAS) degree. While there are multiple specializations, **this particular degree can be awarded only once.***

FIRST SEMESTER:

| Number | Course Title | Credits | Course Category |
|---------|---|---------|---------------------|
| MFT 102 | Introduction to Manufacturing and Safety | 4 | Program Requirement |
| MFT 104 | Quality and Measurement | 2 | Program Requirement |
| MFT 108 | Manufacturing Processes | 3 | Program Requirement |
| MFT 109 | Introduction to Manufacturing Maintenance | 2 | Program Requirement |
| MTH 097 | Basic Technical Mathematics ¹ | 3 | Mathematics |

SECOND SEMESTER:

| Number | Course Title | Credits | Course Category |
|---------|---|---------|---------------------|
| ELT 110 | Introductory Electronics | 4 | Program Requirement |
| ELT 120 | Introductory Industrial Electronics Maintenance | 2 | Program Requirement |
| ENG 101 | Composition | 3 | Communications |
| MFT 119 | Manufacturing Internship | 2 | Program Requirement |
| | Technical electives ² | 5 | Program Requirement |

THIRD SEMESTER:

| Number | Course Title | Credits | Course Category |
|---------|--|---------|-------------------------------|
| ELT 135 | Optics and Sensors | 2 | Program Requirement |
| ELT 140 | Introduction to Programmable Logic Controllers | 2 | Program Requirement |
| ELT 143 | Commercial Wiring | 2 | Program Requirement |
| ELT 145 | Variable Frequency Drives | 2 | Program Requirement |
| | Social and Behavioral Science ⁺ | 6 | Social and Behavioral Science |

FOURTH SEMESTER:

| Number | Course Title | Credits | Course Category |
|---------|--|---------|---------------------|
| | Communications ⁴ | 3 | Communications |
| ELT 144 | AC and DC Motors | 2 | Program Requirement |
| ELT 215 | Industrial Control Systems | 4 | Program Requirement |
| ELT 240 | Advanced Programmable Logic Controllers (S) | 4 | Program Requirement |
| | Humanities ⁺ | 3 | Humanities |

1 Students make take MTH 097, MTH 101, MTH 103 or higher.

2 Select courses not listed as required that have one of the following prefixes: ELT, MFT, MNT, SCM, or WLD.

+ At least one course from the Humanities or Social and Behavioral Science must also meet the World Cultures and Diversity graduation requirement. See full list of [AAS General Education Electives](#).

4 Choose from ENG 103 or SPE 101.