

ADVANCED MANUFACTURING TECHNOLOGY - METAL FABRICATION (AAS)

Manufacturing and Construction

Program website (<https://www.harpercollege.edu/academics/manufacturing/manufacturing-technology/advanced-manufacturing-technology-degree.php>)

Option 2: Advanced Manufacturing Technology Degree – Metal Fabrication Program Overview

This 61 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.

Program Requirements

First Semester		Hours
MFT 102	Introduction to Manufacturing and Safety	4
MFT 104	Quality and Measurement	2
MFT 108	Manufacturing Processes	3
MFT 109	Introduction to Manufacturing Maintenance	2
MTH 100	Applied Math for Technical Careers ¹	3
Hours		14
Second Semester		Hours
AAS General Education elective(s) (https://catalog.harpercollege.edu/catalog/programs/aas-general-education-electives/) ⁺		6
MFT 119	Manufacturing Internship	2
MFT 134	Print Reading for Industry	3
WLD 110	Welding I	3
WLD 210	Welding II	3
Hours		17
Third Semester		Hours
ENG 101	Composition I	3
WLD 211	Welding III	4
WLD 212	Welding IV	4
WLD 240	Cutting Processes	3
Hours		14

Fourth Semester

AAS General Education elective(s) (https://catalog.harpercollege.edu/catalog/programs/aas-general-education-electives/) ⁺		6
WLD 225	Advanced Blueprint Reading	2
WLD 245	Welding Fabrication I	4
WLD 250	Welding Fabrication II	4
Hours		16
Total Hours		61

¹ Students may take MTH 100, MTH 101, MTH 103 or higher.

⁺ At least one of the AAS General Education electives must meet the World Cultures and Diversity graduation requirement. See full list of AAS General Education Electives (<https://catalog.harpercollege.edu/catalog/programs/aas-general-education-electives/>).

Program Learning Outcomes

Upon completion of the AAS in Advanced Manufacturing Technology, students should:

- be familiar with the types of careers in manufacturing.
- recognize and maintain a safe manufacturing workplace.
- be able to explain the key elements of a quality system.
- identify the major components of the production process.
- understand the various processes used in manufacturing.
- understand basic measurement in manufacturing and geometric dimensioning and tolerance.
- read basic drawings for manufacturing.
- identify the key elements of production and production planning.
- identify how tools and equipment are used in manufacturing.
- explain the purpose of preventive and predictive maintenance.
- understand the career ladder available for them in manufacturing.
- be skilled and knowledgeable in arc, oxy-acetylene, mig, and tig welding.
- Be familiar with and understand how they can personally impact lean manufacturing on the job.