ADVANCED MANUFACTURING TECHNOLOGY - PRECISION MACHINING (AAS)

Manufacturing and Construction

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

Option 3: Advanced Manufacturing Technology Degree – Precision Machining

Program Overview

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.

Program Requirements

First Semester		**Hours**
MFT 102	Introduction to Manufacturing and Safety	4
MFT 105	Machining Processes I	3
MFT 132	Dimensional Metrology	3
MFT 134	Print Reading for Industry	3
MTH 100	Applied Math for Technical Careers [1]	3
	Hours	**16**
Second Semester		
ENG 101	Composition I	3
MFT 120	Machining Processes II	3
MFT 121	Machining Processes III	3
MFT 140	Quality Assurance	3
Technical elective [2]		3
	Hours	**15**
Third Semester		
AAS General Education elective(s) (https://catalog.harpercollege.edu/catalog/programs/aas-general-education-electives/) [+]		3
MFT 123	Introduction to CNC Machining	4
MFT 125	CNC Lathe Operation and Programming	4
MFT 210	Computer Integrated Manufacturing	3
	Hours	**14**
Fourth Semester		
AAS General Education elective(s) (https://catalog.harpercollege.edu/catalog/programs/aas-general-education-electives/) [+]		6
MFT 128	CNC Mill Operation and Programming	4
MFT 220	Computer Aided Manufacturing	3
Technical elective [2]		2
	Hours	**15**
	Total Hours	**60**

[1] Students may take MTH 100, 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 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 CNC and conventional mills, lathes, and turning centers.
- Be familiar with and understand how they can personally impact lean manufacturing on the job.