ADDITIVE MANUFACTURING (CERTIFICATE)

Manufacturing and Construction

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

Program Overview

This 16 credit-hour certificate program is designed to provide students with the knowledge and skills necessary to gain entry-level employment in the additive manufacturing industry. This certificate focuses on print reading, computer drafting and 3D modeling, and an introduction to the fundamentals of additive manufacturing. Students will design and print parts using 3D modeling software and 3D printers.

Program Requirements

Code	Title	Hours
EGR 120	Engineering Graphics I (CAD) [1]	4
MFT 102	Introduction to Manufacturing and Safety	4
MFT 134	Print Reading for Industry	3
MFT 210	Computer Integrated Manufacturing	3
MFT 230	Additive Manufacturing	2
Total Hours		**16**

[1] EGR 120 has a Geometry prerequisite. Students may either use placement testing or MTH 070 (or equivalent) to register. https://www.harpercollege.edu/testing/mathplacement.php

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 electronic control systems, programmable logic controllers, infrared emitters and detectors, laser systems, and automated robotic systems.
- Be familiar with and understand how they can personally impact lean manufacturing on the job.