ADDITIVE MANUFACTURING, AREA OF CONCENTRATION IN ENGINEERING TECHNOLOGY (AAS)

Award: Associate of Applied Science Degree
No. of credits required: 60
For more information: *Contact Business & Applied Technology at bat@harford.edu; or Admissions, 443-412-2109.*

Program Description

This program prepares students for employment in advanced manufacturing, including additive manufacturing (3D printing), and a variety of other industries that use technicians or technology specialists to support engineering staff. A strong emphasis is placed on applications, problem solving, critical thinking, and communication skills. Upon graduation, students will be able to use these skills to, organize, and carry out engineering technology projects. Graduates of this program will demonstrate knowledge of CADD, electronics, hydraulics, pneumatics, blueprint reading, and mechanics. Engineering and science courses are important parts of this program.

Program Goals

Upon successful completion of this program of study students will be able to:

1. Apply appropriate communications skills to work independently and collaboratively within an organization to promote the goals and objectives of the work unit.
2. Recognize how to facilitate successful completion of technical projects.
3. Demonstrate competency in using technical tools, technology, methods, and processes.
4. Recognize professional and ethical behavior.
5. Apply problem solving skills to technical problems.

Employment Information

Data illustrates a significant demand for well-educated and highly-skilled additive manufacturing workers in Harford County and in the State of Maryland. In 2015 Maryland's 3,680 manufacturing businesses generated $20.2 billion in gross state product and employed more than 109,000 persons. The state supports numerous 21st century manufacturing industries including defense electronics, aeronautics, systems engineering, medical diagnostics, specialty chemicals, software and aircraft engines. Sixty percent of these manufacturers are advanced, producing a profound multiplier effect on Maryland's economy. High-technology manufacturers in Maryland generate almost two additional jobs for each new manufacturing job created.

Degree Requirements

Recommended Course Sequence

First Semester		Credits
CADD 101	Introduction to CADD	3
CIS 102	Introduction to Information Sciences (GI)	3
CMST 105	Interpersonal Communication (GI) (D)	3
ENGT 106	Introduction to Additive Manufacturing	3
CIS 115	Fundamentals of Programming	3
	Credits	**15**
Second Semester		
ENGT 110	3D Printing in Additive Manufacturing	3
ENGT 108	Introduction to Electronics	4
ENGT 201	Materials in Manufacturing	3
ENG 101	English Composition (GE)	3
MATH 103	Trigonometry (GM)	3
	Credits	**16**
Third Semester		
ENGT 115	Optimizing Print Files	3
ENGT 223	Principles of Mechanics	3
ENGT 105	Electrical Control Systems	3
Biological/Physical Lab Science Elective (GL) (https://catalog.harford.edu/general-education/#biological-physical-laboratory-science)		4
PHIL Elective (GH)		3
	Credits	**16**
Fourth Semester		
ENG 209	Technical Writing	3
ENGT 225	Quality Control & Metrology for Additive Manufacturing	3
Physical Education Elective		1
Behavioral/Social Science Elective (GB) (https://catalog.harford.edu/general-education/#behavioral-social-science)		3
ENGT 230	Additive Manufacturing Capstone	3
	Credits	**13**
	Total Credits	**60**

General Education Degree Requirements

Note: The following codes identify courses which satisfy the General Education Degree Requirements:

Behavioral/Social Science (GB)
English Composition (GE)
Arts/Humanities (GAH)
Interdisciplinary and Emerging Issues (GI)
Biological/Physical Laboratory Science (GL)
Mathematics (GM)
Biological/Physical Science (GS)