TECHNOLOGY STUDIES: ADVANCED MANUFACTURING MACHINE TECHNOLOGY, AS - OPTION 2

Program code: AMT2-AS-COT

Location: Asnuntuck, Housatonic, Middlesex, Tunxis

Program Description

As part of the Connecticut College of Technology (COT), the Technology Studies A.S. degree provides the knowledge and skills within specific high-demand technology fields. The program consists of lecture and lab course work in engineering, technology, industrial technology, mathematics, sciences, and foundational requirements that provide a solid comprehensive background for continuation in a four-year technology degree program or entry into the workforce. Upon completion of a Technology Studies A.S. degree, students can transfer to Central CT State University or the University of Hartford to complete designated B.S. degrees.

Learning Outcomes

1. Apply mathematical, scientific and technological principles and concepts to identify and formulate solutions to technical problems.
2. Apply critical thinking and problem-solving skills to solve technical problems.
3. Demonstrate the ability to function on teams.
4. Recognize the need to engage in life-long learning.

Specialization Learning Outcomes

1. Read and interpret engineering drawings/blueprints (mechanical)
2. Understand the types of fits and mating parts
3. Be able to interpret geometric dimensioning and tolerancing requirements applied to engineering drawings
4. Exhibit competency in machining on a manual lathe
5. Exhibit competency in machining on manual milling machine
6. Exhibit competency in two-dimensional and three-dimensional CAD as applied to mechanical parts and geometries
7. Exhibit competency in creating blueprints from solid models generated through CAD
8. Read and write G and M codes for CNC programming
9. Setup 3 axis CNC Machining and 2 axis Turning Centers
10. Be able to load and execute post processed CNC programs onto FANUC controlled CNC Machining and Turning Centers
11. Understand metrology and its applications in quality control and production
12. Understand basic principles of quality control and lean manufacturing

These are the requirements of the Technology Studies A.S. degree with the Advanced Manufacturing Machine Technology Option 2 specialization.

Degree Requirements

Code	Title	Credits
Technology Studies General Education Core		
ENG 1010	Composition	3
MATH 1610	Precalculus	4
ART Elective (course vetted for ARHX)		3
CHEM 1110	Concepts of Chemistry	4
or CHEM 1210	General Chemistry I	
Elective HISX - Historical Knowledge Course or Elective SBSX course in ECON		3
ENG 1080	Composition II: Technical Writing	3
or COMM 1301	Public Speaking	
CCS 1001	College and Career Success	3
Technology Studies Program Core		
PHYS 1201	General Physics I	4
or PHYS 2201	Calculus-Based Physics I	
Elective BHEL - Behavioral Science Elective - choose an ANTH, PSY or SOC course		3
MATH 1200	Statistics I	3-4
or MATH 1201	Statistics I with Computer Applications	
Manufacturing Technology Option #2		
MFG 1405	Manufacturing Math	3
MFG 1415	Safety in the Workplace	1
MFG 1424	Blueprint Reading 1	3
or EGR 1120	Engineering Drawing Specs	
MFG 1453	Benchwork	2
MFG 2477	Advanced Machine Technology	4
MFG 1478	CNC Fundamentals	3
MFG 1479	Career Awareness for Manufacturing	1
MFG 2456	Advanced CNC	3
MFG 1477	Machine Technology Fundamentals	4
Choose four of the following Directed Electives:		12
MFG 1010/CAD 2200	Parametric Design (SolidWorks)	
MFG 1414	Quality and Lean Principles	
MFG 1420	Metrology	
MFG 1425	Blueprint Reading 2 with Geometric Dimensioning & Tolerancing	
MFG 2405	Principles of CNC w/Mastercam	
MFG 2439	Geometric Dimension and Tolerancing (G, D, and T)	
MFG 1400	Advanced Metrology with CMM (Coordinate Measuring Machines)	
MFG 1409	Introduction to MasterCAM	
Total Credits		**69-70**

- Technology Studies: Advanced Manufacturing Machine Technology Certificate Option 2