TECHNOLOGY STUDIES: ADVANCED MANUFACTURING MACHINE TECHNOLOGY OPTION 1, AS

Program code: AMT1-AS-COT

Location: Naugatuck Valley, Quinebaug Valley

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.

These requirements demonstrate the Technology Studies A.S. degree with the Advanced Manufacturing Machine Technology Option 1 specialization.

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. Apply mathematical and technological principles to solve triangles and other geometrical problems
2. Understand and follow basic shop safety guidelines and protocol
3. Demonstrate the use of all hand tools used in basic layout procedures
4. Accurately read and interpret views and information on engineered drawings and blueprints
5. Demonstrate the use and understanding of all basic semi-precision and precision measuring tools to determine acceptability of manufactured parts to blueprint specifications
6. Demonstrate operations of manual lathe to turn, face, part, groove, drill, bore, tap and single point thread
7. Demonstrate operations in a knee mill to square parts, bore holes, drill, tap, countersink and counterbore
8. Demonstrate operation of machine tools such as drill press, bench grinders, surface grinders, sawing machines
9. Program and operate CNC mills and lathes with conversational, GM code to fabricate parts to blueprint specifications
10. Exhibit competency in two- and three-dimensional CAD as it is applied to parts and geometries to create solid models and assemblies
11. Understand basic principles in quality management and lean continuous improvement practices

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	
Machine Technology Option #1 Courses		
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 1477	Machine Technology Fundamentals	4
MFG 1478	CNC Fundamentals	3
MFG 2456	Advanced CNC	3
MFG 2477	Advanced Machine Technology	4
Choose three of the following Directed Electives:		9
MFG 1010	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 1400	Advanced Metrology with CMM (Coordinate Measuring Machines)	
MFG 1409	Introduction to MasterCAM	
MFG 2439	Geometric Dimension and Tolerancing (G, D, and T)	
Total Credits		**65-66**

- Technology Studies: Advanced Manufacturing Machine Technology Certificate Option 1