

TECHNOLOGY STUDIES: PRECISION MANUFACTURING, AS

Program code: PRMN-AS-COT

Location: Manchester

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.

Precision Manufacturing Learning Outcomes

In addition, Precision Manufacturing student will:

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 the in engineering drawings
4. Exhibit competency in machining on a lathe;
5. Exhibit competency in machining on 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. Be able to load and execute post processed CNC programs onto Haas CNC Machining Centers and Turning Center
10. Understand metrology and its applications in quality control and production
11. Understand basic principles of lean manufacturing

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 or CHEM 1210	Concepts of Chemistry General Chemistry I	4
Elective HISX - Historical Knowledge Course or Elective SBSX course in ECON		3
ENG 1080 or COMM 1301	Composition II: Technical Writing Public Speaking	3
CCS 1001	College and Career Success	3
Technology Studies Program Core		
PHYS 1201 or PHYS 2201	General Physics I Calculus-Based Physics I	4
Elective BHEL - Behavioral Science Elective - choose an ANTH, PSY or SOC course		3
MATH 1200 or MATH 1201	Statistics I Statistics I with Computer Applications	3-4
Precision Manufacturing Courses		
MFG 1405	Manufacturing Math	3
MFG 1411	Manufacturing Materials and Processes I	3
MFG 1414	Quality and Lean Principles	3
MFG 1415	Safety in the Workplace	1
MFG 1420	Metrology	3
MFG 1467	Conventional Process Machining Lab	4
MFG 2405	Principles of CNC w/Mastercam	3
MFG 2439	Geometric Dimension and Tolerancing (G, D, and T)	3
MFG 2444	CNC I	3
MFG 2445	CNC II	4
CAD 2200	Parametric Design (SolidWorks)	3
EGR 1120 or MFG 1424	Engineering Drawing Specs Blueprint Reading 1	3

Total Credits **69-70**

- Technology Studies: Precision Manufacturing Certificate