

TECHNOLOGY STUDIES: MECHANICAL CAD CERTIFICATE

Program code: CADM-CC-COT

Location: Gateway, Manchester, Naugatuck Valley, Three Rivers, Tunxis

Program Description

The Mechanical Computer-Aided Design (CAD) certificate program provides students with career-based training in mechanical design using computer-aided drafting/design technology. To provide the necessary technical base, the program also includes engineering drawing, and geometric dimensioning and tolerancing skills. Basic training in computer technology is included to prepare students for the two-dimensional, three-dimensional and solid-modeling computer-aided design technology in the program. CAD technology in the core of the certificate program is comprised of 2D AutoCAD®, Solidworks® parametric solid modeling and rendering technology, as well as an option of Mastercam® CNC software, and NX parametric solid modeling. All manufacturing and engineering design in today's high-technology business and industry use computer-based manufacturing and computer-aided design technologies that integrate the design, engineering and manufacturing processes of complex products, parts, and assemblies, into a single, technically coherent process.

Learning Outcomes

1. Interpret complex engineering drawings.
2. Exhibit competency in turning the engineering concept drawings into CAD models.
3. Exhibit competency in two-dimensional, three-dimensional and solid-modeling skills as applied to complex computer-aided design technology.
4. Demonstrate an understanding of the role and function of parametric CAD modeling in the simplification of the design process.

Certificate Requirements

Code	Title	Credits
Required Courses		
EGR 1120 or MFG 1424	Engineering Drawing Specs Blueprint Reading 1	3
CAD 1330	2D CAD (AutoCAD)	3
Choose four of the following:		12
MFG 2439	Geometric Dimension and Tolerancing (G, D, and T)	
CAD 2200	Parametric Design (SolidWorks)	
CAD 2210	Advanced Parametrics Design (Solidworks)	
CAD 2300	Parametric 3D CAD using NX	
MFG 2405	Principles of CNC w/Mastercam	
Total Credits		18