Sample Career Pathway

Career Cluster: Advanced Manufacturing
Primary Subclusters: Production and Automation and Industrial Machinery
Supporting and Complementary Subclusters: Engineering and Robotics
High-wage, High-skill, or In-demand Occupations: Machinists, Computer Numerically Controlled Tool Programmers, Computer Numerically Controlled Tool Operators

Course Name	Course Type	SCED Code[1]
Algebra	Academic	02052
Geometry	Academic	02072
Physics	Academic	03151
Technical Writing	Academic	01105
Trigonometry	Academic	02107
Analog and Digital Circuits	CTE	17110
Blueprint Reading	CTE	21108
CAD Design and Software	CTE	21107
Computer Integrated Manufacturing	CTE	21010
Emerging Technologies	CTE	21053
Engineering Design	CTE	21006
Engineering Design and Development	CTE	21007
Machining	CTE	13203
Manufacturing Mathematics	CTE	02153
Mechatronics	CTE	13104
Metal Processing/Production	CTE	13055
Metalworking	CTE	13202
Modeling and Simulation Technology	CTE	21059
PLTW Computer Integrated Manufacturing	CTE	21022
PLTW Engineering Design and Development	CTE	21025
Project Lead the Way (PLTW) Introduction to Engineering Design	CTE	21017
Robotics	CTE	21009
Welding	CTE	13207
Manufacturing – Workplace Experience	CTE Workplace Experience	13998
Metalwork—Workplace Experience	CTE Workplace Experience	13248

[1] School Course for the Exchange of Data (SCED) Code

Connecticut Dual Credit Opportunities

Institution of Higher Education (IHE)	Course	Course Code
CT State Community College	Introduction to CAD	CAD1010
CT State Community College	Parametric Design (SolidWorks)	CAD2200
CT State Community College	Manufacturing Processes	MFG1004
CT State Community College	Benchwork	MFG1453
CT State Community College	Blueprint Reading 1	MFG1424
CT State Community College	Safety in the Workplace	MFG1415
CT State Community College	CNC Fundamentals	MFG1478
CT State Community College	Introduction to Mastercam	MFG1409
CT State Community College	Manufacturing Math	MFG1405
CT State Community College	Metrology	MFG1420
Goodwin University	Introduction to Manufacturing	BMM100
Goodwin University	Lean Manufacturing Principles	BMM210
Goodwin University	CNC Machining	BMM175
Goodwin University	Computer Aided Manufacturing I	BMM240
Goodwin University	Metrology and Calibration	BMM224
Goodwin University	Principles in Manufacturing Mathematics	BMM140
Goodwin University	Technical Drawings and Specifications	BMM222

Industry Recognized Credentials (IRCs)

Haas Operator - Basic Lathe
Haas Operator - Basic Mill
Haas Operator - CNC Lathe
Haas Operator CNC Milling
Haas Mill Classic Controls
National Institute for Metalworking Skills (NIMS) Machining Level I - CNC Milling operator
NIMS Machining Level I - CNC Milling programming, setup and operation
NIMS Machining Level I - CNC Turning operator
NIMS Machining Level I - CNC Turning programming, setup and operation
NIMS Machining Level I - Drill Press
NIMS Machining Level I - Job Planning, Benchwork & Layout
NIMS Machining Level I - Manual Milling
NIMS Machining Level I - Measurement materials and Safety
NIMS Machining Level I - Surface Grinding
NIMS Machining Level I - Turning - Between Centers
NIMS Machining Level I - Turning - ChuckingOSHA-30 General Industry
SOLIDWORKS CAM Professional (CSWP-CAM)
SOLIDWORKS Simulation Associate (CSWA-S)

Work-Based Learning Opportunities

Career Days and Career Fairs (Grades 7-12)
Job Shadowing (Grades 9-11)
Simulated Work Environments/Experiences (Grades 9-12)
Virtual Simulations (Grades 9-12)
Apprenticeships (Grades 11-12)
Cooperative Work Education (11-12)

CTSO Organizations

SkillsUSA
Technology Student Association (TSA)