

*career*tech

Fundamentals of Computer Aided Drafting and Design

Career Cluster: Manufacturing

ODCTE
Division: Trade and Industry

Course Number: TBA

Locations: Oklahoma *CareerTech* locations

Length: 120 Hours

Course Description: This course is the basic Computer-Aided Drafting and Design (CADD) that develops computer skills and electronic skills and applications within the field of drafting. Topics covered are safety, tools, equipment, media and reproduction, sketching, scale usage, drawing formats, alphabet of lines, lettering and geometric construction, computer literacy through CADD, operating systems and file utilities, software functions, office functions, hardware applications, coordinates, drawing environment, plotting, printing, multi-view drawing environment, geometry modifications and dimensioning, symbol library development, intro to parametric and software, intro to multiple CADD software's used to manipulate text and graphics, and basic CADD applications.

Knowledge and Skills:

Computer Fundamentals – 25 hrs	
Basic Windows Features	Control Panel
Desktop and Taskbar	Files & Folders
Hardware	Help & Support Centers
Networking	Office Applications
Terminology	Media Reproduction
Utilities	Internet/Intranet
Storage device	Media Reproduction
System Configuration	Software Customization
Printers, plotters, and scanners	Copy machines
Computer Sketching – 10 hrs	
Industrial standards	Text to a drawing
Free-hand lettering	

Computer Drawing Format – 15 hrs	
Scale Usage	Alphabet of Lines
Computerized Geometric Construction – 20 hrs	
Bisect lines, arcs, and angles	Angles
Perpendicular and parallel lines	Geometric shapes
Tangent lines and arcs	Involutes
Ellipses	Geometry Modifications and Dimensioning
Basic CAD Commands and Functions – 20 hrs	
Electronic Media	Alphabet of lines
Configure CAD workstation	Coordinate systems
Symbol Library Development	Conversion of hard copy to electronic formats
Plot and print/plot CAD drawings and data	Graphic format import/export
Computer Drawing Environment – 5 hrs	
Drawing management standards	Drawing naming conventions
Predefined drawing setup	Object management
Dimension and extension lines	Line types
Computer Multi-view Drawing Development 25 hrs	
Proper views	Line precedence
Freehand orthographic sketches	Orthographic projection drawings
Section views	ANSI standards
Auxiliary plane	Auxiliary views

Required
Certifications: None

Course Standards: American Design Drafting Association (ADDA) Standards—
<http://www.adda.org/>
American Institute of Architects <http://www.aia.org>

Resources: Software
AutoCAD
Solidworks
AutoCAD and its Applications-Basics and Advanced by Terence M. Shumaker and David A. Madison
Practical Problems in Mathematics by Larkin
Basic Technical Drafting by Dygdon
Solidworks Training Manual