Connecticut CTE

Manufacturing (Grades 9-12)

Manufacturing

A Manufacturing MAN

1 Employ engineering design process to achieve desired outcomes MAN.01

a Describe the process of interpreting and preparing technical drawings and rough drawings and sketches MAN.01.01

b Demonstrate the process for interpreting technical drawings to extrapolate information from a set of plans using appropriate mathematical functions MAN.01.02

c Apply accepted design principals of text and graphics to the layout of printed and electronically published materials MAN.01.03

2 Identify and use appropriate engineering materials MAN.02

a Identify and describe the four major types of engineering materials; metallic. Polymeric, ceramic and fibrous. MAN.02.01

b Identify and describe seven major types of material properties MAN.02.02

c Select materials based on properties required by the project MAN.02.03

d Describe the relationship between materials and manufacturing MAN.02.04

3 Demonstrate the methods involved in turning raw materials into usable products MAN.03

a Identify and describe the primary processes for obtaining raw materials MAN.03.01

b Demonstrate the safe and accurate secondary process to create a finished product; forming; separating; combining; assembly; finishing MAN.03.02

c Apply a variety of manufacturing techniques and processes to create a usable product MAN.03.03

d Distinguish between organic and inorganic materials MAN.03.04

e Experiment with the alteration of material characteristic MAN.03.05

f Differentiate between natural and artificial materials MAN.03.06