Nebraska CTE

Advanced Manufacturing & Fabrication - Woods

Apply safety principles, practices, philosophy, and guidelines to the work environment. STS.HS.4.1	**a** Complete applicable safety assessment with 100% accuracy. STS.HS.4.1.A
	b Employ appropriate Personal Protective Equipment (PPE) while in the lab setting. STS.HS.4.1.B
	c Employ eye protection in compliance with Neb. Rev. Statute 79–715. STS.HS.4.1.C
	d Employ the safe application of tools and machines. STS.HS.4.1.D
	e Explain the main hazards that are possible in the lab setting. STS.HS.4.1.E
	f Demonstrate proper handling and storing of materials and chemicals. STS.HS.4.1.F
Execute accurate measurements using precision wood measurement tools. STS.HS.4.2	**a** Identify types of precision measurement tools. STS.HS.4.2.A
	b Categorize precision measurement tools by use. STS.HS.4.2.B
	c Differentiate between measurement tools and layout tools. STS.HS.4.2.C
	d Demonstrate the accurate use of measurement and layout tools to 1/64" precision. STS.HS.4.2.D
	e Demonstrate the accurate use of measurement and layout tools to 0.5mm precision. STS.HS.4.2.E
Solve math functions and formulas to complete woodworking job or workplace tasks. STS.HS.4.3	**a** Identify whole numbers, decimals, fractions, and complex numbers. STS.HS.4.3.A
	b Apply intermediate arithmetic operations. STS.HS.4.3.B
	c Apply basic geometric operations. STS.HS.4.3.C
	d Solve decimal or fraction conversions. STS.HS.4.3.D
	e Solve metric or United States Customary System (USCS) conversions. STS.HS.4.3.E

Identify career opportunities in the wood manufacturing industry. STS.HS.4.4	**a** Describe work behaviors needed to be employable. STS.HS.4.4.A
	b Employ appropriate work behavior that meets or exceeds wood industry standards. STS.HS.4.4.B
	c Explain the required education, certification, or licensure needed for a wood manufacturing career. STS.HS.4.4.C
	d Analyze the value that may be added to the community by manufacturing professionals. STS.HS.4.4.D
	e Explain the industry standard compensation for a wood manufacturing professional. STS.HS.4.4.E
Apply manufacturing communications. STS.HS.4.5	**a** Define wood manufacturing terminology. STS.HS.4.5.A
	b Generate a wood project proposal. STS.HS.4.5.B
	c Estimate manufacturing timelines based on criteria. STS.HS.4.5.C
	d Utilize business and interpersonal communication appropriate to the work environment. STS.HS.4.5.D
Assess the materials, tools, machines, and processes required to manufacture a wood product. STS.HS.4.6	**a** Identify the characteristics, properties, and origin of softwoods. STS.HS.4.6.A
	b Identify the characteristics, properties, and origin of hardwoods. STS.HS.4.6.B
	c Differentiate additive and subtractive manufacturing. STS.HS.4.6.C
	d Identify fasteners by their industry standard applications. STS.HS.4.6.D
	e Differentiate between various types of mechanical and chemical fasteners. STS.HS.4.6.E
	f Estimate amount of materials and supplies needed for a product. STS.HS.4.6.F
	g Determine feed rate and speed settings for a material and process. STS.HS.4.6.G
	h Explain the operation and application of common wood industry finishes. STS.HS.4.6.H
	i Assess potential environmental and health impacts of using specific materials or processes. STS.HS.4.6.I
	j Determine the correct tools, machines, and processes needed to produce a specific wood product. STS.HS.4.6.J
Manufacture a custom-level product that uses	**a** Interpret plans, drawings, and specifications to process materials. STS.HS.4.7.A

wood as its primary material. STS.HS.4.7

b **Coordinate the standard operation and application of tools and machines along the manufacturing process.** STS.HS.4.7.B

c **Plan and apply the type of materials, processes, and finishes required to manufacture a specific product.** STS.HS.4.7.C

d **Critique a finished product.** STS.HS.4.7.D

e **Appraise the manufacturing process for streamlining opportunities.** STS.HS.4.7.E