Nebraska CTE

Advanced Manufacturing & Fabrication - Plastics

Apply safety principles, practices, philosophy, and guidelines to the work environment. STS.HS.3.1	**a** Complete applicable safety assessment with 100% accuracy. STS.HS.3.1.A
	b Employ appropriate Personal Protective Equipment (PPE) while in the lab setting. STS.HS.3.1.B
	c Employ eye protection in compliance with Neb. Rev. Statute 79–715. STS.HS.3.1.C
	d Employ the safe application of tools and machines. STS.HS.3.1.D
	e Explain the main hazards that are possible in the lab setting. STS.HS.3.1.E
	f Demonstrate proper handling and storing of materials and chemicals. STS.HS.3.1.F
Execute accurate measurements using precision plastic measurement tools. STS.HS.3.2	**a** Identify types of precision measurement tools. STS.HS.3.2.A
	b Categorize precision measurement tools by use. STS.HS.3.2.B
	c Differentiate between measurement tools and layout tools. STS.HS.3.2.C
	d Demonstrate the accurate use of measurement and layout tools to 1/64" precision or 0.5mm precision. STS.HS.3.2.D
Solve math functions and formulas to complete plastics job or workplace tasks. STS.HS.3.3	**a** Identify whole numbers, decimals, fractions, and complex numbers. STS.HS.3.3.A
	b Apply intermediate arithmetic operations. STS.HS.3.3.B
	c Apply basic geometric operations. STS.HS.3.3.C
	d Solve decimal or fraction conversions. STS.HS.3.3.D
	e Solve metric or United States Customary System (USCS) conversions. STS.HS.3.3.E
Identify career opportunities in the plastics manufacturing industry. STS.HS.3.4	**a** Describe work behaviors needed to be employable. STS.HS.3.4.A
	b Employ appropriate work behavior that meets or exceeds plastics industry standards. STS.HS.3.4.B

	c Explain the required education, certification, or licensure needed for a plastics manufacturing career. STS.HS.3.4.C
	d Analyze the value that may be added to the community by manufacturing professionals. STS.HS.3.4.D
	e Explain the industry standard compensation for a plastics manufacturing professional. STS.HS.3.4.E
Apply manufacturing communications. STS.HS.3.5	**a** Define plastic manufacturing terminology. STS.HS.3.5.A
	b Generate a plastic project proposal. STS.HS.3.5.B
	c Estimate manufacturing timelines based on criteria. STS.HS.3.5.C
	d Utilize business and interpersonal communication appropriate to the work environment. STS.HS.3.5.D
Describe the materials, tools, machines, and processes required to manufacture a plastic product. STS.HS.3.6	**a** Identify the various types of plastics and their characteristics. STS.HS.3.6.A
	b Differentiate additive and subtractive manufacturing. STS.HS.3.6.B
	c Identify fasteners by their industry standard applications. STS.HS.3.6.C
	d Differentiate between various types of mechanical and chemical fasteners. STS.HS.3.6.D
	e Estimate amount of materials and supplies needed for a product. STS.HS.3.6.E
	f Determine feed rate and speed settings for a material and process. STS.HS.3.6.F
	g Explain the operation and application of common plastic industry finishes. STS.HS.3.6.G
	h Assess potential environmental and health impacts of using specific materials or processes. STS.HS.3.6.H
	i Determine the correct tools, machines, and processes needed to produce a specific plastic product. STS.HS.3.6.I
Manufacture a custom-level product that uses plastic as its primary material. STS.HS.3.7	**a** Interpret plans, drawings, and specifications to process materials. STS.HS.3.7.A
	b Coordinate the standard operation and application of tools and machines along the manufacturing process. STS.HS.3.7.B
	c Plan and apply the type of materials, processes, and finishes required to manufacture a specific product. STS.HS.3.7.C
	d Critique a finished product. STS.HS.3.7.D

e **Appraise the manufacturing process for streamlining opportunities.** STS.HS.3.7.E