Nebraska CTE

Manufacturing Processes - Metals

Apply safety principles, practices, philosophy, and guidelines to the work environment. STS.HS.21.1

- a **Complete applicable safety assessment with 100% accuracy.** STS.HS.21.1.A
- b **Employ appropriate Personal Protective Equipment (PPE) while in the lab setting.** STS.HS.21.1.B
- c **Employ eye protection in compliance with Neb. Rev. Statute 79-715.** STS.HS.21.1.C
- d **Employ the safe application of tools and machines.** STS.HS.21.1.D
- e **Explain the main hazards that are possible in the lab setting.** STS.HS.21.1.E
- f **Demonstrate proper handling and storing of materials and chemicals.** STS.HS.21.1.F

Identify career opportunities in metals areas. STS.HS.21.2

- a **Identify responsibilities and characteristics of professionals in a metals industry.** STS.HS.21.2.A
- b **Describe work behaviors needed to be employable in a metals industry.** STS.HS.21.2.B
- c **Identify the training, education, certification, and licensing requirements for various careers in a metals industry.** STS.HS.21.2.C
- d **Identify high wage, high demand, and high skill careers in metals.** STS.HS.21.2.D

Demonstrate accurate measurements using measurement tools used in metals. STS.HS.21.3

- a **Identify types of metals measurement tools.** STS.HS.21.3.A
- b **Explain metals measurement tools by use.** STS.HS.21.3.B
- c **Demonstrate the accurate use of metals measurement and layout tools to 1/16" precision.** STS.HS.21.3.C

Solve math functions and formulas to complete metals ma[illegible] tas[illegible]

- a **Identify whole numbers, decimals, fractions, and complex numbers.** STS.HS.21.4.A
- **\pply basic arithmetic operations used in metals manufacturing.** STS.HS.21.4.B
- **olve decimal/fraction conversions used in metals manufacturing.** STS.HS.21.4.C

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Analyze the use of metals manufacturing communications. STS.HS.21.5	a	**Define metals manufacturing terminology.** STS.HS.21.5.A
	b	**Interpret the language of metals manufacturing.** STS.HS.21.5.B
	c	**Explain business and interpersonal communication appropriate to the work in the metals manufacturing environment.** STS.HS.21.5.C
Determine the materials, tools, machines, and processes required to manufacture a metals product. STS.HS.21.6	a	**Identify the characteristics, properties, and origin of diverse metals.** STS.HS.21.6.A
	b	**Differentiate additive and subtractive metals manufacturing.** STS.HS.21.6.B
	c	**Identify metals fasteners by their industry standard applications.** STS.HS.21.6.C
	d	**Determine feed rate and/or speed settings for a metal material and process.** STS.HS.21.6.D
	e	**Explain the operation and application of common metals industry chemicals.** STS.HS.21.6.E
	f	**Determine the correct tools, machines, and processes needed to produce a specific metal product.** STS.HS.21.6.F
	g	**Estimate the amount of materials and supplies needed to manufacture a metal product.** STS.HS.21.6.G
Manufacture a product that uses metal as its primary material. STS.HS.21.7	a	**Interpret plans, drawings, and specifications to process metal materials.** STS.HS.21.7.A
	b	**Employ the standard operation and application of tools and machines along the metal manufacturing process.** STS.HS.21.7.B
	c	**Apply the correct types of materials, fasteners, adhesives, and finishes required to manufacture a specific metal product.** STS.HS.21.7.C
	d	**Explain how to critique a finished product.** STS.HS.21.7.D
	e	**Explain how to appraise the manufactured product.** STS.HS.21.7.E