



# ENERGY CAREER ACADEMY FRAMEWORK GRADE 12

**THEME:** Skilled Energy Technician Skills and Selecting a Career Path

**CREDENTIALS:** OSHA-10 Certification, SkillsUSA Career Essentials: Advanced Experiences Micro-credential

## MODULE 1: Introduction to Hand & Power Tools

**Curriculum Source:** CEWD

Please contact Julie Strzempko at [julie@cewd.org](mailto:julie@cewd.org) to receive instructor and student materials.

**Total Instructional Time:** 20 hours

*\*Lab environment and hand/power tools required*

Identify specific hand and power tools used in generation, transmission, and distribution.

**1. Hand Tools:** Screwdrivers--Flat and Phillips Head; Hammers; Wrenches; Pliers and Cutters--Water Pump, Needle Nose, Angled Cutting, Shear Cut Cutting; Files, Chisels, and Punches; Rulers and Measuring devices; Hand Saw; Meters; Insulation; Single Phase Analyzers

**2. Power Tools:** Power Hammers; Drills and Threaders; Punches; Hydraulic Hammers; Hydraulic Jack; Air Hammers; Power Nail Guns; Power Circular Saws; Portable Belt Sanders; Portable Abrasive Wheels

## MODULE 2: OSHA-10 Certification

**Curriculum Source:** Career Safe (approved OSHA provider—course designed specifically for youth)

<https://campus.careersafeonline.com/index.k2>

**Total instructional and testing time:** 10 hours

**Cost:** \$25 per student; computer lab needed

- 1) Explain the OSH Act, the functions and resources of OSHA.
- 2) Discuss the OSHA inspection priorities and describe the inspection process.
- 3) Identify the rights and responsibilities of employers and employees under the OSH Act.
- 4) Identify the major hazards associated with general industry work and how to avoid, protect or control them.

**This includes:**

- Slips, trips, falls associated with walking and working surfaces
  - Effective Egress and fire protection program
  - Outline the general requirements for general safety standards
  - Flammable and combustible liquids and gasses
  - Hazards of chemicals
  - Electrical hazards
- 5) Recognize the value of personal protective equipment, usage and limitations.
  - 6) Describe the basic elements of a safety and health program.

## MODULE 3: GIE/Get Into STEM Group Project

**Curriculum Source:** CEWD

Please contact Julie Strzempko at [julie@cewd.org](mailto:julie@cewd.org) to receive instructor and student materials.

**Total Instructional Time:** 10 hours

- 1) Work in teams to create a video around how all energy careers are STEM careers to post on Get Into Energy/Get Into STEM web site. Includes writing a script, devising props, etc.

## MODULE 4: Career Essentials: Advanced Experiences

**Curriculum Source:** SkillsUSA

<https://www.careeressentials.org/implement/experiences/advanced-set/>

**Total Instructional Time:** 50 hours

**Cost:** \$35 for students when the teacher is a SkillsUSA member or the students are SkillsUSA members; \$65 for nonmembers

**Covers a variety of employability skills:** <https://www.careeressentials.org/define/>

## MODULE 5: Internship Curriculum

**Curriculum Source:** CEWD

Please contact Julie Strzempko at [julie@cewd.org](mailto:julie@cewd.org) to receive instructor and student materials.

**Total Time:** Minimum of 40 hours

- 1) Participate in an internship with a local energy employer.
- 2) Keep a daily journal of learnings.
- 3) Evaluate how focusing on employability skills in the energy academy helped to prepare for the internship.