

Introduction to Transportation and Energy Technology

Levels: Grades 8-10
Units of Credit: 0.50
CIP Code: 21.0111
Core Code: 38-01-00-00-030
Prerequisite: None

COURSE DESCRIPTION

This course introduces the basic operational aspects of power, energy and transportation systems using problem-solving skills, laboratory environments, and student driven activities.

CORE STANDARDS, OBJECTIVES, AND INDICATORS

STANDARD 1

Students will investigate career opportunities in the transportation and energy industry, explore the impact of transportation and energy technology on our society, and be able to identify a variety of transportation and energy technologies, and learn and use safety practices.

Objective 1: Identify occupations related to the communications industry.

Objective 2: State the differences between past and present methods of communication.

Objective 3: Identify a variety of systems, methods, and materials used for building communications technology.

Objective 4: Learn and use safe work habits and techniques.

STANDARD 2

Students will identify and understand power systems technologies.

Objective 1: Understand the mechanical systems. For example;

- a. Understand the internal combustion engine.
- b. Understand the electrical motor.
- c. Understand wind power.

Objective 2: Understand the electrical systems. For example;

- a. Understand power distribution.
- b. Understand magnetic levitation.
- c. Understand electrical generation.

Objective 3: Understand the fluid systems. For example;

- a. Understand the pneumatic system.
- b. Understand the hydraulic system.

Objective 4: Understand the alternative systems. For example;

- a. Understand the biotechnologies system.
- b. Understand the geothermal system.
- c. Understand the solar system.
- d. Understand the chemical system.

STANDARD 3**Identify and understand energy resources.**

Objective 1: Understand renewable and nonrenewable energy resources.

Objective 2: Demonstrate energy conservation practice.

STANDARD 4**Demonstrate an understanding of transportation systems.**

Objective 1: Demonstrate an understanding of transportation in the world of aviation systems.

Objective 2: Demonstrate an understanding of transportation in the world of aerospace systems.

Objective 3: Demonstrate an understanding of transportation in the world of land systems.

Objective 4: Demonstrate an understanding of transportation in the world of marine systems.