

Engineering Design



Description

In DEPCO's Engineering Design curriculum, students learn about the basic principles of the engineering design process. Students learn to create and edit three-dimensional and two-dimensional drawings while also learning the ins and outs of the SOLIDWORKS software. Blueprint reading and designing is also explained in order to expose the students to industrial scenarios.

Skills

- Focuses on the development of academic knowledge, employability skills, and technical skills. As students progress through the curriculum, the classroom instructor uses a detailed rubric to subjectively evaluate the student's skill and proficiency.

Objectives

- Identify the engineering design process.
- Identify the difference between three-dimensional and two-dimensional objects.
- Begin drawing a part in SOLIDWORKS.
- Use basic dimensioning and geometric relations to define a part.
- Add dimensions to a part using various techniques.
- Determine the dimensions needed to complete a drawing.

Activities

- Lesson 1 Engineering Design
- Lesson 2 Space, Drawing, and Measuring
- Lesson 3 Introduction to SOLIDWORKS – Sketching Basics
- Lesson 4 Relations and Dimensions I
- Lesson 5 Relations and Dimensions II
- Lesson 6 Create Solids
- Lesson 7 Extrusions and Features
- Lesson 8 Revolved and Swept Features
- Lesson 9 Pattern Sketch Geometry
- Lesson 10 Create Part – Design Intent
- Lesson 11 Materials
- Lesson 12 Blueprint Reading
- Lesson 13 Creating Basic 2-D Views
- Lesson 14 Dimension Basics
- Lesson 15 Dimensioning Practices
- Lesson 16 Dimensioning and Annotations
- Lesson 17 Dimensioning and Tolerances
- Lesson 18 How/When to Use Detail Views
- Lesson 19 Detail Views with Sectional Views
- Lesson 20 Challenge and Review

Standards

DEPCO courseware is developed from the Manufacturing Skill Standards Council (MSSC) and the National Skill Standards Board (NSSB). Close correlation with these standards will provide students with the skills and knowledge necessary for success in the workplace.

Module Includes:

Training Manuals, Instructor's Manual, Installation CD, SOLIDWORKS Software Package, Headphones

Requirements

Computer required and sold separately