

# North Cobb High School Drafting Level 1

## Introduction to Engineering Drawing and Design Course Outline

### *Topic Assignments*

Topics covered for the Drafting profession:

- A) Employability **AC-IDD-1**
  - a. Career Interest Inventory
  - b. *Résumé*
- B) The drafting profession and careers associated with drafting **AC-IDD-2**
  - a. Professional Organizations and Trade Associations
  - b. *Professions Related to Drafting Brochure*
- C) Drafting tools **AC-IDD-3**
  - a. Lab, tool, equipment safety
  - b. Traditional drafting tools
  - c. CAD, Inventor, Revit
- D) Drafting foundation skills **AC-IDD-4, 5**
  - a. Freehand and Technical Sketching
    - i. Rapid Viz techniques
      - 1. Planes and cubes
      - 2. Point perspectives
      - 3. Shading, Textures
      - 4. Perspective Sketch Boxes
      - 5. Objects in Boxes
    - ii. Visualization project
  - b. Use of Scales **AC-IDD-8**
  - c. Lettering **AC-IDD-6**
  - d. Alphabet of Lines **AC-IDD-7**
  - e. Dimensioning
- E) Geometric Construction **AC-IDD-7, 8, 10**
- F) Traditional tools drafting (Manual or Board Drafting) **AC-IDD-8**
  - a. Page Layouts
    - i. Horizontal
    - ii. Vertical
  - b. *Single View Drawing Problems*
- G) Computer-Aided Drafting **AC-IDD-8, 9, 10, 11**
  - a. Tutorial
  - b. *Single View Problem Drawings*
  - c. *Multi-view Problem Drawings*
  - d. CAD Project
- H) Inventor **AC-IDD-8, 9, 10, 11**
  - a. Tutorial
  - b. *Inventor Problem Drawings*
  - c. Inventor Project
- I) Revit **AC-IDD-8, 9, 10, 11**
  - a. Tutorial
  - b. *Revit Problem Drawing*
  - c. Revit Project

# North Cobb High School Drafting Level 1

## **Topic Instruction Assignments** 50%

Reading assignments from the *Mechanical Drawing* book, and completion of questions:

- A) Chapter 1: *Drafting Careers* AC-IDD- 1, 2
- B) Chapter 2: *Design and Sketching* AC-IDD- 3-8
- C) Chapter 3: *Drafting Equipment* AC-IDD- 3-8
- D) Chapter 4: *Basic Drafting Techniques* AC-IDD- 3-8
- E) Chapter 5: *Geometry for Drafting* AC-IDD- 10
- F) Chapter 6: *Multi-view Drawing* AC-IDD- 11
- G) Chapter 7: *Dimensioning* AC-IDD- 11

Checkup on topic lesson discussions and demonstrations:

- A) *Safety* AC-IDD- 3
- B) *Drafting Tools* AC-IDD- 4
- C) *Full Scale Measuring* AC-IDD- 3, 4
- D) *Alphabet of Lines* AC-IDD- 3, 6
- E) *Geometric Construction* AC-IDD- 3-10

## **Projects** 35%

Complete an assigned project utilizing learned drafting skill for:

- A) *Perspective Sketching* AC-IDD- 3-8
- B) *Traditional Drafting Tools (Manual Drafting)* AC-IDD- 3-8
- C) *Computer-Aided Drafting* AC-IDD- 3, 10
- D) *Inventor* AC-IDD- 3, 8, 11
- E) *Revit Architecture* AC-IDD- 3, 8, 11
- F) *Working portfolio of work (recommended for Pathway Completers)\** AC-IDD- 1-11

## **Final** 15%

Portfolio

*An organized collection of the application of drafting skills: Traditional tools, Computer-Aided Drafting, Inventor, Revit Architecture* AC-IDD- 3-11

## **COURSE STANDARDS**

**AC-IDD-1:** Demonstrate employability skills required by business and industry.

**AC-IDD-2:** Identify the disciplines related to architectural and engineering professions.

**AC-IDD-3:** Demonstrate the knowledge and skills to properly use the tools and equipment safely in the drafting lab.

**AC-IDD-4:** Demonstrate the correct use and management of all tools and supplies.

**AC-IDD-5:** Create technical freehand sketches

**AC-IDD-6:** Demonstrate proper lettering techniques.

**AC-IDD-7:** Demonstrate the use of proper lines types.

**AC-IDD-8:** Demonstrate the ability to read and draw using the proper scale.

**AC-IDD-9:** Demonstrate the knowledge and skills of computer operations.

**AC-IDD-10:** Create and dimension single view drawings while applying geometric construction.

**AC-IDD-11:** Utilize orthographic projection to create and dimension multi-view drawings manually and using CADD.

\*Additional topics, assignments, and projects could be added upon discretion.