

CADT 101  
Technical Sketching and Working Drawing Applications

**Description:**

CADT-101 is developed for entry-level students in the Computer Aided Design Technology program. This course teaches skills to convey a thought or idea on paper. Students will develop an ability to visualize and sketch orthographically and pictorially. The use of various drafting techniques, lettering, geometric construction, orthographic projection, pictorial drawings, and basic dimensioning will be included. Students will develop skills that will aid in the interpretation and application of working drawings for various disciplines. Concepts will be reinforced through hands-on activities that focus on these skills.

**The student will be able to:**

**Application of Freehand Sketching Concepts**

- Describe in writing the purpose of sketching.
- Explain how paper surface texture, pencil pressure, and pencil grade affect freehand sketching.
- Define the term proportionate and explain its importance to sketching.
- Demonstrate how to estimate sizes and proportions.
- Demonstrate the use of graph paper in sketching.
- Demonstrate the overlay method of developing sketches.
- Construct a sequence of rough and refined sketches.
- Complete pictorial sketches of instructor-selected objects.
- Complete a presentation sketch of an instructor-selected object.
- Identify line styles and weights using the American National Standards Institute “ANSI” standard alphabet of lines.
- Enhance visualization abilities by working with line form relationships on drawings.

**Lettering**

- Develop freehand lettering techniques as applied to sketches.
- Construct virtual gothic upper case lettering and numbers for mechanical drawings.
- Construct Architecture lettering and numbers for architecture drawings.

**Prepare Sketches of ideas**

- Construct sketches of Architecture elevations or floor plan ideas.
- Construct sketches of Mechanical parts or assembly ideas.
- Construct Mechanical detail sketches with dimensions.
- Construct basic civil plot or site plan ideas.

**Prepare Sketches of Sectional Views**

- Prepare sketches containing the following sections; offset, revolved, removed, broken-out sections.
- Prepare sketches incorporating removed details and conventional breaks.

### **Prepare Sketches of Auxiliary Views**

- Prepare sketches containing auxiliary views, and auxiliary sections.

### **Prepare Dimensioned Sketches**

- Prepare sketches containing linear standards dimensions and notes.
- Prepare sketches that contain circular standard dimensions.
- Prepare sketches that include angular standards dimensions.
- Prepare sketches that contain metric dimensions.
- Prepare sketches that contain Architecture dimensions.

### **Prepare Pictorial Sketches**

- Prepare Isometric sketches.
- Prepare Cabinet sketches.
- Prepare one and two-point perspective.