

# TIDEWATER COMMUNITY COLLEGE

## Official Course Outline

**Course Prefix/Number/Title:** DRF / 151 / Engineering Drawing Fundamentals I

**Credit Hours:** 3      **Lecture Hours:** 1      **Lab Hours:** 6      **Total Contact Hours:** 7

**Pre-requisite:** None      **Co-requisite:** None

**Course Description:** Introduces technical drafting from the fundamentals through advanced drafting practices. Includes lettering, geometric construction, technical sketching, orthographic projection, sections, intersections, developments, fasteners. Teaches theory and application of dimensioning, and tolerances, pictorial drawing, and preparation of drawings.

**Course Objectives:** Upon the completion of this course, the student will be able to:

1. Use (as an aid in visualization and graphic communication) isometric or other sketching techniques to create pictorial and orthographic sketches properly reflecting shape description and detail information in engineering drawings.
2. Learn and demonstrate the proper utilization of current ANSI/ASME/ISO orthographic techniques to describe the shape of the designs they are working with, clearly and efficiently.
3. Develop basic engineering drawings reflecting ANSI/ASME/ISO Drafting Standards including dimensioning, proper scaling of the drawing, the development of appropriate general notes, and the use of standardized abbreviations and symbols, and material specifications.
4. Use ANSI/ASME/ISO practices as appropriate, identify, calculate, manipulate, and properly apply various dimensions and notes for the purpose of establishing the sizes, locations, and manufacturing intent of the designer.

**Course Content:**

- The Graphic Language and Design
- Free Hand Sketching
- Instrumental Drawing
- Geometric Constructions
- Multiview Projection
- Sectional Views
- Dimensioning
- Axonometric Projection
- Oblique Projection

**Textbook:** Giesecke F. E., Mitchell A., et al., Technical Drawing 12<sup>th</sup> ed. Upper Saddle River, NJ: Prentice Hall, 2003.

**Additional Information:** Appropriate board drafting equipment, notebook, and appropriate storage device for computer files, as defined by instructor