

CAD Department Course Outline

DRFT 1234 – Engineering Graphics I (F, S)

Catalog Description:

This course introduces students to the fundamentals of technical drawings and the skills needed to communicate graphically in all fields. Emphasis is on basic techniques and principles used to produce engineering drawings. Topics include drawing layouts and organization, text, orthographic projection and multi-view drawings, scales, geometric design and construction, sketching, section development, auxiliary view development, and dimensioning.

Prerequisites:

None

Credit hours/Contact Hours/Load hours:

4/4/4

Target Audience/Transferability:

This course is one of the foundation courses for all degree options in CAD and should be taken during the first semester. DRFT 1234 is transferable to some 4-year institutions.

Student Learning Outcomes:

Students will:

- Apply mechanical, architectural, and civil engineering scales to technical drawings correctly
- Draw isometric and orthographic sketches that accurately represent objects
- Construct the basic geometric elements and forms used in engineering design
- Create multi-view drawings and objects using industry standards
- Create primary auxiliary views and use auxiliary views for reverse construction
- Construct full, half, offset, removed, revolved and broken out sections using conventional practices

Topics:

- Graphic communication and the design process
- Technical drawing tools and equipment
- Scales and text on drawings
- Sketching in isometric, perspective, and multi-view
- Geometric construction
- Orthographic projection and multi-view drawings
- Line conventions, view selection, inclined & oblique planes
- Auxiliary views
- Section views
- Dimensioning basics and standard practices

Forms of Assessment:

- Completion of several drawing assignments
- Quizzes
- Final exam
- Final Project

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