

DRFT-121-ENGINEERING GRAPHICS 3 CREDITS

SYLLABUS

CATALOG DESCRIPTION

This course comprises a study of engineering graphics using the AutoCAD software package. Basic two-dimensional drafting techniques as well as wireframe, surface and solid modeling methods are employed in the production of technical drawings.

Prerequisites: None

Semester Offered: Spring

Common Student Learning Outcomes

Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in...

BROAD AND SPECIALIZED LEARNING

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

CRITICAL THINKING

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

CULTURAL AND CIVIC ENGAGEMENT

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

EFFECTIVE COMMUNICATION

Students will exchange ideas and information with clarity in multiple contexts.

INFORMATION LITERACY

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

INTEGRATING TECHNOLOGIES

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

Course Learning Outcomes

Upon successful completion of the course, the student will be able to...

1. Basic drawing and editing concepts.
2. Multiview drawings.
3. Dimensioning and tolerances.

4. 3D Modeling and advanced layout techniques.

Specific Learning Outcomes

Upon successful completion of the course, the student will be able to...

1. Understand dimensions to include fractional, decimal, and metric.
2. Apply proper dimensioning techniques to drawings in accordance with ANSI Y14.5.
3. Read and interpret engineering drawings and sketches.
4. Realize the need for tolerances.
5. Compute tolerances.
6. Select proper views to adequately portray physical objects.
7. Make orthographic projections from isometric and oblique drawings.
8. Apply proper techniques to construct multiview drawings using AUTOCAD.
9. Construct necessary auxiliary views.
10. Create and edit solid models using AUTOCAD.
11. Create assembly drawings, sectional views, and auxiliary views from solid models.
12. Render AUTOCAD drawings.
13. Construct sectional views.