SAN JUAN COLLEGE
Success Matters

DRFT-120-SURVEYING 4 CREDITS

SYLLABUS

CATALOG DESCRIPTION

The study of points, lines and planes and their spatial relationships. Problems in finding their true positions, lengths and shapes in space are solved by the principles of orthographic projection.

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. Understand the use of orthographic projection for solving descriptive geometry problems.
2. Realize the ways of defining points, lines and planes in 3D space.
3. Understand the use of primary and secondary auxiliary views in descriptive geometry.

4. Recognize the spatial relationships that exist between points, lines and planes.
5. Know the methods of expressing the slope, bearing, strike and dip of lines and planes as applicable.

Specific Learning Outcomes:

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

1. Locate points in 3D space using orthographic projection. (B,I,CC)
2. Perform primary and secondary auxiliary projections. (B,C,E,I,CC)
3. Specify and develop the four fundamental views: true length of line, point view of a line, edge view of a plane and true size of a plane. (B,C,E,I,CC)
4. Determine slope and bearing of a line. (B,C,I,CC)
5. Test for intersecting lines and determine their visibility. (B,CC)
6. Solve for shortest distance, shortest horizontal distance and shortest grade distance between a point and a line. (B,C,I,CC)
7. Determine bearing, strike and dip of a plane. (B,I,CC)
8. Solve for dihedral angle between planes. (B,C,E,I,CC)
9. Determine the angle between a line and a plane. (B,C,I,CC)