DRFT 2010

Division: Career and Technical Education
Department: Drafting Technology
Course: DRFT 2010
Title: Descriptive Geometry
Catalog Description:

This is a course containing problems covering intersections, developments, and curved or warped surfaces. Graphical solutions for true length, true angle, true size and shape, direction, intersections, shortest distance, and angle of intersection are developed.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 3; Lecture: 2; Lab: 3
Clock/Hour Requirements: 75
Offered for Non-Credit: No
Prerequisites: DRFT 1030

Corequisites: None

Justification:

This course is approved by the program advisory committee and corresponds to UVSC course DT 2020 and Dixie College course DRAF 2150.

Student Learning Outcomes:

Upon successful completion of this course, students will be able to:

- understand the principles of orthographic projection as it applies to descriptive geometry
- understand the relationship of points and lines in three dimensional space
- learn the relationship of auxiliary views
- understand the basic principle and application of planes in drawings
- apply the principle of parallel, perpendicular, and intersecting lines in orthographic construction
- apply the principles of revolution in solving descriptive geometry problems
- understand the application of piercing points and intersection of planes
- develop surfaces of objects for manufacturing and apply bend allowances
- understand the basic principles of vector geometry.

Content:

Course objectives will be achieved by providing students with instructional and hands-on experiences in the following areas:

- orthographic projection and descriptive geometry

- points and lines in space
- fundamentals of auxiliary views
- planes and surfaces
- determining linear relationships and intersections
- fundamentals of revolving lines and planes
- piercing points and the intersection of planes
- development of flat plane surfaces
- vector geometry and its application.

General Education Outcomes:

2) Write clearly, informatively, and persuasively.
Students are required to complete descriptive term-sheets which provide information about the vocabulary and terminology used in this specific area. The descriptions are reviewed, graded, and returned to students for improvement.

6) Apply computational skills to a variety of contexts.
The field of drafting requires the combination of basic math, geometry, and algebra skills. Students will utilize these skills when producing drawings, cost estimates, and material lists.

Key Performance Indicators:

In class:

- Students will demonstrate mastery of course competencies by completing assignments/projects, tests, and quizzes. Assignments/projects are worth 75%, tests are worth 15%, and quizzes are worth 10% of the final grade.

Following class:

- The knowledge and skills acquired in this course will be demonstrated in subsequent courses.

Representative Text and/or Supplies:

- *Applied Descriptive Geometry,* current edition, Delmar Publishers, Inc.

Optimum Class Size: 12
Maximum Class Size: 20

Signatures:

I hereby submit this course syllabus:

Craig Conder, ,

I hereby find this course consistent with the goals and resources of the Drafting Technology Department:

Craig Conder, , , Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)