DRFT 2970

Division: Career and Technical Education
Department: Drafting Technology
Course: DRFT 2970
Title: Special Mechanical Projects
Catalog Description:

This is an advanced course in mechanical layout and design using AutoCAD and solid modeling techniques. Students, with approval, may design and layout projects of their choice. Final details are designed so they could be fabricated in a machine shop.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: .5; Lecture: 1; Lab: 2
Clock/Hour Requirements: 45
Offered for Non-Credit: No
Credit/Clock Comments: This is a variable credit course (0.5-2:0-1:2-6).
Prerequisites: DRFT 1200 and DRFT 2310

Corequisites: None

Justification:

This course is approved by the program advisory committee and corresponds to UVSC course DT 2710.

Student Learning Outcomes:

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

- understand advanced mechanical design and layout techniques
- know solid modeling techniques and their application in mechanical design
- apply advanced design and solid modeling in the construction of mechanical layouts
- complete working drawings for layout and fabrication of approved projects.

Content:

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

- advanced mechanical design and layout

- application of solid modeling in mechanical design
- construction of mechanical layouts for display, fabrication, and construction.

General Education Outcomes:

4) Retrieve, evaluate, interpret, and deliver information through a variety of traditional and electronic media.

Students will research information (i.e. styles, layouts, mechanical parts, connectors, fasteners, etc.) through the Internet, written manuals, journals, and other publications. This information is used to complete projects and assignments throughout the program.

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.

8) Apply ethical reasoning to a variety of contexts.

The client-designer relationship requires an understanding of ethical behaviors in design and consultation. Draftsmen often work in teams where the individuals are each required to fulfill responsibilities under the direction of a team leader. This experience is modeled throughout the program.

9) Respond with informed sensitivity to an artistic work or experience.

In both mechanical and architectural drafting, the final product must be presented to the client. At this point in the process, students must recognize quality artistic efforts in order to be able to produce their own final presentation drawings.

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 by successful application in positions in the mechanical drafting industry.

Representative Text and/or Supplies:

- *Technical Drafting,* current edition, Prentice Hall.

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)