DRFT 2160

Division: Career and Technical Education
Department: Drafting Technology
Course: DRFT 2160
Title: Structural Drafting
Catalog Description:

Students will learn the proper symbols and procedures of structural drafting, including wood, metal, and concrete. The course contains detailing of beams, columns, braces, and marking and numbering systems for structures.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 3; Lecture: 2; Lab: 4
Clock/Hour Requirements: 90
Offered for Non-Credit: No
Prerequisites: DRFT 1010

Corequisites: None

Justification:

This course is approved by the program advisory committee and corresponds to UVSC course DT 1300.

Student Learning Outcomes:

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

- know the symbols, terms, and types of connections used in structural drafting
- draw structural and framing plans
- understand structural steel connections and fabrication details
- prepare structural steel bills of materials
- understand and draw precast concrete plans
- understand and draw plans for poured-in-place concrete structures
- know how to draw plans for wood structural systems
- learn the opportunities for structural steel drafters.

Content:

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

- overview of structural drafting
- structural connectors
- structural steel drafting, including framing plans, sections, connection and fabrication details, and

bills of materials
- structural poured-in-place concrete drafting
- structural wood drafting, including floor systems, walls roofs, wood posts, beams, girders, and arches
- employment in structural drafting.

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.

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.

5) Apply a cultural and historical awareness to a variety of phenomena.
Students must understand the historical aspects of architectural styles and the methods utilized in the drafting field. This historical perspective is addressed in lecture and students are required to identify styles through exams and projects.

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 employment positions which use structural drafting capabilities.

Representative Text and/or Supplies:

- *Structural Drafting*, current edition, Delmar Publishers.

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)