DRFT 2372

Division: Career and Technical Education
Department: Drafting Technology
Course: DRFT 2372
Title: Advanced Architectural CAD
Catalog Description:

The emphasis of this course is working in three-dimensional (3D) space using an object-based designer software program. Students will create 3D models of buildings from mass elements and use this conceptual design process to create refined building systems and construction documents.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 4; Lecture: 3; Lab: 3
Clock/Hour Requirements: 90
Offered for Non-Credit: No
Prerequisites: DRFT 1100, DRFT 2370

Corequisites: None

Justification:

This course is approved by the program advisory committee and corresponds to the new state of the art software being implemented and used in industry which incorporates 3D architecture.

Student Learning Outcomes:

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

- apply the concepts of design development
- view the 3D model from various viewpoints
- shade the model to help with visual interpretation
- understand the different methods of creating the interior conceptual design
- add openings to the walls or space boundaries
- add stairs, railings, and design components to the design
- represent the model in elevation, section, and perspective views
- produce a set of working drawings.

Content:

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

- architectural drawing with a 3D CAD system
- viewing in 3D

- working in 3D
- conceptual design
- mass elements and groups
- profiles
- spatial planning
- floor plates and space borders
- design development
- creating openings
- interior components
- representation views
- construction documentation.

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 critique and 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.

Applied Education Outcomes:

1) Students will acquire entry-level skills specific to and appropriate for employment in their chosen field of study.
Students are required to complete the required course objectives. The objectives are discussed in class and the students then apply drafting procedures to accomplish the objectives.

- Students will create a project portfolio with their drawings to be used as a job portfolio.
- Students are informed of what employment opportunities are available if they succeed in this course.

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.
- Percentages are approximate.

Following class:

- The knowledge and skills required in this course will be demonstrated in subsequent courses.
- Students will also be able to demonstrate the skills necessary to be productive in occupations requiring the application of 3D CAD (Computer Aided Drafting).

Representative Text and/or Supplies:

- Texts will be selected as appropriate to the architectural CAD system currently in operation.

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)