DRFT 2340

Division: Career and Technical Education
Department: Drafting Technology
Course: DRFT 2340
Title: Parametric Modeling with AutoCAD Inventor
Catalog Description:
This course introduces the aspects of Solid Modeling and Parametric Modeling.
General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 4; Lecture: 2; Lab: 4
Clock/Hour Requirements: 90
Offered for Non-Credit: No
Prerequisites: DRFT 1310

Corequisites: None

Justification:
This course is approved by the program advisory committee and corresponds to SUU course CCET 3620.

Student Learning Outcomes:

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

- understand the Parametric Modeling process
- understand the constructive sound geometry concepts
- create, modify, and dimension parametric models
- understand the importance of feature interaction
- create complex 3D models from profile sketches using Boolean operations
- be able to use other inventor features - work planes, lofting, sweeps, etc., to create and modify special parametric shapes
- create parts in an assembly modeled application
- create exploded assemblies
- create multi-view drawings from parts, models, and assemblies.

Content:

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

- development of computer geometric models
- parametric modeling fundamentals
- creation of solid geometry shapes

- parametric constraints
- parts drawings and associative functionality
- using geometric construction tools to create models
- using assembly modeling concepts.

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.

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:

- Students will demonstrate skills apply solid parametric modeling skills in specified areas of employment.

Representative Text and/or Supplies:

- *Parametric Modeling with Autodesk Inventor R4*, current edition, SDC Publications.

Optimum Class Size: 12
Maximum Class Size: 15

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)