El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Computer-Aided Design**
COURSE RUBRIC AND NUMBER	**DFTG 2340**
COURSE TITLE	**Solid Modeling/Design**
COURSE CREDIT HOURS	**3 2 : 4** **Credits Lec Lab**

I. Catalog Description

Presents computer-aided modeling course. Develops three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work. **Prerequisite: DFTG 1309. (2:4).**

II. Course Objectives

Upon satisfactory completion of this course the student will be able to:

A. Unit I. Design Intent

1. Describe the key characteristics of a feature-based, parametric solid modeler
2. Distinguish between sketched and applied features.
3. Identify the principal components of the modeling software user interface.
4. Explain how different dimensioning methodologies convey different design intents.

B. Unit II. Basic Part Modeling and Modeling a Casting or Forging

1. Identify commonly used modeling and modeling software terminology.
2. List the basic rules that govern sketches.
3. Choose best profiles and sketch planes.
4. Create new parts by extruding, mirroring, and by revolving features and circular patterns.
5. Identify threads and fasteners.

C. Unit III. Configurations

1. Use configurations to represent different versions of a part within a single drawing file.
2. Use design tables.
3. Change dimension values by configuration without design tables.

D. Unit IV. Bottom-up Assembly

1. Create a new assembly by inserting components, sub-assemblies and adding relationships/constraints.
2. Perform mass properties calculations and interference detection.
3. Create an exploded view of an assembly.

E. Unit V. Detailing (Dimensioning) Drawing Display Options and Layouts

1. Set up a new drawing using a standard drawing sheet format.
2. Edit a drawing sheet format.
3. Create standard, named, section, detail, broken, aligned, and auxiliary views.
4. Import, move, and delete dimensions.
5. Generate and insert a bill of materials, add annotations, and add balloon callouts.

F. Unit VI. Editing Models

1. Diagnose various problems in a part and repair them.
2. Utilize editing tools to edit and make changes to a part.
3. Explain how modeling techniques influence the ability to modify a part.
4. Utilize various precision tools and prepare drawings for custom fabrication, e.g., CNC.

III. THECB Learning Outcomes (WECM)

1. Create three-dimensional solid model objects.
2. Generate pictorial and orthographic drawings.

IV. Evaluation

A. Challenge Exam

There is no challenge exam available for this course.

B. Post-assessment

1. The instructor will maintain a continuous record of each student's progress.
2. Students should be evaluated periodically throughout the semester.
3. The instructor will determine the weight of each graded assignment.
4. Instructors may require drawing assignments, quizzes, practical/written drawing exams, and formal exams.

C. Grading Scale:

A = 92.5 - 100
B = 85.0 - 92.4
C = 75.0 - 84.9
D = 65.0 - 74.9
F = below 65
I = Incomplete
W = Withdrew or Withdrawn

For grade percentage of individual assignments and exams refer to the Syllabus - Instructor's Course Requirements.

V. Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

VI. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.