El Paso Community College Syllabus Part II Official Course Description

SUBJECT AREA	Computer-Aided Design
COURSE RUBRIC AND NUMBER	DFTG 2332
COURSE TITLE	Advanced Computer-Aided Drafting
COURSE CREDIT HOURS	3 2 4
	Credits Lec Lab

I. Catalog Description

Provides the application of advanced CAD techniques. Prerequisite: DFTG 1309. (2:4).

II. Course Objectives

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

A. Unit I. Introduction and Advanced Production Drawings

- 1. Discuss class policy and procedures.
- 2. Work with linked database applications and use the advanced clipboard functions.
- 3. Use object linking and embedding (OLE) to enhance drawing production.
- 4. Create a working drawing with OLE features and a linked list of materials.
- 5. Identify various file types, i.e., DWG, DXF, TIFF, JPEG, etc. and be able to convert one type to another

B. Unit II. World Coordinate System

- Demonstrate an understanding of the 3D rectangular coordinate system used by AutoCAD.
- 2. Demonstrate an understanding of 3D X, Y, Z coordinate data entry, polar coordinate data entry, and use both absolute and relative values with each.
- 3. Demonstrate an understanding of cylindrical and spherical coordinate data entry. Unit 3 3D wire frame modeling.
- 4. Define wire frame and surface modeling.
- 5. Manipulate the UCS and apply 3D drawing and surfacing commands.
- 6. Create complex wire frame models and apply surfaces to them.
- 7. Create a layout for the complex wire frame model and apply text notes and dimensioning.

C. Unit III. 3D Solid Modeling (ACIS Modeling)

- 1. Create solid primitives.
- 2. Create solids from existing 2D objects and by revolution.
- 3. Create composite solids and apply solids editing commands to complete drawing.
- 4. Use various precision tools.

D. Unit IV. Creating and Using Multiview Layouts

- 1. Create a multi-view layout using the SOLVIEW command.
- 2. Use SOLDRAW and SOLPROF to complete profile and section views.

E. Unit V. Shading and Rendering Techniques

- 1. Display a model using SHADEMODE options, basic RENDER, Photo Real, Photo Raytrace.
- 2. Place light sources, apply textures and materials to models.
- 3. Create a background and use FOG command.
- 4. Locate and manipulate landscaping objects.
- 5. Save views, scenes, and image files.

F. Unit VI. Presentations

- 1. Create a presentation of a complex architectural model with light sources, attached textures and materials, and landscaping.
- 2. Create a presentation of a complex machined assembly with light sources and textures applied.
- 3. Convert 2D details, i.e., mechanical, structural, to 3D models.
- 4. Convert existing 2D drawings to 3D presentation models.
- 5. Integrate Feature Control Frames addressing various types of Geometric Dimensioning and Tolerancing applications and callouts into drawings.

G. Unit VII. System Customization

- 1. Utilize the AutoLISP language and the structure of AutoLISP routines.
- 2. Utilize Dialog Control Language (DCL).
- 3. Create a simple AutoLISP/DCL program to automate tasks.

III. THECB Learning Outcomes (WECM)

- 1. Use a customized CAD system to create documents and/or solid models.
- 2. Use OLE with external software.

IV. Evaluation

A. Challenge Exam

There is a challenge exam available for this course. Coordination for any challenge exam should be made through the Drafting Department Coordinator.

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 will require drawing assignments, quizzes, 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.

Revised by Discipline: Fall 2015 (next revision in 3 years)