

Course Outline

COURSE: CGD 4 **DIVISION:** 50 **ALSO LISTED AS:**

TERM EFFECTIVE: Summer 2017 **Inactive Course**

SHORT TITLE: 2D/3D TECH/COMP GRAPH II

LONG TITLE: 2D, 3D Technical Computer Graphics II

<u>Units</u>	<u>Number of Weeks</u>	<u>Type</u>	<u>Contact Hours/Week</u>	<u>Total Contact Hours</u>
3	18	Lecture:	2	36
		Lab:	3	54
		Other:	0	0
		Total:	5	90

COURSE DESCRIPTION:

Intermediate computer graphics design course expands skills and concepts introduced in CGD 2. Applies technical design, drafting standards, and graphic communications to develop, present, analyze, test, manufacture, and market consumer products. Produces 2D and 3D technical drawings to graphically communicate feasibility of proposed products to be manufactured in terms of usability, material selection, and design intent. Project based assignments demonstrate technical design and problem solving skills required for success in an array of technical design career(s). **ADVISORY:** Completion of CGD 2 with a grade of C or better.

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

L - Standard Letter Grade

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

- 02 - Lecture and/or discussion
- 03 - Lecture/Laboratory
- 04 - Laboratory/Studio/Activity
- 05 - Hybrid
- 72 - Dist. Ed Internet Delayed

STUDENT LEARNING OUTCOMES:

1. Design and present parametric models and working drawings of product using industry standards for selected design field.

Measure: Manual and computer graphic design project

PLO: 4, 2, 1, 3

ILO: 1.5. 2.2,

3.1 , 4.1, 5.. 6.4

GE-LO:

Year assessed or anticipated year of assessment: 2012

2. Provide and use constructive criticism of schematic design to develop-parametric models and fully dimensioned working drawings of revised product.

Measure: Presentation and Revised Drawings

PLO: 2, 1, 3, 4

ILO: 1.2, 1.3. 2.1, 2.2, 3.1 , 4.2, 5.1, 6.1, 4.2

GE-LO: A-2, B-8, C-3, E-1

Year assessed or anticipated year of assessment: 2012

3. Provide self-explanatory presentation(s) of designed product(s) including 2D & 3D drawings & models, bill of materials referenced to exploded assembly, sections, details, and animations.

Measure: design projects/final portfolio

PLO: 3, 1, 4, 2

ILO: 1.5. 2.2,

3.1 , 4.1, 5.. 6.4

GE-LO: A-1, A-6, B-7, C-1

Year assessed or anticipated year of assessment: 2012

PROGRAM LEARNING OUTCOMES:

AS or Certificate in CGD's Advanced Technical Computer Graphics

- 1) Describe specialized skills for entry and success in desired technical graphics career.
- 2) Prepare samples of work that demonstrate entry level proficiencies.
- 3) Use design problem solving to propose an aesthetically pleasing design that satisfactorily addresses clients' needs.
- 4) Apply design principles and color theory when developing presentations.
- 5) Design and present consumer products using working drawings, 3D graphic models and multimedia applications (audio, video, graphics and text).
- 6) Develop an electronic portfolio to present to potential clients/employers.

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Inactive Course: 02/27/2017 Effective Summer 2017

Hours, Topic, Student Performance Objectives, and Out-of-Class Assignments

8 Hours

CONTENT: Introduction to Advanced Design Considerations: Determine product of interest and requirements to enter professions that designs such projects..

SPO: Identify Career Goals and tools for helping determine career path.

LAB/HOMEWORK: Find product that relates to career goal, itemize skills still needed to achieve goal. .

10 Hours

CONTENT: Review Templates, custom borders and apply dual dimensioning standards.

SPO: Create Template for future use.

LAB/HOMEWORK: Create drawing templates fully dimension object, include tolerances.

10 Hours

CONTENT: Systematic Problem Solving

SPO: Apply problem solving to develop, refine, engineer, develop and test design,

LAB/HOMEWORK: Implement Problem Solving to develop and propose project

10 Hours

CONTENT: Develop First part.

SPO: Design fully defined first part to meet design intent

LAB/HOMEWORK: Produce and explain how first addresses product's design considerations critique and revise or explain reasons to support justifications for why you chose not to revise..

10 Hours

CONTENT: Review Configurations.

SPO: Develop specialized configuration table and Bill of Material.

LAB/HOMEWORK: Develop at least two configurations.

10 Hours

CONTENT: Review mating and inserting desired configuration that is referenced to Bill of Material.

SPO: Generate configured Parts and reference parts to Bill of Material.

LAB/HOMEWORK: create a configured assembly and bill of materials including reconfigured materials.

12.5 Hours

CONTENT: Review dimensioning and generating dimensioned models including tolerances uses assembling plans into a coherent set

SPO: Create a portfolio that describes and demonstrates skills in SolidWorks and Problem Solving

LAB/HOMEWORK: Create digital set of working drawings using industry standards

12.5 Hours

CONTENT: Develop Animation and other specialized graphics for presenting final project

SPO: Final presentation techniques

LAB/HOMEWORK: Complete presentation of Finalize presentation that features skills gained over semester while developing project

2 Hours

Final Exam: Present Final Portfolio

METHODS OF INSTRUCTION:

Large and small group discussions. Lecture presentations. Demonstrations.

METHODS OF EVALUATION:

CATEGORY 1 - The types of writing assignments required:

Percent range of total grade: 10 % to 15 %

Written Homework

Term or Other Papers

Other: Portfolio information

CATEGORY 2 -The problem-solving assignments required:

Percent range of total grade: 10 % to 15 %

Homework Problems

Exams

Other: Design Problems

CATEGORY 3 -The types of skill demonstrations required:
Percent range of total grade: 25 % to 50 %

Class Performance/s

Performance Exams

CATEGORY 4 - The types of objective examinations used in the course:
Percent range of total grade: 10 % to 25 %

Multiple Choice

True/False

Matching Items

Completion

CATEGORY 5 - Any other methods of evaluation:
Percent range of total grade: 10 % to 25 %

Portfolio of design projects and other assignments

REPRESENTATIVE TEXTBOOKS:

Required:

Bertoline, Gary Robert et al., Fundamentals of Graphics Communication, McGraw-Hill, 2011, or other appropriate college level text.

ISBN: 0073522635

Reading level of text, Grade: 13.1 Verified by: SMOG index at http://www.online-utility.org/english/readability_test_and_improve.jsp

Other textbooks or materials to be purchased by the student: USB, pencil & sketch paper

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:

CSU GE:

IGETC:

CSU TRANSFER:

Transferable CSU, effective 200670

UC TRANSFER:

Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education:

Program Status: 1 Program Applicable

Special Class Status: N

CAN:

CAN Sequence:

CSU Crosswalk Course Department: CGD

CSU Crosswalk Course Number: 4

Prior to College Level: Y

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: B

Maximum Hours:

Minimum Hours:

Course Control Number: CCC000255378

Sports/Physical Education Course: N

Taxonomy of Program: 095300