

College of San Mateo

Course Outline

- New Course
 Update/No change
 Course Revision (Minor)
 Course Revision (Major)

Date: 11 Nov. 09

Department: Drafting Technology Number: 111

Course Title: Solidworks II Units: 3

Total Semester Hours Lecture: 32 Lab: 64 Homework: 48 By Arrangement: 0

Length of Course

- Semester-long
 Short course (Number of weeks ___)
 Open entry/Open exit

Grading

- Letter
 Pass/No Pass
 Grade Option (letter or Pass/No Pass)

Faculty Load Credit (To be completed by Division Office; show calculations.):

4.8 FLC Calculations 2 lecture,+(4lab x.7)

1. **Prerequisite** (Attach Enrollment Limitation Validation Form.)
DRAF 110 or equivalent.
2. **Corequisite** (Attach Enrollment Limitation Validation Form.)
None
3. **Recommended Preparation** (Attach Enrollment Validation Form.)
None
4. **Catalog Description** (Include prerequisites/corequisites/recommended preparation. For format, please see model course outline.)

111 SolidWorks II (3) (Pass/No Pass or letter grade option)
Minimum of thirty-two lecture hours and sixty-four lab hours per term. SolidWorks software is used to generate 3-dimensional solid models, assemblies, and detailed drawings of mechanical objects used in industrial design and engineering. Drawing detailing, engineering standards, multiple part and assemblies configurations, design tables, bill of materials, datums, 3-D sketches and surface modeling and methods to create complex solid geometry will be covered. A materials fee in the amount shown in the Schedule of Classes is payable upon registration. (AA, CSU)
5. **Class Schedule Description** (Include prerequisites/corequisites/recommended preparation. For format, please see model course outline.)

DRAF 111 Solidworks II

SolidWorks software is used to generate 3-dimensional solid models, assemblies, and detailed drawings of mechanical objects used in industrial design and engineering. Drawing detailing, engineering standards, multiple part and assemblies configurations, design tables, bill of materials, datums, 3-D sketches and surface modeling and methods to create complex solid geometry will be covered. A \$___ materials fee is payable upon registration. Pass/No Pass or letter grade option. (AA, CSU)

6. **Student Learning Outcomes** (Identify 1-6 expected learner outcomes using active verbs.)

Upon successful completion of the course, the student will be able to:

- a. Use SolidWorks drawing and detailing options.
- b. Apply engineering standards and sheet standards to a project using SolidWorks.
- c. Build multiple part and assembly structures that will interact with drawings, design tables and bill of materials.
- d. Create drawing templates and sheet formats.
- e. Create appropriate drawing views to best show details in all model configurations.
- f. Create surface modeling basics such as datum curves, datum points, and 3D sketches.
- g. Utilize SolidWorks surface features to create complex solid geometry.

7. **Course Objectives** (Identify specific teaching objectives detailing course content and activities. *For some courses, the course objectives will be the same as the student learning outcomes. In this case, "Same as Student Learning Outcomes" is appropriate here.*)

Same as SLOs.

8. **Course Content** (Brief but complete topical outline of the course that includes major subject areas [1-2 pages]. Should reflect all course objectives listed above. In addition, a sample course syllabus with timeline may be attached.)
See attached outline.

9. **Representative Instructional Methods** (Describe instructor-initiated teaching strategies that will assist students in meeting course objectives. Describe out-of-class assignments, required reading and writing assignments, and methods for teaching critical thinking skills. **If hours by arrangement are required, please indicate the additional instructional activity which will be provided during these hours, where the activity will take place, and how the activity will be supervised.**)

- a. Reading assignments: Instructor will assign 10-20 pages of reading from course text and syllabus each week.
- b. Writing assignments: Student will be required to submit one research paper on a CAD related topic. The paper will include a clear general and specific purpose, introduction, body, and conclusion, use of effective organizational format, and smooth transitional devices.

c. Multimedia: Students will watch PowerPoint presentations and analyze them accordingly to theory and concepts presented in class.

d. Critical thinking:

i) Lecture/discussion to understand specific processes used in production drawings of the manufacturing and design of products.

ii) Students will locate types of evidence in design, architectural, engineering magazines, on line, etc. and evaluate them on criteria for reasonable evidence for their term report.

10. Representative Methods of Evaluation (Describe measurement of student progress toward course objectives. Courses with required writing component and/or problem-solving emphasis must reflect critical thinking component. If skills class, then applied skills.)

a. Sketches of Planned Drawings- to reflect students' ability to summarize a strategy in drawing assembly strategies.

b. Completion of Timed Assigned Drawings - to demonstrate students' ability to use evidence and reasoning skills to complete work.

c. Written Exams - to reflect students' knowledge of theories, concepts, recognize and use evidence and skills presented in class lectures, text and discussions.

d. Participation - to demonstrate students' involvement in class discussions, giving feedback on projects to fellow classmates, doing lab projects and homework assignments.

e. Final Project - to reflect students' knowledge of theories, concepts, ability to organize information, and apply reasoning skills presented in class discussions, lectures, and text.

11. Representative Text Materials (With few exceptions, texts need to be current. Include publication dates.)

Shih, R., Shilling, P., Parametric Modeling with SolidWorks 2009, Shroff Publications, 2009

The following publications available in the CSM library:

Industrial Design magazines

Engineering Design magazines

Architectural magazines

Furniture and product design texts

Prepared by:

(Signature)

Email address:

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Submission Date:

11 Nov 09