University of Southern California
Viterbi School of Engineering
Department of Aerospace and Mechanical Engineering

AME 308 – Computer Aided-design for Aero-Mechanical Design

Practical Information

Class number:	Lecture - Lab 28732, 28733, 28734
Number of Units:	3 units
Hour/Day:	2:00 p.m. – 4:50 p.m. M/T 3:30 p.m. – 6:20 p.m. W
Room:	SAL 127 (M/T) WPH B36 (W)

Instructor:	Dr. Yann D. Staelens RRB 211 (213) 740-7754 staelens@usc.edu

Office Hours:	Monday:	10:00 a.m. – 12:00 p.m.
	Tuesday:	10:00 a.m. – 12:00 p.m.

Textbook: Sham Tickoo; Solid Edge ST3 for Designers; CADCIM Technologies, Schererville, 2011 (Suggested)

Course Objective

This course will introduce you to some of the CAD tools widely used in industry today. The tools will include a solid modeling package Solid Edge, a finite element package and a kinematics package. We'll see how these tools enable you to perform in hours a variety of analysis tasks that would otherwise take weeks.

Course Outline

1) How to create properly constrained sketches using sketch tools, dimensions, and geometrical relationships.
2) How to create part features from sketches.
3) How to create technical drawings with the appropriate symbols.
4) How to create assemblies from parts and assembly relationships.
5) How to simulate the response of a structure to applied loads.
6) How to apply motion to assemblies and study the kinematics of an assembly.

Course Grading

Grades will be determined from a combination of homework scores, project scores, and exam scores. Typically, homework will be assigned each week. There will be two extended project assignments. All homework and project assignments will require both electronic and hardcopy submittals. Due dates/times will be posted with each assignment. We will make every effort to return graded assignments within one week. Homework will contribute 30% of the grade; projects 30%; and exams 40%.

Statement for Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to the instructor as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m. - 5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that an individual will submit his or her own work unless otherwise allowed by an instructor, and the dual obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. SCampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A (http://scampus.usc.edu/files/2013/05/appendix_a.pdf). Should there be any suspicion of academic dishonesty, an automatic grade of F will be given for the given assignment or exam and students will be referred to the Office of Student Judicial Affairs and Community Standards for further review. The Review process is described at: http://www.usc.edu/student-affairs/SJACS/pages/students/review_process.html

Course Schedule

Week	Date	Topic	Homework Due
1	25-Aug	Introduction, Solid Edge ST6 - Basics, Sketches (Ordered)	
	26-Aug		
	27-Aug		
2	1-Sep	**No Lecture – Lab (Labor Day)**	HW #1
	2-Sep	Solid Edge - Features (Ordered)	
	3-Sep		
3	8-Sep	Solid Edge - Drafts, Technical Drawing and Nomenclature	HW #2
	9-Sep		
	10-Sep		
4	15-Sep	Solid Edge - Features (Synchronous)	HW #3
	16-Sep		
	17-Sep		
5	22-Sep	Solid Edge - Assemblies and Fasteners	HW #4
	23-Sep		
	24-Sep		
6	29-Sep	Solid Edge - Assemblies (advanced)	HW #5
	30-Sep		
	1-Oct		
7	6-Oct	Solid Edge – Project I	-
	7-Oct		
	8-Oct		
8	13-Oct	Solid Edge – Project I	HW #6
	14-Oct		
	15-Oct		
9	20-Oct	**Solid Edge ST6 – Final**	-
	21-Oct		
	22-Oct		
10	27-Oct	Solid Edge - Finite Element Analysis I	SE Project
	28-Oct		
	29-Oct		
11	3-Nov	Solid Edge - Finite Element Analysis II	HW #7
	4-Nov		
	5-Nov		
12	10-Nov	Solid Edge - Kinematic Analysis I	HW #8
	11-Nov		
	12-Nov		
13	17-Nov	Solid Edge - Kinematic Analysis II	HW #9
	18-Nov		
	19-Nov		
14	24-Nov	Solid Edge - Project II	-
	25-Nov		
	26-Nov	**No Lecture – Lab (Thanksgiving Weekend) Make-up session TBD**	
15	1-Dec	Solid Edge - Project II	HW #10
	2-Dec		
	3-Dec		

Note: The above schedule is tentative and is subject to change if needed.

Last Updated 07/25/2014

Important Dates

Solid Edge Midterm: Week 9 – 20-21 Oct. 2014 from 2-4.50 p.m. in SAL 127
22 Oct. 2014 from 3.30-6.20 p.m. in WPH B36

Solid Edge Final: During Finals week
Monday section: Friday Dec. 12th 2014 from 2-5 p.m. in TBD.
Tuesday section: Thursday Dec. 11th 2014 from 2-5 p.m. in TBD.
Wednesday section: Monday Dec. 14th 2014 from 2-5 p.m. in TBD.

Solid Edge Project I due: Week 11 – 4-6 Nov. 2014 by 2 p.m. or 3.30 p.m.
Solid Edge Project II due: Monday Dec. 16th 2014 by 10 a.m.

Last day to drop class without mark of "W": Friday Sept. 12th 2014.
Last day to drop class with mark of "W": Friday Nov. 14th 2014.