

**SANTA ANA COLLEGE, Engineering 186 Syllabus - [AutoCAD 3-Dimensional Drawing](#) 3 units credit. Section 28085, 02/08/10 - 06/02/10**

Spring 2010, Class Schedule: **Class Schedule: 8 -10:10 p.m., Wednesday. Weekly, in person and online. 2 hours lecture, 4 hours lab, and time on your own to do lab work, reading, assignments, studying, drawings, quizzes. Total 9 hours per week of 16 week semester.** Passing grade on IN PERSON Final exam required to pass this class.

**Instructor:** Susan Sherod

**Office:** A107-12, phone: 714-564-6787 email: [sherod4sac@yahoo.com](mailto:sherod4sac@yahoo.com)

**Office hours:** See course Bb website Staff link. No office hours on holidays when campus is closed.

**Textbook:** AutoCAD 2010: A Problem Solving Approach, by Sham Tickoo, publisher, Delmar, Cengage Learning

*This syllabus may be adjusted over the duration of the course. Review the Course website a few times per week for updates.* Note: Assume proportional sizes for problems that do not provide dimensions.

**COMPLETE ASSIGNED [READING](#), [LECTURE AND LAB MATERIALS](#) BEFORE ATTEMPTING [PROBLEMS](#), [TEST DRAWINGS](#), OR [QUIZZES](#). [SUBMIT ASSIGNMENTS](#) IN ASSIGNMENT LINKS WHEN DUE. NAME FILES AS DIRECTED FOR TESTS, AND FOR HOMEWORK USE THIS FORMAT WITH **page number first: pXXX\_FigXXX\_186\_wkX\_last\_first.XXX**. Student name and Filename must BOTH appear in the digital versions of the drawing. ASSIGNMENTS ARE [GRADED](#) FOR **PROGRESS APPROXIMATELY EVERY FOUR WEEKS**. ALWAYS BACKUP ALL YOUR WORK TO A SEPARATE DRIVE. CORRECTIONS RETURNED TO YOU AND ADDITIONAL COMPLETED WORK MAY BE RESUBMITTED FOR RECHECK AT MIDTERM AND FINAL REVIEWS. QUIZZES WILL BE POSTED BY 12:00 A.M. MONDAY IN WEEKS GIVEN. SUBMIT THE CURRENT QUIZ **EACH WEEK** BEFORE 12:00 A.M OF THE FOLLOWING MONDAY. THERE ARE NO MAKE-UP QUIZZES. ALL STUDENTS MUST LOGIN TO BLACKBOARD FOR COURSE WEB MATERIALS FOR EACH WEEK. NOTE: Bb uses your WebAdvisor ID and password.**

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**Lectures 1, 2** - Feb. 10, 17 - note: Feb. 15 - **HOLIDAY (campus closed)**, **Unit I. Introduction to Course & to 3 Dimensional CAD & The User Coordinate System**

Lecture Topics: 1, 2 - Orientation to using Blackboard, File compression/digital dropbox, Intro. to AutoCAD - 3 Dimensional (3D) Drawing, WCS, UCSICON, Managing UCS, Review of Using Model Space Viewports in Paper Space Layouts, System Variables

**PRACTICE QUIZ, Drawing Test 1** See Bb Assignments for Reading and Problems every week!

**Lectures 3, 4** - Feb. 24, Mar. 3 - **Unit II. 3 Continuing with 3 - Dimensional Coordinate Systems and Getting Started with 3D**

Lecture Topics: 3, 4 - Types of 3D Models, Viewing and Displaying 3D Objects, Using Viewports, Understanding 3D User Coordinate Systems, Preset Orthographic UCS, Trim, Extend, Fillet, 3D Polylines

**QUIZ 1, Drawing Test 2**, See Bb Assignments for Reading and Problems every week!

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**Lectures 5, 6** - Mar. 10, 17 - **Unit III. Creating Solid Models - Solid Modeling Basics**

Lecture Topics: 5, 6 - Introduction to Solid Modeling, Commands for Solid Modeling, Predefined Solid Models, Extrude - including Path options, Revolve, Sweep, Loft, Intro. to Visual Styles

**Quiz 2, Drawing Test 3**, See Bb Assignments for Reading and Problems every week!

**Lectures 7, 8** - Mar 24, 31 - **EXAM 1 - MIDTERM - March 31** **Unit IV. Modifying 3D Objects**

Lecture Topics: 7, 8 - Fillet, Chamfer, 3DRotate, Rotate3D, 3DMove, 3DArray, Align, Slice, Basic Sections

**Quiz 3, Drawing Test 4** See Bb Assignments for Reading and Problems every week!

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**SPRING BREAK! NO CLASSES & CAMPUS CLOSED FROM APRIL 5 THROUGH APRIL 11**

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**Week 9, 10** - Apr. 14, 21

**Unit V. Creating Solid Models Continued - Solid Modeling Editing Methods**

Lecture Topics: 9, 10 - Face, Edge, Body and more Sectioning Techniques

**Quiz 4, Drawing Test 5** See Bb Assignments for Reading and Problems every week!

**Week 11, 12** - Apr. 28, May 5 - **Unit VI. More Surface Mesh Modeling Commands**

Lecture Topics: 11, 12 - Revsurf, Rulesurf, Edgesurf, Tabsurf, Conversion of Meshes to Solids, working with Gizmos

**Quiz 5, Drawing Test 6** See Bb Assignments for Reading and Problems every week!

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**Week 13, 14** - May 12, 19 - **Unit VII. Materials, Lights, Introduction to Rendering**

Lecture Topics: 13, 14 - Rendering basic concepts, Create and apply materials, Creating and Placement of various types of Lights, Render to Viewport or Render Window or Files

**Quiz 6, Drawing Test 7** See Bb Assignments for Reading and Problems every week!

**Week 15, 16** - May 26, June 2 - **Final - Exam 2, during classtime: June 2**

**Unit VIII. Review all Lectures/Chapters & Complete Drawings, Submit all Work**

Lecture Topic 15: Introduction to Animation

Lecture Topic 16: Continue to review all course material and complete assignments.

**Quiz 7 due by May 30.** See Bb Assignments for Reading and Problems every week!

**Exam 2 IN PERSON Final Exam and Drawing Test 8 June 2.** Comprehensive final must be taken at the regular scheduled class time. No exceptions. Any outstanding work for the class must be turned in to the proper Assignment links not later than June 4.

**It is the student's responsibility to send drawings via the correct Assignment Links for all work for the class. There are extra links to send in resubmitted or additional work at middle of term and end of term, plus two supplemental Assignment links, as additional locations where you can upload late work.**

**If you plan to become knowledgeable about Engineering you must commit yourself to read, study, and practice in a highly productive manner. You must be involved in the learning process 100%. Important aspects of your involvement include (1) Attendance & Participation, (2) Utilization of textbook and internet resources.**

**Best wishes to each of you for a successful semester in Engineering 186!**

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## **ENGINEERING 186, COURSE INFORMATION**

### **CLASS DESCRIPTION:**

Use of AutoCAD's 3 dimensional software. Includes: 3-D models, extruding to 3-D, coordinate space, filter, and dynamic viewing. Recommended preparation: Engineering 184.

### **TEXT:**

THE TEXT MUST BE USED FOR EVERY CLASS whether in person or a "VIRTUAL" SESSION. It is the main focus of instruction and practice.

### **METHOD OF PRESENTATION:**

Lecture, Demonstration, Internet Methods, Email, Individual Instruction.

### **ASSESSMENTS:**

Scheduled per the week noted in the class syllabus. Will be available beginning Monday at 12 a.m. of the week and will time off the following Monday at 12 a.m. **QUIZZES CANNOT BE MADE-UP IF MISSED!** Quizzes will be taken online using the Blackboard software. In order to take the quiz, you will need to login to Blackboard using your id and password. The online quiz will be open book and will be available on a timer, typically for 5 minutes **from the time you begin**. Be sure to do required reading and try lab work **before** you attempt a quiz so that you will be prepared. You may take a posted quiz at any computer with internet access and a java enabled current version of web browser during the week it is posted. However, be sure to use the practice quiz to be sure you can take quizzes from your remote computer if you do not use a computer at the SAC campus to take your quizzes. Tests will become available via an Assignment link on Monday at 12 a.m. in weeks they are given, and will time off the following Monday. **TESTS CANNOT BE MADE-UP IF MISSED!** Be sure to submit Drawing Test problems to their appropriate Assignment link.

### **ASSIGNMENT REVIEW AND EVALUATION:**

During the course there will be weekly evaluation of your progress as well as the midterm and final review/evaluation. The Final Exam during the last week of class, will be in person. Failure to pass the Final Exam will result in failure for this class, so it is very important to be ready for it. As part of the Final Exam you may be asked to display assignments and demonstrate commands and features as

requested by the instructor, and to answer specific questions. Unless prior arrangements have been made, no work will be accepted late. **If accepted, late work may be assessed a 20% grade reduction penalty.** Students may create assignments at any computer that has AutoCAD and can save to a file format compatible with AutoCAD 2010.

### **GRADING FACTORS/GRADING SCALE:**

Quizzes =20%, Weekly Lab Work Progress/Participation = 30%, Midterm Exam = 15%, Final Exam = 15%, Final Review = 20%

A = 100-90 points = 100-90%

B = 89-80 points = 89-80%

C = 79-70 points = 79-70%

D = 69-60 points = 69-60%

F = 59-<59 points = 59%-<59%

Be sure to check Blackboard to review your Attendance, Quizzes, and Progress checks every week. Extra credit opportunities may be offered during the semester. Regular assignments must be done before extra credit points will be given.

### **CHEATING/COPYING.**

While cooperative effort, consultation, and discussion are effective (and strongly encouraged) ways in which to learn, you are expected to complete your own work. Submitting copied or duplicated work of another student is considered cheating. Cheating may result in an "F" grade in the class and possible suspension from the college. Allowing another student to copy your work may result in the same penalty for you. Do not let anyone copy your work!

### **ATTENDANCE POLICY:**

You are responsible for your own attendance. You are expected to regularly attend all lecture and lab sessions. Weekly submission of quizzes or exams and assignments show your participation. Students who do not participate can be dropped for excessive absence. In a compressed course IT IS MOST IMPORTANT THE STUDENT PLACE A HIGH PRIORITY ON PARTICIPATION IN CLASS! If you have discontinued participation in the course it is your responsibility to drop the course. Failure to do this may result in an "F" grade for the course. Students are responsible for complying with the "add/drop" procedures and for processing add/drop forms with the Admissions office before the deadlines. Be sure to check at the first class meeting regarding the session drop deadline.

### **LAB HOURS/ARRANGED HOURS:**

This course includes lab hours. The class workload for courses at SAC is generally intended to require 48 hours of work for each unit of credit, so 3 units equals a total of **144 hours of work**. These hours are scheduled in virtual or in person class lecture and lab assignments. You must plan to do homework such as textbook reading, and study/review as well. Plan your time accordingly. The CAD lab will be open each week. The [Lab Schedule](#) is posted on the [Engineering Department](#) website and also available in the CAD Lab, at A-225 on campus. Students are responsible for reading and complying with all aspects of the "Standards of Conduct For computer Classrooms and Computer Labs". The Computer Conduct Information is the first link on the Course Information page of this class and must be read and agreed to by all students who use SAC computers. The quiz posted for Computer Conduct allows you to select true to demonstrate your agreement with SAC rules. *You cannot use SAC computers if you don't read the form and select true when you take the quiz.*

## **MINIMUM STUDENT MATERIALS:**

Textbook(s). **Floppy diskettes are not to be used** for 3D work. You may store and send drawings via the course website digital dropbox (files must be zipped and sent as one compressed file per week). Zip disk, USB Flash Drive, or another large format storage method is highly recommended. Always back up work to prevent data loss. The drop box and another storage method are recommended. 3-ring binder, notepaper and pencils/pens are useful as for any class. **The SAC CAD Lab computers in room A225 have all needed software and are available per the posted schedule.**

## **GETTING OFF TO A GOOD START**

It is so important to get off to a good start. Santa Ana College is eager to accommodate students with disabilities. It is the responsibility of the student to inform the instructor of any special needs in a timely manner. Recommendations for the serious student follow:

1. Get the text before the first class meeting. The initial lecture will refer to information and assignments in the text.
2. Plan to attend class regularly. Quizzes, lectures, and demonstration will build upon one another, so it is important to do work sequentially..
3. Find a "Learning Partner" for mutual help. The instructor cannot be expected to bring you up-to-date with every detail if you miss announcements, emailed directions or corrections, fall behind with lectures, lab demonstrations, or assignments. If you and your study partner cannot mutually resolve questions, and need additional information, check the course FAQ first, and if still uncertain, email the instructor the details of your questions.
4. Be sure to review your email and the announcements in Blackboard regularly. For 6 or 8 week sessions, review daily.

Last Updated on January 24, 2010

By Susan Sherod