

# INTRODUCTION TO ENGINEERING/ AEC ENGINEERING

ENGR 100A /100B  
Santa Ana Community College  
Department of Engineering  
Fall Semester 2010

Lectures: Monday, 4 – 6 pm Room A-214  
Units: 2

Instructor: Craig Takahashi, Ph.D. takahashi\_craig@sac.edu  
Office/office hours: see my website Room A-107-12  
Phone: 714-564-6306  
Website: <http://sacbusiness.org/engineering/TakahashiC>

## **Description:**

100A: Introduction to major fields of engineering (including mechanical, electrical, industrial, biomedical, aerospace, & others). Includes an overview of academic programs, career information and preparation requirements, virtual or in person field trips, and guest speakers.

100B: Introduction to the Architectural, Civil Engineering, Construction (AEC) fields. Includes an overview of academic programs, career information and preparation requirements, virtual or in person field trips, and guest speakers.

## **Textbook & Materials**

1. Studying Engineering: A Road Map to a Rewarding Career, Raymond B. Landis, Discovery Press, 3<sup>rd</sup> Edition, 2007 (~\$25 at SAC) (OPTIONAL)
2. Scientific calculator
3. Materials for design project – I will post the list of project materials later in the semester, but the total cost can be as little as ~ \$12 per project team (with 2 students per team, this comes to about \$6/student). You are free to spend more if you like but this is not required.

## Grading

Grading is determined on a percentage system, not on a curve. A note on grading: I remind students that I do not GIVE out grades, you EARN them!

Grading Scale	Weighting of grades
A = 90 – 100%	Homework (hw) 25%
B = 80-89%	Exams (2) 30%
C = 70-79%	Final project 20%
D = 60-69%	Final talk + final report 20%
F < 60%	Participation 5%

## Tentative Fall Schedule

Wk	Date	Topic	Wk	Date	Topic
1	8/23	Introduction Lecture – syllabus, studying Lab – none Hw 1 – syllabus, website	9	10/ 18	Physics & math intro, project Lec – projects, physics, math Lab – start projects Hw 9 – tbd
2	8/30	Engineering Profession Lecture – firms, salaries, jobs Lab – none Hw 2 – tbd	10	10/ 25	Energy & Project Lec – energy, KE, PE Lab – projects Hw 10 – tbd
<b>3</b>	<b>9/6</b>	<b>Labor Day Holiday</b> Hw 3 – tbd	<b>11</b>	<b>11/1</b>	<b>Exam 2</b> Reports & Talks Lec – technical reports/talks Lab – projects Hw 11 – tbd, compute grade
4	9/13	Engineering Education Degrees, courses, succeeding Hw 4 – engineering schools	12	11/8	Physics – bridges & trebuchet eqn Lec – equations for report Lab - projects Hw 12 – tbd
5	9/20	ME, EE, IE Engineering Lec – stuff worked on, courses Lab - FILM Hw 5 – tbd, short	13	11/ 15	Lec - tbd Lab – projects Hw 13 – tbd
<b>6</b>	<b>9/27</b>	<b>Exam 1</b> Personal Growth & Development Lecture – life goals, learning Lab – SAC Career center Hw 6 – personality tests	14	11/ 22	Lec – tbd Lab – projects Hw 14 – tbd
7	10/4	AEC (civil, archit., construction) Lec – stuff worked on, courses Lab - FILM Hw 7 – tbd	15	11/ 29	Pursuing an engineering career Lecture – life goals, degrees Lab – test projects Hw – none, work on talks
8	10/ 11	Other fields Lec – biomedical, aerospace Lab – FILM Hw 8 – tbd	<b>16</b>	<b>12/ 6</b>	<b>Final presentations</b>

## **Communication and Blackboard**

I will use the internet regularly to communicate with students. I typically assign homework by posting it my own website (URL: [www.sacbusiness.org/engineering/takahashic](http://www.sacbusiness.org/engineering/takahashic)). I will use Blackboard (Bb) to post grades ([rscdd.blackboard.com](http://rscdd.blackboard.com)). It is YOUR responsibility to check these sites regularly to get updates, assignments, etc.

Blackboard (Bb) is a web-based program used to manage courses. Bb requires official enrollment in the course (you must “log on”). If you are unfamiliar with Bb, see me right away. The Bb login username & password are the same as the “WebAdvisor” system. The WebAdvisor ([sis.rscdd.edu](http://sis.rscdd.edu)) username & password was e-mailed to new and returning students. If you have not received an email with this information contact the Admissions Office. Upon first logging into WebAdvisor, you will be prompted to change the temporary password. Your login remains the same each semester, but you may change your password in WebAdvisor at any time. If you change your WebAdvisor password, be sure to use this new password to access your Blackboard account. If you have trouble with Bb, contact the Distance Education office (714-564-6725, Room A-101).

Email – I communicate regularly with the class through email. You must have your email entered on the WebAdvisor system. If not, then you will not receive class-wide emails. YOU are then responsible for communicating with classmates about any possible notifications or handouts that I sent by email. When emailing me, always note the class you are in.

## **Assignments & Exams:**

- *Homework (hw)* – may take various forms (project, write up based on class activities like a film, guest speaker, etc.). Hw is typically assigned weekly and is due 1 week later in the first 15 minutes of lecture. Hw submitted after the first 15 minutes will receive half credit. Hw submitted after the class period is LATE & will receive a score of 0. Sometimes hw will be due the same day it is assigned (usually when doing a class activity, see hw & absences below). Homework must be labeled in the upper right of the front sheet (student name, hw #, course #, – e.g., John Doe, hw#1, E 122), stapled in the upper-left with pages oriented consistently (in drafting classes, the orientation shall be “landscape” & the staple should be in the upper left with the sheet in this orientation), & with problems in the order assigned or points will be deducted. I understand that issues in your life will occur from time to time, so the lowest hw score will be deducted to account for this. If you miss lecture, hw is still due on time (see below). Emailed hw is not accepted.
- *Hw & absences* – If you miss lecture, hw is still due on time. If you want credit, you must arrange for your hw to be somehow turned in on time in class (I do not accept emailed hw). Note to any of my former students – this is a NEW POLICY. If you are absent the day of an activity-based hw that is due the same day, you will not get credit for that hw and there are no make-ups.
- *Exams* – 1 or 2 (see tentative schedule) midterm exams will be given during the semester. Make-up exams are highly discouraged and will only be granted at the discretion of the instructor. A student will be allowed a maximum of 1 make-up exam. Make-up exams start with 15% deduction regardless of the cause. If you miss an exam, notify me within 1 day of the exam to request a make-up (e.g., if exam is Monday, you must contact me by Tuesday), or a make-up may not be granted. A make-up exam will not be granted for any final exam (if applicable).
- *Final project* – (see tentative schedule). Projects must be worked on independently unless otherwise noted. No late projects will be accepted.

- *Participation* – as part of their grade, students are encouraged to ask questions and engage in a pertinent healthy dialogue with the instructor and other students.

### **Course policy and conduct**

- *Formal reviews* – If you feel an assignment (hw, project, or exam) was graded in error and wish for the work to be re-graded, you must request a “formal review” within 7 days of the work being returned to you (after the 7 day period, the work will not be re-graded). Submit a *typed* cover sheet with your full name, student number, date, and description of the assignment that you want reviewed. Explain *in detail* (using sketches or drawings if necessary) why the grading was incorrect & why your score should be higher. Staple the questionable assignment to the cover sheet. During a review, the *entire* assignment will be evaluated, not just the issue with which you were concerned. Thus, the review may possibly result in a lower overall score. An incorrectly-entered grade in Blackboard does NOT require a review. Just inform me within 7 days of the grade posting and show me the graded work.
- *Honesty/Integrity Policy* – although you are encouraged to communicate with classmates about course concepts, you may only turn in your own work. Any assignment that has been deemed plagiarized or copied will be considered cheating and will receive a score of 0 (for both the copier and the one who allowed the copying). Any student who violates this rule a second time will be given an F for the course. Projects must be worked on independently unless otherwise specified. A student found cheating on any exam will receive a 0 for that exam. A second instance of cheating will result in an F grade for the course.
- *Attendance/absences* – Students MAY be dropped if they do not appear for the first class meeting or if they reach 3 total absences for the semester (including those prior to adding the class). Attendance is tracked by your initialing of a sign-in sheet each week. YOU are responsible for initialing the sheet, you are considered absent if you fail to initial the sign-in sheet. If you forget, it is still an absence! If you are absent from class, it is your responsibility to get class notes, handouts, and/or directions from a classmate. If you miss lecture, hw is still due (see “hw” section above).
- STUDENTS are responsible for officially withdrawing from classes they do not plan to complete. The deadline for withdrawing from class is the end of the 12<sup>th</sup> week of the semester. After this time, a student CANNOT withdraw & WILL receive a letter grade for the course. Under extenuating circumstances (such as verified cases of accident, illness, or death in the family & other conditions beyond the control of the student), a student may be reinstated by contacting the instructor. Students are responsible for checking the semester schedule for important dates such as holidays and drop dates.
- *Student with Disabilities* – students with verifiable disabilities who want to request academic accommodations must notify Disabled Student Programs & Services (DSPS; x6260, 6384 TDD for deaf students, U103) and myself as soon as possible.
- *Pagers or Cell Phones* – please be considerate to your classmates & turn off (or set to vibrate) all pagers and cell phones while in the classroom. If you are on-call for emergencies (medical, childbirth, etc.), please let me know at the beginning of the class. Students may be asked to leave the class session for cell phone/pager violations.
- *Food* – students may not consume food or drink in the classrooms. Water is okay.
- *Lab conduct* – (applicable to classes with a lab or hands-on activities) is related to the level of care you give to yourself, your fellow students, the lab equipment, the classroom, & to lab organization and clean-up (putting stuff away properly and neatly).