San Francisco State University  
School of Engineering  
Engr 120 Introduction to Computer Engineering  
Course Outline

**Bulletin Description:** Introduction to the profession, areas of study, university rules and regulations, curriculum requirements, time management and study skills, critical thinking, problem solving skills, ethics, introduction to computers and basic computer skills including graphics, spreadsheet, database, Internet, and web page design. Classwork, 2 units; activity, 1 unit.

**Course Objective:** The course is designed to introduce to the first-year computer engineering students about the profession of computer engineering, what it takes to become a computer engineer and what skills are necessary to have a successful career in computer engineering.

**Specific Learning Outcomes:** Students completing the course will
1. learn various job functions of a computer engineer as well as professionalism and ethics.
2. learn university policies, program requirements, and general education requirements.
3. develop a basic understanding of computer systems, including both hardware and software and their interactions with each other.
4. learn “soft” skills needed to succeed academically and professionally, including study skills, time management skills, stress management skills, communication skills, problem solving skills, and team work skills.
5. develop basic computer skills including word processing, spreadsheet, presentation, online research, and other applications programs
6. develop basic laboratory skills including basic electronic instrumentation and breadboarding.

**Grading Policy:** Grades will be based on total points earned through the following activities:
1. Final exam 15%
2. Activity reports/homework 45%
3. Term project, including written and oral reports 25%
4. Class participation 15%
Total 100%

Grade assignment:
- Above 90% A
- 80% to 89.9% B
- 70% to 79.9% C
- Below 70% NC

**Notes on grading:**
- In order to earn a passing grade, you must complete and return the end-of-semester survey on or before the specified date.
- The final exam will be a closed-book exams. Generally, there will be no make-up exam and no incomplete grades given. If you miss the exam, you must notify the instructor before the exam or, if physically impossible, soon after. If you have an acceptable, documented excuse, you may be given a make-up exam. If you do not have an acceptable reason for missing the exam, you will receive zero points for the exam.
- All reports are due on specified dates. No late reports will be accepted.
- Class attendance is mandatory. For each unexcused absence, one point is deducted from the class participation category. That is, if you miss 15 classes, you will get zero points for class participation.
- If any of the scheduled class dates are in conflict with your religious observances, you must notify your instructor, in writing, during the first two weeks of the semester.

**Policies on Plagiarism**
Plagiarism is defined as using someone else’s ideas or words as one’s own without giving proper credit to the source. The source include public (books, journals, magazines, newspapers, internet, etc.) as well as private (unpublished reports, internal documents, etc.) materials. The instructor will use plagiarism detection tools to catch such
infractions. The instructor will not accept excuses such as “I forgot to give credit to …,” “It’s an oversight,” or “It’s a clerical error.” Students are solely responsible for materials submitted for the course so “My roommate must have added that part without my knowledge” is not an acceptable excuse either. That is, no excuses will be accepted if plagiarism is discovered. If a submitted work is found to contain plagiarized material, the work will receive zero credit and the student may be reported to the Student Judiciary Affairs for disciplinary actions. Disciplinary actions may include disqualification from the university.

**Disability Policy Statement**

Students with disabilities who need reasonable accommodations are encouraged to contact the instructor. The Disability Programs and Resource Center (DPRC) is available to facilitate the reasonable accommodations process. The DPRC is located in the Student Service Building and can be reached by telephone (voice/TTY 415-338-2472) or by email (dprc@sfsu.edu).” ([http://www.sfsu.edu/~dprc/facultyfaq.html](http://www.sfsu.edu/~dprc/facultyfaq.html))

**Course Assessment:**

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<tr>
<th>Assessment \ Outcome</th>
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<tbody>
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Direct measure: passing rate (grades of A, B, or C) in final exam, activity reports, project, and class participation. Indirect measure: passing rate (strongly agree or agree) in end of semester survey

Benchmarks for both direct and indirect measures:
- Over 90% passing: commendable
- 70%-89.9% passing: achieved
- Less than 70% passing: failed

**Instructor:**

Sung Hu, Ph.D.

Office hours: MW 3:30–4:30 pm or by appointment

Office: SCI 122

URL: [http://ilearn.sfsu.edu](http://ilearn.sfsu.edu)

**Course Delivery**

The course is lecture-activity combination consisted of two 50-minute lecture/discuss sessions per week and a two-hour activity session per week. The activity sessions will emphasize student hands-on experience.

**Class Schedule for Fall 2008**

Aug. 27: Course organization and requirements

Aug. 29: Activities: Getting to know each other

Sept 1: Labor Day – no class

Sept. 3: Introduction to the engineering profession

Sept. 5: Activities: Internet search – computer engineering profession, MySFSU, check enrollment, find answers to questions

Sept. 8: Program requirements, GE requirements, Graduation requirements

Sept. 10: University policies, deadlines, procedures, etc.

Sept. 12: Activities: Devise a 4/5/6-year graduation plan: word-processing using columns, tables, and/or flow diagrams; inserting boarders, diagrams, photos, etc.

Sept. 15: Introduction to computer systems

Sept. 17: Introduction to embedded systems

Sept. 19: Activities: discuss term projects
Sept. 22: Basic electricity
Sept. 24: Basic electricity
Sept. 26: Activities: Introduction to Matlab
Sept. 29: Basic electricity
Oct. 1: Basic electricity
Oct. 3: Activities: basic electricity lab
Oct. 6: Basic electronics
Oct. 8: Basic electronics
Oct. 10: Activities: basic electronics lab
Oct. 13: Basic digital logic
Oct. 15: Basic digital logic
Oct. 17: Activities: digital logic lab
Oct. 20: Engineering analysis and design methodologies
Oct. 22: Engineering problem solving
Oct. 24: Activities: work on projects
Oct. 27: Digital information representation
Oct. 29: Digital information representation
Oct. 31: Activities: work on projects
Nov. 3: Introduction to programming
Nov. 5: Introduction to programming
Nov. 7: Activities: work on projects
Nov. 10: College survival skills – time management, stress management skills
Nov. 12: College survival skills - study skills, test-taking and note-taking skills
Nov. 14: Activities: Do an online workshop; spreadsheet for a weekly schedule
Nov. 17: Communication skills – reading, listening, writing skills
Nov. 19: Communication skills – presentation skills
Nov. 21: Activities: Watch a video and write an in-class report
Dec. 1: Resume writing
Dec. 3: Job interview
Dec. 5: Activities: project presentation
Dec. 8: Engineering ethics and professionalism
Dec. 10: Engineering ethics and professionalism
Dec. 12: Activities: project presentation
Dec. 15: End-of-semester survey
Dec. 19: Final exam

Important Deadlines
Last day to drop or add (with permit): September 23, 2008.
Last day to withdraw (subject to approval): November 21, 2008.

Suggested Readings: