E10 Course Syllabus

E10 Introduction to Engineering

**Schedule**
Lecture: MW 8:00 AM – 8:50 AM Room: E189  
Lecture: MW 1:30 PM – 2:20 PM Room: Morris Dailey Auditorium

Labs in E 391/393 See [http://engineering.sjsu.edu/e10/](http://engineering.sjsu.edu/e10/) for lab schedule

**Instructors**
Lecture: Ken Youssefi and Jack Warecki  

**Office Hours**
Office hours for all faculty and student assistants are found at [http://engineering.sjsu.edu/e10/](http://engineering.sjsu.edu/e10/) and in Canvas

**Course Description**
E10 is designed to allow students to explore engineering through hands-on design projects, case studies, and problem-solving using computers. Students will learn about the various aspects of the engineering profession and acquire both technical skills and non-technical skills, in areas such as communication, teamwork, and engineering ethics. The course also supports students entering the complex social system of the university in their efforts to succeed in engineering through personal and professional development, including understanding themselves as integrated physiological, social, and psychological entities who are able to formulate strategies and employ available university resources to support their academic and personal development. Finally, students in this course will understand the connections between engineering and the human users of the engineering designs from a lifespan perspective by examining the psychological (cognitive, emotional), socio-cultural, and physiological developmental needs of those users.

**Prerequisites:** Eligibility for Engl 1A; eligibility for Math 19.

**General Education (GE) Learning Outcomes (GLO):**
Upon successful completion of this course, students will be able to:
1. recognize the physiological, social/cultural, and psychological influences on their well-being;
2. recognize the interrelation of the physiological, social/cultural, and psychological factors on their development across the lifespan;
3. use appropriate social skills to enhance learning and develop positive interpersonal relationships with diverse groups and individuals; and
4. recognize themselves as individuals undergoing a particular stage of human development, how their well-being is affected by the university’s academic and social systems, and how they can facilitate their development within the university environment.

**Course Content Learning Outcomes (CLO):**
At the end of this course students will be able to:
1. Summarize the steps of the engineering design process
2. Apply basic physics concepts to the design and analysis of built systems
3. Apply teamwork skills and resolve team conflict
4. Write a simple engineering report and present the report orally
5. Use tools such as spreadsheets, C++ programming, and CAD software to support engineering design and analysis
6. Use ethical reasoning to address to evaluate ethical dilemmas
7. Explain principles of sustainability and how they affect engineering design
8. Recognize the value of participation in professional activities

**Textbooks:** No textbooks are required for this course. All lecture notes, assignments, and special instructions are contained in the E10 course web site ([http://engineering.sjsu.edu/e10/](http://engineering.sjsu.edu/e10/)) and in the course management system Canvas.

**Canvas** contains online quizzes and student scores for the various activities and assignments as well as links to the Library for readings related to human development issues: http://www.sjsu.edu/at/ec/canvas/index.html

**Other Requirements:**
1. Students are encouraged to purchase an electronic iClicker to respond to in-class assessment (Note this clicker also may be used in Chem 1A, Phys 50 & Phys 51). Students may get an ENGR 10 loaner clicker for a refundable deposit of **$30.00**. The distribution/collection of the clickers will be done by the Lab Instructor by the second week of lab meetings.
2. Each student must attend **2 Silicon Valley Leaders Symposiums**. See [http://engineering.sjsu.edu/e10/silicon-valley-leader-symposium/](http://engineering.sjsu.edu/e10/silicon-valley-leader-symposium/) for more on the schedule and how to submit attendance for credit.
3. Familiarize yourself with the Canvas and E10 course websites by the 2\textsuperscript{nd} week of class.
4. As a core GE class, the **minimum individual writing requirement is 1500** words and writing will be assessed for grammar, clarity, conciseness and coherence, as well as adherence to assignment requirements and the correctness/accuracy of the content itself.

**Laboratory:**
**All students must register for and attend a weekly lab**
- All lab activities/projects will be “team based.” Each team will consist of four to six members and will be engaged in at least four different projects, each revealing issues pertinent to the various engineering disciplines.
- Each student will be expected to complete a brief lab “Activity Report” and a “Personal Reflection” at the end of each lab period, which will be graded.
- Projects, technical reports and presentations and any other assignment will be done in a team format unless instructed otherwise by the lab instructor, and are due in the lab at the specified due time. Writing will be assessed for grammar, clarity, conciseness and coherence, as well as adherence to assignment requirements and the correctness/accuracy of the content itself. Assignments will use APA format for references, in-text citations, and formatting where appropriate or required.

**Lecture (two 50 minute lectures per week):**
- In addition to topics pertinent to the labs, lectures will cover various aspects of the engineering profession, engineering tools and non-technical skills, such as communication skills, team skills, global and environmental issues, and engineering ethics.
- Each student must bring his/her assigned clicker to each and every “Lecture” meeting.
- Lecture homework will be collected at the lecture hall, not in lab.
- **Late Homework:** Homework is considered late 5 minutes after class starts. Late homework will be accepted for a maximum of ½ credit within the first hour after it is due. After the first hour it will not be accepted without the instructor’s approval.
- The Final Examination at the end of the semester will be at the date and time specified by the University’s Schedule. There will be no “Make Up Finals” unless there is a “verifiable emergency” or the student has three or more exams in a 24 hour period, in which case the student may request an alternative exam date from any one of the instructors at least three weeks prior to the last class meeting.

**Participation:**

**a. Lecture:** Clickers will be used to answer questions during each and every lecture session. Answers to lecture questions will be electronically collected and recorded for appropriate credit.

**b. Laboratory:** Laboratory participation credit will be based on the Lab Activity Report. Any student who fails to attend a lab meeting due to a verifiable emergency or other justifiable reason may attend any other E10 lab during that current lab week and complete the appropriate Lab Activity Report, with the instructor’s approval.

**Teamwork**

You will be required to work in teams for a number of assignments. Your contribution towards all assigned team projects must be proportionally equivalent to the rest of the team. Your Lab Instructor will form all the teams during the start of the semester.

**Campus policy in compliance with the Americas with Disability Act:**

“If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with your instructor as soon as possible, or see your instructor during office hours. Presidential Directive 97-03 requires that students with disabilities register with DRC to establish a record of their disability.”

**Academic Honesty**

Academic honesty is expected without question in this course. Students who are found to have submitted work that was obtained or produced dishonestly will suffer the following two consequences: (a) a grade of zero will be given for the assignment in question; and (b) a report of the incident will be filed with Office of Student Conduct and Ethical Development. This report may stay on your permanent collegiate record and may also be subject to further disciplinary action being taken by the university. Examples of such work include, but are not limited to: papers/homework you wrote for someone else or that someone else wrote for you, plagiarism, and tests/quizzes that you took for someone else or that someone else took for you. You can view the SJSU academic integrity policy at www.sa.sjsu.edu/judicial_affairs/index.html

**Important note:** Bringing an absent student’s clicker to class and responding for him or her is “acting as a surrogate for another student.” This is strictly forbidden by university policy S07-2 and will be reported to the Office of Student Conduct and Ethical Development for disciplinary action.

**Credit Hour Policy**

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of forty-five hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course related activities including but not limited to labs. For ENGR 10 this means 9 hours per week: lecture (1.7 hours), lab (2.75 hours), homework/reading/studying/SVLS/quizzes (4.5 hours).
**Grading**

**Lecture:** 50%
- Lecture comprehension (Clicker points & In-class activities) 10%
- Online Quizzes (in lecture and lab) 5%
- Homework 14%
- 2 SVLS 1%
- Draft and final essay, and preparation assignments on developmental issues & challenges commonly faced by first year college students 10%
- Final Exam 10%

**Laboratory Project and Activities*:** 50%
- Lab Activity Reports and Personal Reflections 11.2%
- Excel report/results 5%
- Solar Lab report/results 2.5%
- Intro CAD lab 1.3%
- Turbine project 15%
- Robotics project (including 500 word robotic essay) 15%

**TOTAL: 100% = 1,000** (excluding the extra credit points)

**Extra Credit Points (Maximum of 50 course points):**

Students can earn extra credit points in the following ways:

1) Joining and participating in a student chapter of an engineering professional society during the first five (5) weeks of the semester: = (20 points) 2%. **Note:** you must furnish proof of membership and participation in order to earn these points. See Extra Credit assignment in Canvas.

2) Attending more than 2 “Silicon Valley Leaders Symposium” events (~ 5 pts/Symposium). **Note:** to obtain points for attendance at this seminar series, you MUST register online within 3 days of attending each seminar, according to the instructions given at the entrance of Room E189. Points will not be given retroactively if you neglect to register. If you have a scheduling conflict visit [http://engineering.sjsu.edu/e10/silicon-valley-leader-symposium/] for alternatives.

3) Attending specified campus events (~ 5 pts/event). **These are specified in Canvas** with specific instructions for each.

**Letter Grade Distribution:**
88% < A-, A, A+ < 100%
75% < B-, B, B+ < 87%
68% < C-, C, C+ < 74%
58% < D-, D, D+ < 67%
57% < F