Engineering 10: Introduction to Engineering
Section 10.61, Winter 2017

I. General Information:

Instructor: Taylor Kidd
Class Days/Time: Monday through Thursday: 9:30 AM - 11:20 AM
Lecture: Monday through Wednesday: 9:30 AM - 10:20 AM
Lab: Monday through Wednesday: 10:30 AM to 11:20 AM
Lab: Thursday: 9:30 AM - 11:20 AM
Location: Lab and Lecture in S-48
Office Hours: Monday through Thursday: 9:00 AM to 9:30 AM
Monday and Wednesday: 6:00 PM to 6:30 PM
Email: kiddtaylor@fhda.edu

The information in this syllabus is subject to change with notice.

II. Course Description
Description: An introduction to engineering design through a variety of team projects, including experimentation, data analysis, and development of computer skills. Exposure to several engineering disciplines through project design and problem solving for the purpose of providing information to assist students in a choice of major.

III. Course Objectives
1. Introduce the fundamentals of engineering
2. Introduce the academic framework for engineering
3. Introduce the various disciplines of engineering and how they work together
4. Introduce the engineering process, ranging from the definition of user requirements to testing, including project management and cost estimates
5. Introduce how to do technical presentations and basic technical writing

Participation on the group project is mandatory and a requirement to pass this course.

IV. Student Learning Outcome
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 to support engineering design and analysis;
6. Appreciate and align with the various engineering disciplines.
7.

V. Assignments
A. Required reading
B. Class discussion

C. Homework
D. Quizzes & Exams
E. Presentation
F. Writing
G. Labs
H. Team projects

VI. Lab Topics

1. Microsoft excel based calculations and plotting
2. Presentation of Engineering Disciplines
3. Reverse Engineering #1: Observations, types of engineering, User requirements, engineering requirements.
4. Reverse Engineering #2: ???
5. Software Engineering Process
6. Internet of Things: From the earth to the clouds
7. Error, statistics and precision

VII. Text

(Recommended but not required).
Engineering Your Future: A Comprehensive Introduction to Engineering by William C. Oakes, PhD, 2009- 2010 Edition.

VIII. Attendance

Attendance is mandatory. More than two unexcused absences is cause for being dropped from the class. Class activities can't be made up if the class is missed.

IX. Communication

Please discuss homework problems and course material during office hours.

X. Coursework Expectation

Final Demo, PowerPoint Presentation & Peer Evaluation:
A final demo and PowerPoint presentation per team is due for your project. All team members must be present and participate in the final demo, presentation and peer evaluation of other team projects; else, you will receive a zero.

XI. Grading:

Coursework will be weighted as follows:

What	Percent
Homework	10
Quizzes	5
Labs	40
Attendance	5
Tests (final)	10

Tests (#2)	10
Tests (#1)	10

Note: The above weighting is subject to change, with fair notice given in class.
The final course grades will be graded on a curve: