

Introduction to Engineering

Engr 10

De Anza College Fall 2015

Manizheh Zand

Office S48

Office hours:

Thurs 8:30 am to 9:30 am

Tue 6:00 pm to 6:30 pm

Thurs 10:00 pm to 10:30 pm

Email: ZandManizheh@fhda.edu

Course objectives

Introduction to Engineering is designed to allow students to explore engineering through hands-on design projects. Students learn about various aspects of the engineering profession and acquire both technical skills and non-technical skills in areas such as communication, teamwork, and engineering ethics. Students learn about human factors as well as design factors within an overall process including product life cycle stages.

By designing and implementing an actual engineering project, students will be exposed to many ideas and principals. Students will form teams of 2-3 and choose projects which excite them – and importantly, projects that have a good purpose. Successfully completing the project is not required; this provides the opportunity to deeply understand and analyze different technical and non-technical aspects of the project.

Theory is an important part of the projects. The actual goal of a project is to prove or disprove a theory by gathering supporting data, creating proper tests and analyzing why or why not the expected outcome was achieved.

It is highly recommended to create a diverse team so students get a good sense of the different engineering fields and how they overlap. Students will understand the importance of teamwork and leadership. To improve teamwork, students will learn and experience actually using project management skills, including the importance of organizational and time management skills, for example PERT and Gantt charts.

Throughout the course, students will be reminded to check for engineering ethics. There will be discussions of current engineering ethics issues in the news.

Communication is highly encouraged during this course. Students will become able to do presentations. Several mini-presentations and draft reports will serve as practice in preparation for the final project presentations.

Everyone will benefit from peer evaluations and constructive feedback.

Course Requirement:

Begin this course with an open mind.

Text

Recommended but not required

ENGINEERING YOUR FUTURE, A Comprehensive Introduction to Engineering By William C. Oakes, PhD
2009-2010 Edition

Evaluation*:

Draft PPT **	15%
Draft Report	10%
Final PPT **	15%
Final Report	15%
Excel-HW	15%
Written Assignment	15%
Quizzes	10%
Class participation***	5%

***Late Excel HW and written assignment must be submitted on time otherwise up to 50% credit will be given**

No Makeup quiz will be given

Final report, PPT, and the presentation must be on time. No exceptions!

All team members must be present and participate during the presentations. Otherwise they will lose up to 50% credit.

**** Written Reports**

10%	Overall content
10%	Format
10%	Summary/Introduction/Abstract
15%	Theory
20%	Project management such as Pert, Gantt, budget, Part, task assignment,...
20%	Test/Verification/Result/Setup- technique and interoperations
10%	Conclusion
5%	References/Appendixes

****PPT**

- 20% Overall content**
- 10% Format**
- 30% Presentation (team and individual)**
- 10% Theory**
- 30% Verifications/Outcome**

*****class participation is mandatory if a guest speaker is scheduled**

Please note that the instructor will create a master project folder on Dropbox during the first week of class to create access for each team. Students are required to conscientiously upload their work to this folder. Students are responsible to check the calendar folder on a regular basis to see if there is a change in the schedule.

Course Schedule: Please refer to the calendar folder