Introduction to Engineering (ENGR 10)(00691)

De Anza College Fall 2022

Saied Rafati

Martin Andre Rosanoff: "*Mr. Edison, please tell me what lab rules you want me to observe.*"

Thomas Edison: "*There ain't no rules around here. We're trying to accomplish something.*"

Class hours:

M-W-Th (September 26-December 12th)(through zoom)
9:30 pm -10:20 Am
LAB(Asynchronous), (through zoom)
FRI(1:00pm-4:00pm)
Online(Zoom)

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.

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.

The theory is an important part of the projects. The actual goal of the projects is to prove or disprove a theory by gathering supporting data by 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 would get a good sense of the different engineering fields and how they overlap. Students will understand the importance of team work and leadership. They would learn to understand the concept of project

management by experiencing the importance of organizational skills and time management skills while keeping track of the budget. They would create PERT and Gantt chart.

Students would be able to have several mini-presentations and draft reports opportunities before submitting their final ones. As a class, students would do peer evaluations by providing constructive feedbacks.

Course Requirement:

Begin this course with an open mind.

Text

ENGINEERING Fundamentals and problem Solving (7th Edition By A. Eide, R. Jenison, S. Mickelson, L. Northup). The 6th Edition is also accepted and is less expensive.

Course Outline:

Chapters 1-3,4,5,12,17, Arduino, Solar Cells, SolidWorks (OnShape), Microsoft Excel(engineering applications),
Robotc(basic C programming), Midterm Exams, Final Exam

Grading Policy

Class/Lab Participation	5%
Homework	15%
Midterm	15%
LAB	20%
Final Group Project	25%
Final Exam	20%

Final Project Details:

Project Proposal/Creativity	10
Group participation/Lab Activity	10
Market Survey	5
Part Status/order	5
Gantt Chart	10
Test Description	10
Conclusion/Recommendation	10
Final Report	20
Final PPT/Presentation	20

And the overall course grade (letter-grade) will be assigned based on the distribution below:

- 100% to 88%: A
- 87% to 75%: B
- 74% to 62%: C
- 61% to 49%: D
- 48% and below: F

Excel HWs and written assignments must be submitted on time otherwise up to 50% credit will be given

Project reports, PPTs, and the presentation must be on time. No exception! All team members must be present and participate in the presentation; otherwise, they will lose up to 50% credit.

Please refer to the calendar/email for the days that each team must be present to present their project during class time.

Project report(Draft and Final) must contain Market survey, Gantt Chart ,Part status and cost for each item and total cost, analysis

CLASS ATTENDANCE

Students are expected to attend all sessions of each class. Instructors may drop students from the class if they fail to attend the first-class meeting, or when accumulated unexcused hours of absences exceed ten percent of the total number of hours the class meets during the semester. Moreover, an instructor may drop from the class any student who fails to attend at least one class session during the first three weeks of instruction.

IMPORTANT DATES

(Check the De-Anza College Website as well for any changes)

Last day to Add Class (October 8)
Last day to DROP class without a "W" is October 9
Deadline to submit P/NP (check with college)
Last day to DROP with a "W" is November 18
Final Exam Week December (12-16)

Holidays
Veterans Day Holiday (November 11)
Thanksgiving holidays (November 24-27)

Student Learning Outcome(s):

*The student will be able to analyze, graph and develop a formula for a given data set.

*The student will be able to prepare and write technical specifications and documentation, and be able to orally present them.

*The student will work collaboratively on an engineering team.

Office Hours:

Zoom	M,W,TH	09:00 AM	09:30 AM

I will also tell students that I will stay 15min after each class and with appointment as well.