



Introduction to Engineering
Fall 2016
ENGR 10
Section 51309



Instructor: Dr. John Heathcote
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Class Times: TTh 10:00-10:50 am
Room: PHY-70

Office Hours: Monday, 10:00-10:50AM, 1:00-1:50PM
Wednesday, 10:00-10:50AM
Friday, 10:00-10:50AM

On-Duty in the RC Math Center (FEM-1): Friday, 11AM-12PM

If you cannot make regular office hours, feel free to make an appointment.

Required Text: Landis, R., Studying Engineering, 4th Edition, Discovery Press, 2013

Catalog

Description: This course is an introduction to the engineering profession for students interested in a career in engineering or technology. Topics include opportunities in engineering, education plans, internships, the design process, analytical problem solving techniques, project management, and professional ethics. Hands-on projects are used extensively in the course.

Grading:

Daily In-Class Grades	20%
Individual Assignments	35%
Group Projects	35%
Final	10%

Grading Scale:

90-100%	A
80-89.9%	B
70-79.9%	C
60-69.9%	D
<60%	F



Daily In-Class Grades: This class is different from most engineering classes as the work is less mathematically oriented and objective and is more a subjective look at some of the aspects of a career in engineering. In order to help each student to learn about the career of engineering and to prepare the student for an engineering education, participation in class activities is a MUST. Active participation in each class period will earn you the points in this category. It is important to attend every class! **For each class meeting, you will be awarded 2 points for attending and fully participating in class, 1 point for being late or not fully participating in class, and 0 points for an absence.**

Individual Assignments: You will be given regular assignments that you will need to complete on your own. Many of these assignments will involve reading from the textbook and then writing your answers to questions based upon your thoughts of the reading. You will also give at least one individual presentation, and complete other assignments such as developing your student education plan, career planning exercises, and constructing a resume.

Group Projects: Working as an engineering team is a big theme of this course. Throughout the semester, we will have you work together in groups in small design challenges, research presentations, and in the Central California Engineering Design Challenge.

Central California Engineering Design Challenge: Each year, students in this course compete with students at Fresno State, Fresno City College, Clovis Community College, the College of the Sequoias, and West Hills College in an engineering design competition. It is an enjoyable exercise in which teams of students design and build contraptions to meet an assigned goal. This project will involve preparation time with the students' groups outside of class, possibly a small amount of money (probably less than \$5 on the project), and participation at the competition -- a Saturday morning in late October or early November, from 8am-1pm (*approximately*) at Fresno State. All students in this course are expected to attend this competition. The details of the competition will be made available as soon as possible. It is the student's responsibility to notify the instructor well ahead of time, if he/she cannot attend for a justifiable reason. **An alternative assignment** (a written paper on some aspect of engineering) will be given to students who cannot attend the competition.

Final Exam: As a way of summing up what you have learned from this course, a final exam will be taken during finals week. This will involve topics that we have discussed or studied throughout the term.

Attendance: Attendance is mandatory. Class attendance will be recorded. In accordance with college policy, if a student misses more than four class sessions, that student may be dropped. (However, if you decide to drop the course, it is **your** responsibility to make the drop official in the Administrations and Records Office or else possibly receive a grade of F.)

Cheating and/or plagiarism: Cheating and/or plagiarism will not be tolerated. A student will receive no credit for the assignment if in the opinion of the instructor the individual has cheated.

Accommodations for Students with Disabilities:

If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

Add Date:	Friday, September 2 nd	Last day to add a course
Drop Date:	Friday, October 14 th	Last day to drop this course
Holidays:	Thursday, November 24 th	Thanksgiving Holiday
Final Exam:	Tuesday, December 13 th	10:00am-11:50 am

COURSE OBJECTIVES:

In the process of completing this course, students will:

1. describe the role of engineers in society and classify the various branches of engineering, the functions of an engineer, and the industries in which they work.
2. describe how products are designed and created by engineers.
3. investigate new products being developed by engineers.
4. develop and apply effective strategies to succeed academically.
5. identify and describe academic pathways to bachelor's degrees.
6. investigate engineering career and internship opportunities.
7. develop a resume and cover letter for an engineering internship.
8. evaluate an engineering job and compare it to their own career interests.
9. discuss the standards of engineering ethics.
10. apply ethical standards towards engineering case studies.
11. analyze the application of the engineering design process toward the creation of a product.
12. work in engineering teams to apply the engineering design process toward meeting an engineering challenge.
13. write technical documents and present oral presentations based upon an engineering project.