

# ENGR 10: Introduction to Engineering

Fall 2021

Section #53089

**Class:**

MW 12:00-12:50pm in PHY 70.

**Instructor:**

Dr. John Heathcote

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**Come see me in my office!**

I am often available, even outside of my regular office hours. If you see me in my office, I am available to answer your questions or just to discuss engineering! Please come by!

**My official office hours are:**

MWF 9:00-10:00am

TThF 10:00-10:50am

## Welcome to Introduction to Engineering!

I would like to welcome you to ENGR 10. This is a fun and enlightening course in which you will learn more about the career field of engineering while taking part in design projects and other group activities that will keep you engaged. We will also prepare you for the challenging academic study of engineering by discussing the types of personal study skills you will want to develop. I look forward to helping you in this course and I hope to see you in many more engineering courses in the future!

**Required Text:** Landis, R., Studying Engineering, 5<sup>th</sup> Edition, Discovery Press, 2019  
**This textbook is available for you to check out for the semester from the library!**

### 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	40%
Group Projects	30%
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! **You will begin the semester with 100 in-class points. For each class meeting that you miss, you will lose 5 of these points. If you know that you will have to miss a class meeting and let me know ahead of time, you will only lose 2 points (and possibly zero points if you have a justifiable reason and make up the work). You will lose 2 points for each class meeting for which you are late.**

**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. Most assignments will be submitted on Canvas.

**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 (possibly) in the Central California Engineering Design Challenge.

**Central California Engineering Design Challenge:** Each year (except for the past year due to COVID), students in this course compete with students at Fresno State, Clovis Community College, 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. If this event is held again this year, we will participate as a class. 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 (Date TBA), 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.

**Late Work:** Assignments on Canvas are still available after the deadline date. However, please note that your score will drop by 2% for each day that an assignment is submitted late.

HOWEVER, I do understand that circumstances can come up. If you have a good reason to ask for an extension for a task, please communicate that to me as early as possible. Depending on the situation, I will consider an extension for you.

**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.

<b>Add Date:</b>	Friday, August 27	Last day to add a course
<b>Drop Date:</b>	Friday, October 8	Last day to drop this course
<b>Holidays:</b>	Monday, September 6	Labor Day
	Thursday, November 11	Veterans' Day
	Thursday-Friday, November 25-26	Thanksgiving Holiday
<b>Final:</b>	Wednesday, December 8, 12:00-1:50pm	

**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.