

# Introduction to Circuit Analysis Engineering (ENGR 37) (48883)

De Anza College Spring 2024

Saied Rafati

## **Class hours:**

Tu-Th (April 9th-June 28h) (In person)  
6:30 pm -8:45pm

## **Students hours:**

M,Tu,Wed,Th, 11:30AM-12:30PM @Physical Science and Technology Village and by appointments.

Email: [rafatisaied@fhda.edu](mailto:rafatisaied@fhda.edu)

## **Course objectives**

Circuit laws, resistive, capacitive, inductive, and combination (RLC) circuits with DC sources, ideal operational amplifier, controlled sources, natural and complete response of simple circuits, steady-state sinusoidal analysis, Thevenin and Norton

## **Course Requirement:**

Required: Math 1D  
PHYS 4B(may be taken concurrently)

## **Text**

Fundamentals of Electric Circuits (6<sup>th</sup> Edition by Charles K. Alexander, Mathew N.O. Sadiku, Publisher: McGraw Hill

## **Course Outline:**

Chapters 1-10, LT spice (for circuit simulation)  
Quizzes(will be on the previous week lecture, quiz1 will be on Week2)  
Midterm Exam  
Final Exam

**Week1** Ch1, LTspice

**Week2** Ch2

**Week3** Ch3

**Week4** Ch4

**Week5** Ch5

**Week6** Midterm

**Week7** Ch6,diode

**Week8** Ch7

**Week9** Ch8

**Week10** Ch9

**Week11** Ch10

**Week12** Final Exam.

### **Grading Policy**

|                 |     |
|-----------------|-----|
| Quizzes         | 10% |
| Homework        | 25% |
| Midterm         | 20% |
| Lab Assignments | 20% |
| Final Exam      | 25% |

#### **Grades Details:**

- 100% to 90%: A
- 89% to 80%: B
- 79% to 70%: C
- 69% to 60%: D
- 59% and below: F

**HW, and Lab's assignments must be submitted on time otherwise up to 50% credit will be given.**

### **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 (April 19)  
Last day to DROP class without a "W" is April 20  
Deadline to submit P/NP (check with college)  
Last day to DROP with a "W" is May 31  
Final Exam Week June (24-28)  
**Holidays**  
Memorial Day Holiday (May 27)  
Juneteenth Holiday (June 19)

## SLO (Student Learning Outcomes)

-Analyze the electrical behavior of DC and AC circuits including first and second order circuits using various circuit analysis techniques by calculating volts, ohms, and amps.

### **Honesty is the foundation of academic work**

Occasionally, you may feel overwhelmed by the amount of work you need to accomplish. If you cheat, you may get a warning, receive no credit for the assignment or be referred to the Vice President of Student Services for disciplinary action. You would also be de-valuing your resulting degree or certificate when you enter the workforce or transfer and cannot meet the expectations that your degree or certification requires.

Here are some examples of what you should and should not do:

#### **What not to do**

- Pay someone to do your homework/project. Recent reports show that people who sell papers or do schoolwork for pay by students may end up "blackmailing" those students in a variety of situations. For example, if the student defaults on the agreed amount of compensation, does not purchase additional services, etc., these people have been known to notify the college of the misbehavior of students caught in this kind of trap.
- Use applications on the web to find answers on tests or quizzes. If I suspect that your work is copied from an application, I'll set up a meeting with you and ask you to do a similar problem with me.
- Copy answers or work from another student.
- Ask another student to do your work for you.

#### **What to do**

- Trust the value of your own intellect.
- Demonstrate your own achievement and abilities.
- Ask for help from me, or your classmates
- Start a study group with your classmates

## **CODE OF STUDENT CONDUCT**

The district shall enforce a student code of conduct the purpose of which is to promote and maintain orderly conduct of a responsible student body in a manner compatible with the District and College function as an educational institution (Education Code 76030)

### **What should you do if you can't reach me?**

- I will respond to Canvas Inbox messages within 3-4 hours. If you don't hear from me within this timeframe (on weekend may be longer) , please email me again! I'm human and sometimes I miss messages.
- You can also try messaging me via my email: rafatisaied@fhda.edu
- If you are looking for information that is not specific to our class, you can find updates on the De Anza [homepage](#), [Facebook](#) or [Twitter](#) page. They may have updates or news before I do!

### **Name and pronoun**

If you'd like to be known by a name different from the name on the roll sheet or if you have a personal pronoun, please contact me, and I will make every effort to call you by the name and pronoun you use.

### **What you can expect from me**

- I will treat you with dignity and respect and be flexible to support your individual needs.
- I will provide you with a clear, organized course that is designed to ensure you meet our course outcomes in a meaningful manner.
- I will provide a variety of assignments to ensure your learning needs are met.
- I will grade assignments in a timely manner to facilitate your success on future assignments.
- I will be actively present in your learning.
- I will provide a supportive and safe environment for you to share and discuss ideas with your peers.
- I will reach out to you when I sense that you need support.

### **What I will expect from you**

- Treat me and your peers with dignity and respect.
- Strive to be an active participant in this course.
- Maintain an open line of communication with me so I understand how to support you.
- Aim to meet due dates. Contact me if an emergency arises.
- Do your best to have patience with technology. There will be hiccups; expect them. We will get through them together.

## **What we can expect from each other**

- We won't be perfect. We are human and will make mistakes at times. We will view mistakes as an opportunity to learn and grow.
- We will all strive to contribute regularly in collaborative activities to ensure all members of the community have ample opportunity to read/listen, reflect, and respond to all ideas.
- Disagreements are part of learning and growing, but we will always treat one another with dignity and respect. If you sense a negative emotion surfacing within yourself, step away for a while; reflect on what is happening; then return and respond by focusing on the issue, not the person.

Is there anything else you would like to add to any one of these lists? If so, you will have the opportunity to share your suggestions during the first week of school.

**Student Learning Outcome(s):**

- Analyze circuits containing resistive, capacitive, inductive passive elements, along with op-amps interconnected to voltage and current sources.
- Use circuit laws and network theorems to solve DC steady state circuits, RC, RL, and RLC DC circuit transients and sinusoidal AC steady state circuits.

**Office Hours:**

M,T,W,TH    11:30 AM    12:30 PM    In-Person    Physical Science and  
Technology Village S55