Syllabus for UCSD ECE 45 in Spring 2022

Instructor: Prof. Ken Zeger, Jacobs Hall Room 6605, email: ken@zeger.us
Office Hours: Thursdays 2:30pm-3:20pm (via Zoom)

Teaching Assistant:
Mr. Spencer Congero, scongero@ucsd.edu
Study Time with the TA:

Mondays:	4:00pm-6:00pm	(via Zoom)
Wednesdays:	1:00pm-3:00pm	(via Zoom)
Fridays:	11:00am-1:00pm	(via Zoom)

Lectures:
Tuesdays & Thursdays 12:30pm - 1:50pm (via Zoom live, will be recorded)

Discussion: The actual "Discussion" is recorded as video by the TA Spencer and will be typically posted on Canvas each Saturday, in preparation for the quiz during the upcoming Monday. The official Discussion timeslot on Mondays 4pm-4:50pm will be live via Zoom and will consist of a quiz during the first 15 minutes (i.e. 4-4:15pm) followed by a "Study Time" with Spencer. The one exception is Monday May 30, which will not have a Study Time, and the quiz that week will instead be Tuesday May 31.

Class web site:
All information for the class will be distributed through UCSD Canvas and the course Piazza site. However, Piazza will only be used for postings/questions/answers and Canvas will be used for all other matters (grades, HWs, practice exams, syllabus, etc.). It is helpful if you are able to post equations etc. using latex style input in Piazza.

Prerequisites:
Here are the REAL prerequisites for ECE45: Math 20A-B, ECE35, and a basic understanding of complex variables.

From Math 20AB you need to be able to differentiate and integrate. You also need to be able to do sums such as geometric series. Regarding complex variables, you need to know how to add, multiply, and divide complex numbers, how to to convert from rectangular to polar form and back, know conjugates, and Euler's formula. Also, brush up on trig functions and their derivatives and integrals.

Discussion Classes:
The discussion classes will present clarifications of lecture material and will work out in detail specific examples of important problems. In contrast, regular class lectures will be more theoretically oriented, often with fewer or no examples. The office hours are where you can ask for help on specific homework problems you are having trouble with.

Quizzes: There will be a 15-minute quiz every Monday during the 1st fifteen minutes of Discussion, starting on April 4, 2022. However, the last Monday is a holiday (i.e. May 30), so the quiz will instead be the next day (Tuesday May 31) during the first 15 minutes of lecture. More precisely, there will be 9 quizzes as follows: April 4, 11, 18, 25, May 2, 9, 16, 23, each during 4:00pm-4:15pm, and May 31 during 12:30pm-12:45pm. The Tuesday lecture on May 31 will thus start at 12:45pm, right after the quiz ends. Similarly, all of the Discussion classes will start at 4:15pm, right after the quizzes end. Each quiz will typically consist of three questions. The material for each quiz will focus on the two lectures preceeding it (i.e. the Tue and Thu from the previous week). The lowest of the 9 quiz grades will be droppped, and the remaining 8 grades will collectively count towards 40% of the class grade. Each of the 8 quizzes that count will equally contribute 5% to the total class grade. Missed quizzes count as zero and cannot be made up.

Final Exam:
Monday, June 6, 2022, 11:30am-2:30pm online via Zoom

Proctoring:
All quizzes and the final exam will be proctored on Zoom with cameras turned on.

Grading: Your final grade will count as follows:
Homework = 0%
Quizzes = 40%
Final exam = 60%

Average class letter grades will be in the B/B- range.

What Can Be Used During Exams Policy:
The Quizzes and Final Exam will be open books/notes and you may search the internet at will for previously posted results. You may use calculators and computers if you think it will help you. However, you may not consult with any people during the exam, nor email, text, post, or otherwise send any portion of the exam to any person or website during the exam.

All headphones, earbuds, and other listening accessories are **prohibited** during quizzes and the final exam. Also, speaking, singing, or mouth movements suggesting such, are prohibited, since they can be interpreted as academic integrity violations.

Missed Quiz Policy:
No makeup quizzes will be given.

Homework:
Homeworks are not to be handed in and will not be graded. You are however encouraged to work them out and check the posted solutions. You can also ask the TA for help on the homeworks, as they are good practice for exams for example.

Text:
"Analog Signals and Systems"
1st Edition
Pearson, 2007

Erhan Kudeki and David C. Munson Jr.
ISBN-13: 978-0131435063

This is a very nice and helpful book. You can find the ”International Edition” online for much cheaper (i.e. under $20) which is fine for this course. Perhaps there are legal pdfs available too.

Academic Integrity:
Don’t cheat. Be honorable.