Department of Electrical and Electronic Engineering, California State University, Sacramento

EEE 117 Network Analysis*, 3 units*
Fall 2020, Section 3, Call No. 82842, Mon/Wed 11:00 – 11:50 A.M. Riverside Hall, Room 1006
Fri Web Online – individual preparation

EEE 117 for Fall 2020 will be entirely online in compliance with University and California guidelines. We will NOT meet in-person during the semester. The lecture period will be a Canvas based Zoom session during the scheduled lecture time. The Canvas based Zoom sessions will be organized as:

Monday – Review of the published video lectures.
Wednesday – Problem solving session.

Canvas will ONLY be used for the Zoom sessions.
We will use the Zoom sessions almost entirely to answer questions from the students rather than present the lectures live.
The Friday lecture time period will be for offline study by each individual with no scheduled interaction.

Online relies on the organization and focus of each student.
The material is published on the new ECS Moodle course site (see the last page of this syllabus for instructions to join the course Moodle site). The lecture notes are published. The lectures have been prerecorded. Homeworks, quizzes and exams are all online in the Moodle quiz modules (and available for three weeks before the due date).
It will take self-discipline and hard work to keep up with viewing those lectures, doing homeworks, weekly quizzes all online and largely at your own pace.

If you need help, please email me sooner rather than later. I will setup a special Zoom session by appointment basis to answer your questions not covered in the Monday/Wednesday sessions.

Where the "normal" syllabus that follows mentions being on campus in a lecture, we now mean a Canvas based Zoom session.

Course Content: Review of Sinusoidal steady state, phasors, complex power, mutual inductance, series and parallel resonance. Introduction to application of Laplace transforms in network analysis, transfer functions, Bode plots, Fourier series.

Prerequisite: Engr 17 – Introductory Circuit Analysis
Math 45 – Differential Equations for Science and Engineering
Phys 11C – General Physics: Electricity and Magnetism

Corequisite: EEE 117 Lab (EEE 117L)

Textbook: ***Electric Circuits***, Nilsson and Riedel, 10th Edition, 2014, Prentice Hall, ISBN: 978-0133760033

Instructor: Russ Tatro Office: Riverside 5030
email: rtatro@csus.edu Website: www.csus.edu/indiv/t/tatror
Office Phone: 278-4878
Office Hours: See my website for current office hours.

Grading:

Midterm I	15%
Midterm II	15%
Final Exam	20%
Homework	30%
Quizzes	20%

Course Goals: Introduce the fundamental tools of linear circuit analysis which is useful to all engineers. Develop the fundamentals of circuits, including wires, resistors, capacitors, inductors, voltage and current sources, and operational amplifiers. Prepare students for more advanced courses in electronic applications and circuit analysis.

Hybrid Course: This course will be offered in a hybrid format with both in classroom sessions and online events. We will meet in the classroom on Monday and Wednesday. The Friday time is dedicated self-paced online material including pre-recorded videos, outside class reading assignments and other online sessions.

All course materials will be available on the ECS Moodle: https://moodle.ecs.csus.edu/. You will be able to self-enroll into the "EEE 117" Moodle site during the first week of the semester.

Homework: Homework assignments will be completed online using ECS Moodle activities in the course Moodle site. There is homework every week and each chapter will have at least one homework assignment. Problems shall either be from the textbook or created by the instructor. Your specific homework assignment is created from a question pool of similar questions. Most assignments are released Monday mornings at 6 am and are typically available for three weeks. Most homework assignments are due on Monday mornings at 5:00 am. All homework material is testable whether covered in class or only in the homework assignment. There is no time limit on completing the homework assignment as long as you complete the homework by the due date. You can "submit" the homework as many times as you wish until you get a perfect 100% on the assignment. Once created, each Moodle homework "remembers" your questions and correct answers between submissions. Keep attempting the homework until you get 100%. Any homework not attempted will receive a score of zero and will count on your course grade.

Quizzes: There will be a 60 minute quiz each week except for exam weeks. The quizzes are self-paced online between the hours of 6 am and midnight each Wednesday in the ECS Moodle Quiz activity. The quiz must be completed in one session (no starting nor stopping with a break) in timed one continuous hour. The quizzes are "once and done" with only one submission allowed. Any quiz not attempted will receive a score of zero and will count on your course grade.
Drop two lowest: The two lowest homeworks and two lowest quizzes (including zeros for not attempted homeworks and quizzes) will be dropped from the course grade in the last week of the semester.

Exams: There will be two 60 minute midterm exams and a two hour final exam during the semester. The exams are a timed test completed online at the scheduled class time or scheduled final exam time using the ECS Moodle Quiz activity as scheduled in the syllabus. The student will use the online access of their choice during the regular class time. Exams are not self-paced and are taken ONLY during the scheduled class time. The exams are "once and done" with only one submission allowed.
Prior written permission is required for all make-up exams and then only with compelling reasons in accordance with and as outlined by University policy.

Grading Policy: The course will be graded in accordance with University guidelines using the "+" and "-" method. Grades may be curved at the instructor's discretion. The class average is usually in the C+ range. Typical (meaning somewhere around this region) grades ranges are:

"A" 94.5 and above "A-" 89.5 to 94.49

"B+" 87.5 to 89.49 "B" 83.5 to 87.49 "B-" 79.5 to 83.49

"C+" 77.5 to 79.49 "C" 73.5 to 77.49 "C-" 69.5 to 73.49

"D+" 67.5 to 69.49 "D" 63.5 to 67.49 "D-" 59.5 to 63.49

F Below 59.5

EEE 117 - Section 1 - Course Outline – Fall 2020

Week	Date	Chapter	Topics:
1	8-31 9-02 9-04	 9.1 – 9.3	EEE 117 Introduction Phasor Domain Review
2	9-07 9-09 9-11	 9.4– 9.5	**Sept 7 - Labor Day (Holiday) – Campus Closed** Phasor Domain review
3	9-14 9-16 9-18	9.7 – 9.9 10.1 – 10.3	Phasor Domain review Instantaneous, Average Power and rms
4	9-21 9-23 9-25	10.4 – 10.6 12.1 – 12.2	Complex Power, Power Calculations, Max Power Defn of Laplace, Step Function
5	9-28 9-30 10-02	12.3 – 12.4 12.5 – 12.6	Impulse Function and Functional Transforms Operational Transforms, Applying Transforms
6	10-05 10-07 10-09	12.7 **Exam 1**	Inverse Transforms and PFE **Chapters 9 and 10 – Online 11:00 AM to Noon**
7	10-12 10-14 10-16	12.8 – 12.9 13.1	Poles, Zeros, Initial and Final Value Theorems Circuit Elements in the s Domain
8	10-19 10-21 10-23	13.2 – 13.3 13.4 – 13.7	Applications using s Domain analysis The Transfer Function and Steady State Response
9	10-26 10-28 10-30	Appendix E Appendix E	AC Analysis with Bode Diagrams AC Analysis with Bode Diagrams
10	11-02 11-04 11-06	Appendix E 14.1 – 14.3	AC Analysis with Bode Diagrams Low-Pass Filter, High Pass Filter
11	11-09 11-11 11-13	**Exam 2**	**Chapters 12, 13, Bode – Online 11:00 AM to Noon** **11/11 Veterans Day Observed – Campus Closed**
12	11-16 11-18 11-20	14.4 – 14.5 15.1 – 15.3	Band-pass Filters & Band-reject Filters First-Order Active Filter Circuits
13	11-23 11-25 11-27	16.1 – 16.2	Fourier Series **Travel Day – No lecture**
14	11-30 12-02 12-04	16.4 – 16.5 16.6 - 16.7	Alternate Trigonometric Form of the Fourier Series Average and rms value of a Periodic function
15	12-07 12-09 12-11		Course wrap-up **Bode Diagram – in-class Final Exam Problem**
16		**Final Exam**	**Chapters 14, 15, 16 - Online** Mon 12/14/2020 10:15 a.m. to 12:15 p.m.

EEE 117 – Quiz, homework, and video assignments

Week	Date	Online Quiz	Homework	Videos/Lecture Notes
1	8-31 9-02 9-04			Chapter 9
2	9-07 9-09 9-11	Q1 - Chapter 9	H1 - Chapter 9	Chapter 10
3	9-14 9-16 9-18	Q2 - Chapter 9	H2 - Chapter 9	
4	9-21 9-23 9-25	Q3 - Chapter 10	H3 – Chap 9	Chapter 12
5	9-28 9-30 10-02	Q4 - Chapter 12	H4 – Chapter 10	
6	10-05 10-07 10-09	**Exam 1**	H5 – Chapter 12	Chapter 13
7	10-12 10-14 10-16	Q5 - Chapter 12	H6 - Chapter 12	
8	10-19 10-21 10-23	Q6 - Chapter 13	H7 - Chapter 12	Bode Plots – Appendix E
9	10-26 10-28 10-30	Q7 - Chapter 13	H8 – Chapter 13	Chapter 14
10	11-02 11-04 11-06	Q8 – Bode Diagrams	H9 – Bode Diagrams	
11	11-09 11-11 11-13	Q9 - Chapter 14	H10 – Bode Diagrams	Chapter 15
12	11-16 11-18 11-20	**Exam 2**	H11 – Chapter 14	Chapter 16
13	11-23 11-25 11-27	Q10 - Chapter 15	H12 - Chapters 14 and 15	
14	11-30 12-02 12-04	Q11 - Chapter 16	H13 – Chapter 16	
15	12-07 12-09 12-11	Q12 - Chapter 16	H14 - Chapters 16	
16		**Final Exam**		

ECS Moodle Course sign-up

We are transitioning to a new server for Moodle that is hosted by the University IRT department.

1. Connect to the CSUS VPN first!
2. Log into the CSUS VPN with your Saclink credentials including Duo authentication..
3. Your CSUS email will be the contact method for the course. Monitor your CSUS email frequently.
4. Log onto ECS Moodle: https://moodle.ecs.csus.edu/
5. Go to "EEE117-2020F-Tatro"
6. Self-enroll into the EEE 117 course by entering the section appropriate code:
   Section 3 – use the code: 82842_Sec-3

ECS Moodle Tips and Hints

1. The homework is available three weeks prior to the due date. You can "Submit" the homework as many times as you wish with the highest grade counting on your course score. I suggest you start the homework early and bring questions into class. You will NOT be able to see any assignment you did not open - so always open an assignment so you can see the problems even if you do not intend to complete the assignment! Any homework not completed is scored as zero and will count against your course grade.
2. All quizzes are ONE submission only. The quiz is available every Wednesday from 6 am to 11:59 pm. During the quiz you will be able to "check" your answer. Wrong answers will receive a penalty of about 33% and you will be allowed at least three tries for each part of a problem. The computer will automatically submit your quiz at the end of the 60 minutes allowed for the quiz. Any quiz not completed is scored as zero and will count against your course grade.
3. All exams are ONE submission only at the scheduled class time. During the exam you will be able to "check" your answer. Wrong answers will receive a penalty of about 33% and you will be allowed up to three tries for each part of a problem. The computer will automatically submit your exam at the end of the 60 minutes allowed for the exam. You must quickly send me your original work for my review if you feel a question was scored incorrectly or incompletely.
4. Periodically review your grade in the Moodle Gradebook. Bring to my attention any error or anomaly as soon as possible.

Entering questions answers into Moodle: In most cases, you will be entering a number into Moodle as the answer to a calculation. The following table shows you acceptable/not acceptable forms of an answer.

Intended Answer	Acceptable alternatives	Non-Acceptable
0.5	.5, 0.5, 0.500, 5e-1, 5E-1	1/2, 50%, 10/20, 20/40, ….
10,000	10000, 10E3, 10e3	10,000 (no comma allowed)
-40	-40, -40.00, -4E1, -4e1	
π (pi)	3.14159 (as many digits as you care to use)	pi
Algebraic symbols	I will not ask you to enter equations symbolically into Moodle.	Do not enter common math symbols such as +, -, X, /, ln, e, and so on as an equation. 2+2 is not acceptable, enter "4" 2-2 is not acceptable, enter "0" And so on.