ECE 213 Circuit Analysis II Spring 2016

Instructor: Hassan M. Shanechi

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Office: Room 333 SH
Office Hours: My official office hours are 10:00-12:00, Mondays, Tuesdays, and Wednesdays. However, you may call or e-mail me to arrange for any other time or you may drop by any time my office door is open.

Hours: TR 08:35 – 09:50 am
Room: Siegel Hall 118

Grading:

Lab	25%	
Homework	15%	(Late homework, up to one week, will be accepted for 50% of credit except weeks prior to exams.)
Exam 1	15%	
Exam 2	15%	
Final Exam	30%	

Reasonable accommodations will be made for students with documented disabilities. In order to receive accommodations, students must obtain a letter of accommodation from the Center for Disability Resources and make an appointment to speak with me as soon as possible. The Center for Disability Resources is located in the Life Sciences Building, room 218, 312-567-5744 or disabilities@iit.edu.

Text:

Fundamentals of Electric Circuits
By: C. K. Alexander and M. N. O. Sadiku
McGraw-Hill, 5th Edition 2012

References:

Basic Engineering Circuit Analysis
By: J. D. Irwin and R. M. Nelms
Wiley, 10th Edition 2011

Introduction to Electric Circuits
By: Dorf & Svoboda
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Homework	20%	(Late homework, up to one week, will be accepted for 50% of credit except weeks prior to exams.)
Exam 1	20%	
Exam 2	20%	
Final Exam	40%	

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ECE Undergraduate Course Objectives

Course Number: ECE 213
Course Name: Circuit Analysis II

Below are listed the objectives for this course as adopted by the ECE faculty.

After completing this course, the student should be able to do the following:

1. Demonstrate ability to analyze circuits using both phasor notation and sinusoidal functions of time.

2. Demonstrate ability to apply all circuit analysis techniques to the analysis of AC circuits.

3. Demonstrate ability to calculate instantaneous power, average power, and complex power in AC circuits; to determine RMS values of voltage and current; to apply the maximum power transfer theorem; and to correct the power factor in a circuit.

4. Demonstrate ability to work with three-phase circuits.

5. Demonstrate ability to analyze circuits containing mutual inductances and transformers.

6. Demonstrate ability to use Laplace transforms to solve AC circuits in the time and frequency domains.

7. Given a two-port network, calculate its admittance, impedance, hybrid, and transmission parameters.

ECE213-216 LECTURE SCHEDULE

Day	Date	Topic	Text
1	12-Jan	Introduction, Complex Numbers	
2	14-Jan	Laplace Transform Applications	16.1-2-3
3	19-Jan	Laplace Transform Applications (cont'd)	16.4
4	21-Jan	Laplace Transform Applications (cont'd)	16.5
5	26-Jan	Sinusoids, Phasors	9.1-2, 9.3-4
6	28-Jan	Impedance and Admittance, Kirchhoff's Laws	9.5-6-7
7	2-Feb	Sinusiodal Steady State Analysis, Nodal and Mesh	10.1-2-3
8	4-Feb	Superposition, Source Transformation, Thevenin and Norton	10.4-5-6
9	9-Feb	AC Steady State Analysis (cont'd)	10.7-8
10	10-Feb	Steady State Power Analysis	11.1-2-3-4
11	16-Feb	Steady State Power Analysis (cont'd)	11.5-6-7-8
12	18-Feb	**Exam 1, Thursday, February 18**	
13	23-Feb	Thre-phase Circuits	12.1-2-3-4-5
14	25-Feb	Thre-phase Circuits	12.6-7-9
15	1-Mar	Magnetically Coupled Circuits	13.1-2-3
16	3-Mar	Magnetically Coupled Circuits	13.4-5-8
17	8-Mar	Frequency Response	14.1
18	10-Mar	Frequency Response	14.2-3
	15-Mar	**Spring Break**	
	17-Mar	**Spring Break**	
19	22-Mar	Frequency Response, Bode Plots	14.4
20	24-Mar	**Exam 2, Thursday March 24**	
21	29-Mar	Frequency Response	14.5-6-7
22	31-Mar	Variable Frequency Networks (cont'd)	14.10-11
23	5-Apr	Fourier Series	17.1-2-3
24	7-Apr	Fourier Series	17.4
25	12-Apr	Fourier Series	17.5-6-7
26	14-Apr	Two Port Networks	19.1-2-3
27	19-Apr	Two Port Networks	19.4-5
28	21-Apr	Two Port Networks	19.7-8
29	26-Apr	Review	
30	28-Apr	Review	
	5/?/2014	**Final Exam, Tuesday, May ?**	