

Electrical Engineering Department

EE 202: Electric Circuits I Second Semester, 2014 – 2015 (142)

Instructor:

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Office Hours: Sun., Tue., and Thu. 09:00 am – 10:00 am. , **Or by Appointment**

Course Content:

Circuit elements, Basic laws: Ohm's, KVL, KCL, and Power calculations. Resistive circuits: voltage and current divider rules, Dependent sources. Circuit analysis techniques: Nodal and Mesh analysis. Network theorems: Thevenin's Norton's, Source transformation, Superposition, Maximum power transfer. Energy storage elements: definitions and voltage-current relationships. Responses of first order LR and LC circuits. Responses of second order circuits. Phasor steady-state sinusoidal circuits analysis..

Pre-requisite: MATH 102 and PHYS 102

Text:

Electric Circuits, James Nilsson and Susan Riedel, 9th edition, Prentice Hall, 2011.

Other Texts

- *Fundamentals of Electric Circuits*, Charles Alexander and Matthew Sadiku, McGraw Hill, 2004.
- Clayton R. Paul, *Fundamentals Of Electric Circuit Analysis*, 1st Edition, Wiley & Sons. Inc. 2001.

Course Outcomes:

- 1) Apply knowledge of mathematics, science, and engineering to the analysis and design of electrical circuits.
- 2) Identify, formulate, and solve engineering problems in the area circuits and systems.

Grading Policy:

**Class Work (HW, QZ, Attendances, Class Participation, etc) : 25%, Two Major Exams: 40%,
Final: 35%.**

Absence Policy

- Only excuses obtained from the Students Affairs Dept. are accepted. Personal excuses are not accepted. Excuses must be submitted within a week from the absence time.
- Every unexcused absence results in -1/2. 9 unexcused absences results in DN.
- A grade of DN will be reported after the 9th unexcused absence.
- No make-up will be provided for quizzes or exams. If an official excuse exists, the student will be given the average of his grades.

Tentative Schedule			
Week		Topic	Reading assignment
1	25 Jan	Circuits Variables, Sources, Power and Energy	1.1-1.6, 2.1
2	1 Feb.	Ohm's Law, KCL, KVL, Dependent Sources	2.2-2.5
3	8 Feb.	Resistive Circuits, Nodal Analysis	3.1-3.4, 4.1
4	15 Feb.	Nodal Analysis (Continued), Mesh Analysis	4.2-4.5
5	22 Feb.	Mesh Analysis, Source Transformation	4.6-4.9
First Major Exam: Wednesday 25 Feb. 2015, 6:00 – 7:30 pm			
6	1 March	Thevenin and Norton Equivalent Circuits	4.10-4.11
7	8 March	Maximum Power Transfer, Superposition	4.12-4.13
8	15 March	Inductors, Capacitors	6.1-6.3
Midterm Vacation: 22 – 26 March 2015			
9	29 March	First Order Circuits	7.1-7.3
10	5 April	First Order Circuits (Continued)	7.4-7.6
Second Major Exam: Sunday 12 April 2015, 6:30 – 8:00 pm			
11	12 April	Second Order Circuits	8.1-8.2
12	19 April	Second Order Circuits (Continued)	8.3-8.4
13	26 April	First Order Circuits, Sinusoidal Response, Complex Numbers.	9.1-9.2, App. B.
14	3 May	Frequency Domain Analysis	9.3-9.5, 9.7
15	10 May	Frequency Domain Analysis (continued)	9.8, 9.9, 9.12
Final Exam: Saturday 18 May 7:00 PM			
<p>Homeworks are due on dates shown on the Blackboard account of the course.</p> <p>No Late submissions will be accepted.</p>			

Homeworks					
Faculty	HW #	Sections	Date Posted	Date Due	Solution
<p>This table is to be announced in the Blackboard account of the course</p>					