

## **ECE301 Circuits and Electro Mechanical Components**

Summer I, 2017

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Office Hours: TTh 2:00-4:00 pm

**Teaching Assistant:** Dallas Hamlin

**Textbook:** *Electrical Engineering, Principles and Applications*, by A. Hambley (6th Ed), Prentice Hall 2014, ISBN-10: 013-311664-6, ISBN-13: 978-0-13-311664-9

<b>Grading:</b>	Midtem Exams	40%
	Final	25%
	Homework	25%
	Quizzes	<u>10%</u>
	Total	100%

### Grading Scale:

A(>90%), A- (88 to 89%), B+(85 to 87%), B(80 to 84%), B-(78 to 79%), C+(75 to 77%), C(70 to 74%), C- (68 to 69%), D+ (65 to 67%), D(60 to 64%), D- (58-59%), F(<59%)

**Classes** will meet in MK 524 from 9:40 am-11:15 am every day.

### **Meeting Topic:**

	<u>Reading</u>
1. Introduction, reference directions, electrical units, circuit elements, power, energy calculations, ohms law.	1.1-1.3, 1.6
2. KVL, KCL, sources, circuit analysis, series and parallel resistances, voltage and current division, nodal analysis, mesh analysis	1.4-2.5
3. Superposition, equivalent circuits	2.7, 2.6
4. Maximum power transfer	
5. Waveforms, rms and average values	5.1
. Energy storage elements: capacitors, inductors	3.1-3.6
6. Solutions of circuits containing energy storage Elements, mechanical analog	4.1-4.6
7. Complex variable review, phasors, impedance	App A, 5.2-3
8. Steady state AC circuit analysis	5.4
9. AC circuit analysis, AC power, maximum power transfer, 3 phase power	5.4- 5.7

10. Frequency analysis	6.1-6.8
11. Transformers	15.5
12. Transient analysis with Laplace transforms	notes
13. Motors, relays	16, 17
14. Digital signal processing, operational amplifiers	6.9, chapter 14

**Academic Dishonesty:** Will *NOT* be tolerated and **NO WARNINGS** will be given. It is the responsibility of the student to review UT policy and procedures in this area since they will be strictly adhered to. Cheating will result in an F in the course, and possible university sanctions.

**Cell phones, texting, should be turned off during class,** (b) all HW will be **stapled** and neatly done; grader or instructor reserves the right to not grade unacceptable HW, (c) students will come to class on time and will not leave early, unless prior arrangements have been made, (d) quizzes without names will not be accepted, (d) **using a laptop or other portable electronic devices for reasons other than class use will not be tolerated.** Students having to miss a class when HW is due can hand in the HW early.

Because at least 2 of the lowest quiz grades will be dropped, **there will be no make-up quizzes for any reason.** Therefore, students should attend every class, so that in the event of an emergency, or something else unexpected, and have to miss a class when a quiz was given, it won't adversely affect their grade.