ECE301 Circuits and Electro Mechanical Components
Summer I, 2016
S.K. Islam, 504 Min Kao Building, 974-8531, sislam@utk.edu
Office Hours: TTh 2:00-4:00 pm

Teaching Assistant: Md Sakib Hasan (E-mail: mhasan4@vols.utk.edu)


Grading:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Midterm Exams</td>
<td>40%</td>
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<tr>
<td>Final</td>
<td>25%</td>
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<tr>
<td>Homework</td>
<td>25%</td>
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<tr>
<td>Quizzes</td>
<td>10%</td>
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<tr>
<td>Total</td>
<td>100%</td>
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</tbody>
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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 09:45AM to 11:15AM every day.

Meeting Topic:

1. Introduction, reference directions, electrical units, circuit elements, power, energy calculations, ohms law
   Reading: 1.1-1.3, 1.6

2. KVL, KCL, sources, circuit analysis, series and parallel resistances, voltage and current division
   Reading: 1.4-2.3

3. Nodal analysis, mesh analysis
   Reading: 2.4-2.5

4. Thévenin and Norton equivalent circuits
   Reading: 2.6

5. Superposition, equivalent circuits
   Reading: 2.7

6. Maximum power transfer
   Reading: 2.6

7. Waveforms, rms and average values
   Reading: 5.1

8. Energy storage elements: capacitors, inductors
   Reading: 3.1-3.3

9. Energy storage elements: capacitors, inductors
   Reading: 3.4-3.6

10. Test 1

11. Solutions of circuits containing energy storage elements, mechanical analog
   Reading: 4.1-4.3
12. Solutions of circuits containing energy storage elements, mechanical analog 4.4-4.5

13. Complex variable review, phasors, impedance App A, 5.2-3

14. Steady state AC circuit analysis 5.4

15. AC circuit analysis, AC power, maximum power transfer 5.4-5.6

16. Three-phase circuits 5.7

17. Frequency response, Low-pass filters 6.1-6.3

18. Test 2

19. Bode plots, high-pass filters, resonance, second order filter 6.4-6.8

20. Transformers 15.5

21. Transient analysis with Laplace transforms notes

22. Operational amplifiers chapter 14

23. Motors, relays 16, 17

24. Final Exam

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.