Textbook (Required for class)
Course Topics

Basic electric circuit variables and elements; Ohm’s Law; Kirchhoff’s Laws and circuit topology (nodes, loops); Analysis methods (mesh and nodal); Equivalent transformations of circuits (series, parallel), voltage and current division rules, superposition principle; Thévenin equivalent circuit; Norton equivalent circuit; Source transformations; Maximum power transfer; Operational amplifiers; Capacitors and Inductors; steady-state analysis of RC and RL circuits; and laboratory.
Prerequisite

PHYS 142 (credit)
MATH 220 (credit or concurrently enrolled)
• Lab sections are led by teaching assistants.
• Totally ten labs will be given. The lowest score of the ten labs is dropped. The remaining nine lab scores are counted.
• Lab (tentatively) starts from the third week.
• All required components for lab section can be found in SEL 4255. (No additional lab kits are required.)
• Student must attend the lab section for which you registered. NO EXCEPTIONS! Only 28 students are allowed in the lab room at a time. (You cannot go to another lab section, simply because it is full.)
• Attendance of lab section is mandatory and is monitored by the teaching assistant.
• The experiment procedures of each lab can be found at the course website. Lab manual has been posted on course website.
• Lab reports are collected at the end of each lab section. NO LATE LAB REPORTS are accepted!
• Circuit analysis preparation is required to be done before going to lab.
• One lab report is required per student.
• Lab reports submitted without attending lab are NOT ACCEPTED.
Exams

THREE take-home Exams are given. The lowest score of the three take-home exams is dropped.

ONE comprehensive and close-book Final Exam is given during the Final week. The Final Exam is mandatory. NO MAKEUP EXAMS are given!

Exam contents are based on materials covered by course lectures and homework.
Lecture Slides and Notes

Monday, August 26, 2019 3:02 PM

Lecture Slides of each chapter have been posted on the course website.

Lecture Notes will be posted after each lecture.
Homework problems of each chapter are posted on the course website. Homework are not collected but just for students’ practice purpose. Homework solutions are posted on the course website too.
The overall grade of the course is determined based on laboratory and exams as below.

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Laboratory</td>
<td>30%</td>
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<tr>
<td>Highest take-home Exam</td>
<td>20%</td>
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<tr>
<td>Second-highest take-home Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Lowest take-home Exam (dropped)</td>
<td>0%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
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A straight scale is used to determine the grades with A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = 0-59% unless otherwise specified.
What kind of Circuit Analysis skills we will learn in ECE210?

Sunday, August 25, 2019

Chapter 1

Chapter 2

Chapter 3
$L_1 = 0.2 \text{ mH}$

$C_1 = 10 \mu F$

$C_2 = 4 \mu F$

24 V

inductors