EE10 Circuit Analysis I  
Syllabus - Winter 2009

Web Page: http://www.eeweb.ee.ucla.edu/classinfo.php?/ee10/1/winter/9

Time & Place:

<table>
<thead>
<tr>
<th>LEC</th>
<th>MWF</th>
<th>9:00 a.m.-9:50 a.m.</th>
<th>HAINES A2</th>
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<tr>
<td>DIS</td>
<td>T</td>
<td>8:00 a.m.-8:50 a.m.</td>
<td>BOELTER 5280</td>
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<td>DIS</td>
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<td>9:00 a.m.-9:50 a.m.</td>
<td>BOELTER 5280</td>
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<td>DIS</td>
<td>T</td>
<td>12:00 p.m.-12:50 p.m.</td>
<td>BOELTER 5422</td>
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Instructor:
Professor Dee-Son Pan  
Email: pan@ee.ucla.edu  
Office location: 56-147B Engr IV  
Office hours: Tuesday 4:00 p.m.-6:00 p.m.  
Telephone: (310)825-1123

Teaching Assistant:
Zicong Zhou  
Email: zzhou@ee.ucla.edu  
Office location: 53-125 Engr IV  
Office hours: Monday 4:00 p.m.-5:00 p.m. & Tuesday 6:00 p.m.-7:00 p.m.

Prerequisites:
EE1 or Physics 1C. Co-requisite Math 33A.

Course description:

Course objectives:
This is a required course for electrical engineering, with computer and biomedical engineering options as well as computer science and engineering. EE10 introduces the principles of circuits and systems and their role in electrical engineering. EE10 then introduces and demonstrates the power of the fundamental circuit laws, source equivalent circuits, and analysis methods. This is followed by an introduction to the principle of negative feedback and its impact on circuit performance and design. Operational amplifier properties and operational amplifier circuits follow. Finally, the properties and applications of reactive circuit elements are introduced along with first and second order circuits. Students are prepared to analyze circuit properties with these tools and methods for each circuit type using both manual methods and PSpice tools.
Textbook (required):

Reference book

Grading Policy:
- Weekly homework 20%
- Midterm exam 35%
- Final exam 45%

Exams:
The midterm exam will be given on Wednesday, February 11th. The final exam will be given on Monday, March 16th from 11:30a.m. to 2:30 p.m. Both exams are open book.

Homework:
Eight homework sets will be assigned on course website and will be due at 9:50 a.m. on next Wednesday in classroom. Homework solutions will be available on course website two days after the homework is due. Only late homework before 5:00 p.m. Wednesday at 53-109 Engr IV will be accepted with 80% credit.

Topics:
- Introduction to circuit and system engineering, design, and analysis.
- Fundamental resistive and reactive circuit elements
- Fundamental circuit laws.
- Nodal and mesh circuit analysis methods.
- Source equivalent circuits: Norton and Thevenin equivalent circuits.
- Introduction to feedback principles.
- Introduction to operational amplifier circuits and applications.
- Analysis of first-order circuit systems.
- Analysis of second-order circuit systems.
- SPICE circuit analysis.