Catalog Data: EECS 212 Circuits II (4). Continued study of electrical circuits: Steady state power analysis, three-phase circuits, transformers, frequency response, two-port network analysis.

Prerequisites: EECS 211


Software: Cadence (which includes Pspice and PCB Layout) is available on EECS network computers under the program heading “Cadence PSD”

Course Objectives: This course is to complete the study by sophomores in electrical engineering and computer engineering of the basics of the analysis of linear electrical circuits and to provide an introduction to their design.

Prerequisites by Topics:
- Basic dc and ac circuit analysis
- Pspice computer program for circuit analysis

Course Topics:
- Review of steady state sinusoidal analysis
- Frequency response, Bode diagrams
- Magnetically coupled networks
- ac power analysis
- Polyphase circuits
- Two-port networks

Tools Usage:
- Pspice circuit analysis and pcb layout software
- Circuit test equipment

Laboratory topics:
- Laboratory measurement techniques
- AC/DC circuits
- Transient circuits
- Operational Amplifiers
- Frequency response and filters
- Two-port network measurement techniques

Estimated Course Content: Engineering science: 4.0 hours or 100%

Instructor: Kenneth R. Demarest
3028 Eaton Hall 864-7395
email: demarest@ku.edu website: http://people.eecs.ku.edu/~demarest
Office Hours: 8:45 - 9:45 MWF
1:00-2:00 MWF
9:00-10:30 T,R

Lab TA: Mustafa AL-QADI, email: mustafa.alqadi@ku.edu, website: https://people.eecs.ku.edu/~malqadi/eecs212_lab/

Grading: The following percentages will be used to arrive at the final grade scores

Exam I ............. 22.5
Exam II ........... 22.5
Final Exam ....... 25
Laboratory ......... 20
Homework ......... 10
Final letter grades are determined from the final grade scores using a scale determined by the instructor's evaluation of the overall class performance and the difficulty of the exams, but is typically similar to the traditional 90-100 A, 80-90 B, etc. A passing grade must be earned in each of the three grade categories (exams, lab, and homework) to earn a passing grade for the course. Changes announced in class supersede these written instructions.

**Homework:** Homework will be collected at the beginning of class on roughly a weekly basis. Late homework is not accepted, except for unusual circumstances. Collaboration with classmates is permitted. Copying is not permitted and will be penalized.

**Special Needs:** Any student who has a disability that demands special accommodations should contact the instructor personally in order to make arrangements. Also, members of KU sanctioned organizations (band, athletic teams, etc.) that have special needs should also contact the instructor as the need arises.

**Make-ups:** Make-up exams are given rarely, and only if: 1) I am informed IN ADVANCE, and 2) I deem the reason to be sufficiently meritorious (job interviews and pleasure trips are not). If the reason is illness, I REQUIRE documentation of the illness from a health-care professional. I do not consider a cold to be an illness.

**Academic Misconduct:** Instances of cheating may result in expulsion from class and referral to the Dean. Cheating includes, but is not limited to: copying another exam paper, copying another homework paper, copying from solution manuals or previous students' homework papers, having another student do your work, etc.

**Syllabus**

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<th>Week</th>
<th>Topic/Chapter</th>
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<tr>
<td>1</td>
<td>Laplace/Phasor Analysis Review / Chapter 10 &amp; Instructor Notes</td>
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<td>2</td>
<td>AC power / Chapter 11</td>
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<td>3-4</td>
<td>3-phase power / Chapter 12</td>
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<td>5</td>
<td>Magnetically coupled circuits / Chapter 13</td>
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<td><strong>Exam I</strong> (Wednesday, March 1 - tentative).</td>
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<td>6-9</td>
<td>Network Transfer Functions / Frequency response / Chapter 16</td>
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<td>10-11</td>
<td>Two-port networks / Chapter 17</td>
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<td><strong>Exam II</strong> (Monday, April 17 - tentative).</td>
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<td>12-15</td>
<td>Distributed circuits &amp; transmission lines</td>
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<td><strong>Final Exam</strong> (comprehensive, Friday, May 12, 10:30 a.m.-1:00 p.m.)</td>
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