In the name of Allah, Most Gracious, Most Merciful.

KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
Electrical Engineering Department
EE 205-3 (59-2025, 10:00-11:15 am)
ELECTRIC CIRCUITS II, SPRING 2009/2010 (092) Schedule

Instructor: Ali Hussein Muqaibel, Ph.D., Office: 59-1088
Office Hours: (Sun 11:20-11:50am, Monday 10:30-11:50am, Tuesday 5:15-6:15PM), Please check my website for updated office hours.
Tel: 1595 E-mail: muqaibel@kfupm.edu.sa
Course web site in WebCT: http://webcourses.kfupm.edu.sa
My Web: http://faculty.kfupm.edu.sa/ee/muqaibel/

<table>
<thead>
<tr>
<th>Wk</th>
<th>Date</th>
<th>Topics</th>
<th>Text</th>
<th>Quizzes/Exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>21-23 Feb.</td>
<td>Introduction to three-phase circuits</td>
<td>11.1-11.3</td>
<td></td>
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<tr>
<td>2</td>
<td>28-2 March</td>
<td>Balanced three-phase circuits</td>
<td>11.4-11.6</td>
<td>Q1 (Material: 11.1-11.3)</td>
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<tr>
<td>3</td>
<td>7-9 March</td>
<td>Natural and step responses of RLC circuits</td>
<td>8.1-8.2</td>
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<tr>
<td>4</td>
<td>14-16 March</td>
<td>Natural and step responses of RLC circuits</td>
<td>8.3-8.5</td>
<td>Q2(Material: 8.1-8.3)</td>
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First Major Exam, Wednesday 24th of March, 2010, 7:00-9:00 pm (Material: Weeks 1-4, See below)

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<tr>
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<tbody>
<tr>
<td>5</td>
<td>21-23 March</td>
<td>State equations and computer aided circuit analysis</td>
<td>HO (7.1-7.2)**</td>
<td>Exam 1</td>
</tr>
<tr>
<td>6</td>
<td>28-30 March</td>
<td>State equations and computer aided circuit analysis</td>
<td>HO (7.3-7.4)</td>
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<tr>
<td>7</td>
<td>4-6 April</td>
<td>Resonant circuits</td>
<td>HO (10.1, 10.3)</td>
<td>Q3 (Material: HO 7.1-7.4)</td>
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<tr>
<td>8</td>
<td>11-13 April</td>
<td>Resonant circuits, Circuit analysis in s-domain</td>
<td>HO (10.4-10.5)</td>
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Midterm Vacation, Sat. 17 - Wed. 21 April 2010

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<tr>
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<tbody>
<tr>
<td>9</td>
<td>25-27 April</td>
<td>Circuit analysis in s-domain, Mutual inductance and transformers</td>
<td>HO (10.5)</td>
<td>Q4 (Material: HO 10)</td>
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<tr>
<td>10</td>
<td>2-4 May</td>
<td>Mutual inductance and transformers</td>
<td>9.10, 9.11</td>
<td>Q5 (Material: 6+9)</td>
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Second Major Exam, Saturday 8th of May, 2010, 7:00-9:00 pm (Material: Weeks 5-10, See below)

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<tr>
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<th>Text</th>
<th>Quizzes/Exams</th>
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</thead>
<tbody>
<tr>
<td>11</td>
<td>9-11 May</td>
<td>Filters and Bode plot</td>
<td>14.1-14.5</td>
<td>Exam 2</td>
</tr>
<tr>
<td>12</td>
<td>16-18 May</td>
<td>Filters and Bode plot</td>
<td>Appendix E (E.1-E.4)</td>
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<tr>
<td>13</td>
<td>23-25 May</td>
<td>Two-port networks</td>
<td>18.1-18.2</td>
<td>Q6 (Material: 14+App)</td>
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<tr>
<td>14</td>
<td>30-1 June</td>
<td>Two-port networks</td>
<td>18.3-18.4</td>
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<td>15</td>
<td>6-8 June</td>
<td>Review</td>
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EE 205 Final Examination, Monday 7:30 am, 14th of June 2010

* Last day for dropping the course with grade of W is Wednesday 31st of March 2010.
** HO means Handouts

Grade Distribution:

- Major Exams: 40% (Each 20%)
- Class Work: 25% (6 Quizzes 12 %, Attendance 3%, Projects/Assignments 10 %)
- Final Exam: 35% (Comprehensive)

First Major Exam’s Material: “Balanced three-phase circuits” and “Natural and step responses of RLC circuits”.
Second Major Exam’s Material: “State equations and computer aided circuit analysis”, “Resonant circuits”, “Circuit analysis in s-domain”, and “Mutual inductance and transformers”.

Homework List: Available through website/ WebCT

Computer Assignments: Will be explained later in separate documents.

Important Points to Remember

1. **Homework**: Homework is to be solved completely by students as soon as the material is covered in the class. A quiz will be given on Tuesdays according to the above table. Homework solutions will be posted.
2. **Website/WebCT**: All course related material, assignments, announcements, and communications will be posted through Website/WebCT. Students are advised to check the site on regular bases for information.
3. **Information**: Students are responsible about all information discussed in the class and/or shown on Web.
4. **Attendance**: According to the university regulations, any student that exceeds 20% of the scheduled class meeting without an official excuse will receive a grade of DN in the course. Every unexcused absence results in -0.5 , 6 absences results in 0 out of 3 in the attendance and class performance, Two late arrival= One absence.
5. **Official excuses**: All official excuses must be submitted to the instructor no later than one week of the date of the official excuse. A late excuse may not be accepted by the instructor.
6. **Work**: This course is one of the most important courses of the Electrical Engineering Dep. and requires hard work and continuous attention. Therefore, it is advisable that students exert extra efforts to understand it.
King Fahd University of Petroleum and Minerals

Electrical Engineering Department

EE205: ELECTRIC CIRCUITS II

Course Description


Prerequisite(s) EE201 (Electrical Circuits I)

Other useful references and material


Course objectives:

After successfully completing the course, the students will be able to

- understand basic concepts of DC and AC circuit behavior.
- develop and solve mathematical representations for simple RLC circuits.
- understand the use of circuit analysis theorems and methods.

Class/Laboratory Schedule: 3 lectures per week, 50 minutes each or 2 lectures per week 75 minutes each.

Contribution of course to meeting the professional component

The students will model electrical systems. They build on what was acquired in Electrical Circuits I, and are introduced to higher order systems and complex frequency domain. The course will emphasize the use of computer aided circuit analysis, modifying the circuit and system behaviors to achieve the desired performance. Design projects are assigned and intended to build the students’ ability to design a system and its components to meet required specifications.

Relationship of Course to program outcomes

This course supports the following four program outcomes out of thirteen outcomes required by ABET Criterion 5 for accrediting engineering program.

- An ability to apply knowledge of mathematics, science, and engineering to the analysis and design of electrical circuits
- An ability to identify, formulate, and solve engineering problems in the area circuits and systems.
- An ability to use the techniques, skills, and modern engineering tools such as computer aided circuit analysis, necessary for engineering practice.
- An ability to design a system, components or process to meet desired needs within realistic constraints such as economic, environmental, social political, ethical, health and safety, manufacturability and sustainability

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