Electric Circuits II  
EELE 2302  
Course Syllabus

“Faced with the choice between changing one's mind and proving that there is no need to do so, almost everyone gets busy on the proof.”

Galbraith's Law

| Prerequisite: | Electric circuits I |
| Instructor | Dr. Hala J. El-Khozondar  
Office: E204  
E-mail: hkhozondar@iugaza.edu |
| Meetings | Room L501 on Sunday and Tuesday from 9:30-11:00 |
| Teaching Assistant | Eng. Faysal Al Malfoooh |
| Topics | Sinusoidal steady state analysis, power calculation in sinusoidal circuits, complex power, balanced three phase circuits, Laplace transform, circuit analysis using Laplace transform, low-pass filters, high-pass filters, band-pass filters, band-reject filters, Bode diagram, tow-port circuits. |
| References |  
| Course Objectives | To know the single-phase sinusoidal circuit behavior  
To know the average- & complex power in single-phase sinusoidal circuits  
To be familiar with the balanced three-phase circuit analysis  
To be familiar with the Laplace transform  
To be able to solve circuits applying the Laplace transform  
To be able to analyze the low-pass, high-pass, band-pass, and band-reject filter circuits  
To recognize the parameters of the two-port networks |
| Intended Learning Outcomes | To analyze single-phase sinusoidal circuits  
To calculate the average and complex power in single-phase sinusoidal circuits  
To analyze balanced three-phase circuits applying single-phase equivalent circuit  
To find the functional and operational Laplace transform of different circuits |
functions

- To apply the Laplace transform in electric circuit analysis
- To obtain the response of various types of passive filter circuits
- To analyze two-port networks

**Assessment**

Midterm Exam (35%)
Assignments (10%)
Quizzes (10%)
Final Exam (45%)

**Homework Policy**

Homework assignments will be given in a regular basis. Each assignment is to be returned within one week. *No delay will be accepted except with good excuse.*

**Office Hours**

Open-door policy, by appointment, or as posted

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**Course outline:**

Teaching starts on Saturday: January 28, 2006 and ends on Monday: May, 15, 2006 (15 weeks)

<table>
<thead>
<tr>
<th>Chapter number and Title</th>
<th>Number of Weeks (number of meetings)</th>
<th>Homework problems</th>
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<tbody>
<tr>
<td>Chapter 9 Sinusoidal Steady-State Analysis</td>
<td>2 (4 meeting)</td>
<td>2, 3, 14, 19, 35, 39, 46, 52, 63, 71</td>
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<tr>
<td>Chapter 10 Sinusoidal Steady-State Power Calculation</td>
<td>2 (4 meeting)</td>
<td>8, 14, 33, 38, 44, 57, 61, 65</td>
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<tr>
<td>Chapter 11 Balanced Three Phase Circuits</td>
<td>2 (4 meetings)</td>
<td>3, 5, 13, 16, 20, 26, 39</td>
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<tr>
<td><strong>Midterm</strong></td>
<td><strong>Tuesday, March 21</strong> 11:00-12:30</td>
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<tr>
<td>Chapter 12 Introduction to Laplace Transform</td>
<td>4 (8 meetings)</td>
<td>1, 8, 11, 24, 27, 33, 35, 40, 50</td>
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<tr>
<td>Chapter 13 The Laplace Transform in Circuit Analysis</td>
<td>2 (4 meetings)</td>
<td>8, 12, 14, 28, 31, 40, 54, 88</td>
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<tr>
<td>Chapter 14 Introduction to Frequency Selective Circuits</td>
<td>3 (6 meetings)</td>
<td>3, 6, 19, 20, 23, 25, 27, 31</td>
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<tr>
<td>Chapter 18 Two-Port Circuits</td>
<td>2 (4 meetings)</td>
<td>2, 5, 7, 8, 13, 15, 29, 37, 40</td>
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<td><strong>Final</strong></td>
<td><strong>Thursday, May 25</strong> 12:00-3:00</td>
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