



FACULTY OF ENGINEERING  
DEPARTMENT OF ELECTRONICS AND COMMUNICATIONS

**GEE336**

**Electronic Circuits II**

Lecture #1

Course Introduction and  
Amplifier Feedback Concepts

**Instructor:**

**Dr. Ahmad El-Banna**

# Agenda

- Course Objectives
- Course Information
- Lectures List
- Amplifier Feedback Basics

# Course Objectives

- By the end of this course, students should be able to:
  - Analyze a Feed-Back Amplifier
  - Design a Function Generator
  - Design Active Filters
  - Design ADC and DAC
  - Design a Regulated Power Supply
  - Implement Simple Projects Using Op-Amps, IC555 , ...etc

# Course Information

<b>Instructor:</b>	Dr. Ahmad El-Banna <a href="http://bu.edu.eg/staff/ahmad.elbanna">http://bu.edu.eg/staff/ahmad.elbanna</a> Office: Room # Email: <a href="mailto:ahmad.elbanna@feng.bu.edu.eg">ahmad.elbanna@feng.bu.edu.eg</a>
<b>Lectures:</b>	Sunday ~ Wednesday 11:00 -12:40 Prerequisite: GEE 331
<b>Office Hours:</b>	Sunday ~ Wednesday 12:50 -13:40
<b>T.A.:</b>	Eng.
<b>Texts/Notes:</b>	<ul style="list-style-type: none"><li>• Lectures slides, available by each lecture, and found online at <a href="http://bu.edu.eg/staff/ahmad.elbanna-courses/12135">http://bu.edu.eg/staff/ahmad.elbanna-courses/12135</a> xx</li><li>• T. Floyd, <b>Electronic devices</b> - Conventional Current Version, 9<sup>th</sup> edition, Prentice Hall.</li><li>• R. Boylestad, <b>Electronic Devices and Circuit Theory</b>, 11<sup>th</sup> edition, Prentice Hall.</li></ul>

# Course Information..

<p><b>Additional References:</b></p>	<ul style="list-style-type: none"> <li>• Sedra &amp; Smith, <b>Microelectronic Circuits</b>, 6<sup>th</sup> edition.</li> <li>• Horowitz &amp; Hill, <b>The Art of Electronics</b>, 2<sup>nd</sup> edition, Cambridge Press.</li> <li>• EE113 Course Notes Electronic Circuits by Prof. G. Kovacs, Stanford University, Department of Electrical Engineering.</li> </ul>																														
<p><b>Assessment schedule:</b></p>	<table border="1"> <tr> <td>Assessment 1</td> <td>Fifth-week examination</td> <td>week</td> <td>5</td> </tr> <tr> <td>Assessment 2</td> <td>Mid-term examination</td> <td>week</td> <td>9</td> </tr> <tr> <td>Assessment 3</td> <td>Project discussion</td> <td>Week</td> <td>14</td> </tr> <tr> <td>Assessment 4</td> <td>Final-term examination</td> <td>week</td> <td>15</td> </tr> </table>	Assessment 1	Fifth-week examination	week	5	Assessment 2	Mid-term examination	week	9	Assessment 3	Project discussion	Week	14	Assessment 4	Final-term examination	week	15														
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<p><b>Grading:</b></p>	<table border="1"> <tr> <td>Fifth-week examination</td> <td>5</td> <td>%</td> </tr> <tr> <td>Mid-term examination</td> <td>30</td> <td>%</td> </tr> <tr> <td>Final-term examination</td> <td>40</td> <td>%</td> </tr> <tr> <td>Quizzes</td> <td>5</td> <td>%</td> </tr> <tr> <td>Oral examination</td> <td>-</td> <td>%</td> </tr> <tr> <td>Practical examination</td> <td>10</td> <td>%</td> </tr> <tr> <td>Laboratory examination</td> <td>-</td> <td>%</td> </tr> <tr> <td>Semester work</td> <td>10</td> <td>%</td> </tr> <tr> <td>Design Project</td> <td>-</td> <td>%</td> </tr> <tr> <td><b>Total</b></td> <td><b>100</b></td> <td><b>%</b></td> </tr> </table>	Fifth-week examination	5	%	Mid-term examination	30	%	Final-term examination	40	%	Quizzes	5	%	Oral examination	-	%	Practical examination	10	%	Laboratory examination	-	%	Semester work	10	%	Design Project	-	%	<b>Total</b>	<b>100</b>	<b>%</b>
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# Lectures List

Week#1	• Introduction and Feedback Basics
Week#2:4	• Op-AMP Linear Applications & Sawtooth Generators
Week#5:6	• Sinusoidal Oscillators
Week#7:8	• Active Filters
Week#9	• Mid-Term Exam
Week#10:11	• 555 Timer & Multivibrators
Week#12:13	• VCO & Design of DAC and ADC
Week#14	• Project Discussion & Final Review