

**Benha University**  
**Faculty of Engineering**  
**Electrical Engineering Department**

**E1201- Electronic Circuits (A) (2020/2021 G)**

Instructor: *Prof. Ashraf Shawky Seliem Mohra* Office: 2C18

Text Book : "Microelectronic Circuits" 7<sup>th</sup> edition, by Adel S. Sedra, Kenneth C. Smith",  
 New York Oxford, OXFORD UNIVERSITY PRESS, 2015.

Week #	Topic	
1	<b><u>Review, semiconductors</u></b>	
2-7	<ul style="list-style-type: none"> <li>● <b>Diodes</b></li> <li>● PN junctions</li> <li>● Diode models</li> <li>● Diode circuits</li> <li>● Modeling at forward bias, Reverse bias</li> <li>● Operation in reverse bias, zener diodes</li> <li>● Rectifier circuits, Half wave and full wave</li> <li>● Peak rectifier</li> <li>● Clipping and clamping</li> <li>● Voltage Doubler, voltage tripler, voltage quadrupler</li> <li>● Seven segment decoders,</li> <li>● Other diode type</li> </ul>	
7	<b><u>Mid-term Exam</u></b>	
8-11	<b><u>Bipolar Junction Transistors (BJT)</u></b> <ul style="list-style-type: none"> <li>● PNP junctions, NPN junctions</li> <li>● Current voltage characteristics</li> <li>● Graphical representation of transistor characteristics</li> <li>● Bipolar Junction Transistors circuits at DC</li> </ul>	
12-14	<b><u>Metal Oxide Semiconductor Field Effect Transistor (MOSFET)</u></b> <ul style="list-style-type: none"> <li>● Constructions</li> <li>● Transistor regions</li> <li>● Finite output resistance</li> <li>● MOSFET Dc analysis</li> </ul>	
15	<b><u>Review</u></b>	

**Grading:**

25 marks for Homework/Attendance

25 marks for Midterm Exam

75 marks for final Exam

Total Mark: 125

**Attendance:** Attendance is mandatory in lectures and sections. A student who misses more than 25 % of classes will be deprived from the entering of final exam.

**Notes** When a student finds a difficult in understanding any part of the course contents, please contact me during the office hours.