



**Jordan University of Science and Technology**  
**Faculty of Science & Arts**  
**Physics Department**

PHY233 Electronics Lab (1)
Second Semester 2020-2021

<b>Course Catalog</b>
1 Credit Hours. Thevenin's theorem , A.C circuits, The Diode, Diode rectifier circuits, Zener Diode, Transistor Emitter Biasing, Transistor Voltage Divider Biasing, The Common Emitter Amplifier, Inverting Op?Amp Circuit.

<b>Text Book</b>	
<b>Title</b>	Experiments in Electronic Devices
<b>Author(s)</b>	Howard M. Berlin
<b>Edition</b>	2nd Edition
<b>Short Name</b>	Ref. 1
<b>Other Information</b>	

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
Ref. 2	Electronic Principles	A. P. Malvino	6th Edition	
Ref. 3	Principles of Electronics: Analog and Digital	Lloyd R. Fortney	6th Edition	

<b>Instructor</b>	
Name	<b>Mr. Shadi El-Samarah</b>
Office Location	-
Office Hours	
Email	saelsamarah@just.edu.jo

<b>Class Schedule &amp; Room</b>
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**Section 1:**

Lecture Time: Sun : 14:30 - 17:30

Room: LAB5 PH4 L0

**Section 2:**

Lecture Time: Thu : 08:30 - 11:30

Room: LAB3 PH3 L0

**Section 3:**

Lecture Time: Mon : 14:30 - 17:30

Room: LAB4 PH3 L0

**Prerequisites**

Line Number	Course Name	Prerequisite Type
922310	PHY231 Electronics (1)	Pre./Con.
921060	PHY106 General Physics (Laboratory)(2)	Prerequisite / Pass

**Tentative List of Topics Covered**

Weeks	Topic	References
Week 1	Thevenin's theorem	
Week 2	A.C circuits	
Week 3	The Diode	
Week 4	Diode rectifier circuits	
Week 5	Zener Diode	
Week 6	Transistor Emitter Biasing	
Week 7	Transistor Voltage Divider Biasing	
Week 8	The Common Emitter Amplifier	
Week 9	Inverting Op-Amp Circuit	
Week 10	Supplementary experiment	
Week 12	Final Lab Exam	

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Analyze and verify the characteristics of different electronic devices such as diodes, transistors, rectifiers and amplifiers and their applications [21, 12, 33, 14, 15]	30%	

Explore the operation and advantages of operational amplifiers. [21, 12, 33, 14, 15]	5%	
Build a common emitter amplifier and measure its voltage gain [21, 12, 33, 14, 15]	5%	
Operate correctly the standard electronic test equipment such as oscilloscopes, digital multi-meters [21, 12, 33, 14, 15]	15%	
Analyze electronic circuits and compare their theoretical performance with their actual performance [21, 12, 33, 14, 15]	20%	
Enhance ability of students to communicate results and ideas through writing scientific reports, drawing figures and calculate uncertainty of the measured values. [21, 12, 33, 14, 15]	25%	

Relationship to Program Student Outcomes (Out of 100%)					
1	2	3	4	5	6
25	12.50	37.50	12.50	12.50	

Evaluation	
Assessment Tool	Weight
Reports	40%
Quizes	20%
Final Practical Exam	20%
Final Written Exam	20%

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