



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

PHY353 Modern Physics (Lab)

First Semester 2017-2018

**Course Catalog**

1 Credit Hours. Several experiments in Modern physics such as Photoelectric Effect, Geiger-Muller Tube, Specific charge of the electron ( $e/m$ ), Black Body Radiation, Franck Hertz experiment, Diffraction Grating, Electron Diffraction, X Ray Diffraction, Hall effect, Milikan's oil drop

**Text Book**

<b>Title</b>	Concepts of Modern Physics
<b>Author(s)</b>	Arhur Beiser
<b>Edition</b>	5th Edition
<b>Short Name</b>	1
<b>Other Information</b>	

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
2	Modern Physics	Anderson	2nd Edition	
3	Modern Physics	Kane	2nd Edition	

**Instructor**

Name	<b>Dr. Hasan Al-Khateeb</b>
Office Location	PH3 L1
Office Hours	Sun : 12:30 - 13:30 Mon : 13:00 - 14:00 Tue : 12:30 - 13:30 Wed : 13:00 - 14:00 Wed : 14:00 - 15:30 Thu : 12:30 - 13:30
Email	hkxhateeb@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Thu : 14:30 - 17:30 Room: LAB11 PH3 L1

Prerequisites		
Line Number	Course Name	Prerequisite Type
922510	PHY251 Modern Physics	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Photoelectric Effect	
Week 2	Geiger-Muller Tube	
Week 3	Specific charge of the electron (e/m)	
Week 4	Black Body Radiation	
Week 5	Franck Hertz experiment	
Week 6	Diffraction Grating	
Week 7	Electron Diffraction	
Week 8	X Ray Diffraction	
Week 9	Hall effect	
Week 10	Millikan's Oil Drop	
Week 11	Substituting the missing Experiment	
Week 12	Final exam	

Mapping of Course Objectives to Program Student Outcomes <sup>1</sup>	Assessment method
Student should use the equipment available to him to measure in a correct manner.	
The student should compare the experimental result to the accepted value of the physical quantities.	
The student should describe the relationship between the physical quantities.	
The student represents the practical data on the graph and the calculations are performed on it.	
To provide an experimental foundation for the theoretical concepts introduced in the lectures.	
The student should learn how to write a technical report which communicates scientific information in a clear and concise manner.	
The student should try to introduce new concepts and techniques which have a wide application in experimental science.	

**Relationship to Program Student Outcomes (Out of 100%)**

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)

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