



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

PHY353 Modern Physics Lab

Second Semester 2022-2023

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.

Text Book

Title	Concepts of Modern Physics
Author(s)	Arthur Beiser
Edition	5th Edition
Short Name	introduction and theory
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Experimental reference	Experiments in Modern Physics	Adrian C. Melissinos	2nd Edition	

Instructor

Name	Mr. Belal Alkhasawneh
Office Location	-
Office Hours	
Email	byalkhasawneh@just.edu.jo

Class Schedule & Room

Section 1:

Lecture Time: Sun : 13:30 - 15:30

Room: LAB11 PH3 L1

Prerequisites

Line Number	Course Name	Prerequisite Type
923511	PHY351 Quantum Mechanics(1)	Prerequisite / Pass

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	Substituting the missing Experiment	
Week 10	Final exam	

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
The student will be able to write/follow a procedure and perform some modern physics experiments [22]	20%	Reports, Final Exam (practical)
Students will be able to collect and analyze the experimental results scientifically [23]	25%	Reports, Final Exam (written), Final Exam (practical)
Students will be able to discuss the collected results and calculate errors that reflect a solid theoretical background in modern physics [23]	25%	Reports, Final Exam (written), Final Exam (practical)
Students will be able to communicate the lab results written and orally [24]	20%	Reports, Presentation
Students will comply with laboratory ethics regarding conduct and results reporting [15]	10%	Ethical responsibilities

Relationship to Program Student Outcomes (Out of 100%)					
1	2	3	4	5	6
	20	50	20	10	

Evaluation	
Assessment Tool	Weight
Reports	40%
Final Exam (written)	20%
Final Exam (practical)	20%
Presentation	10%
Ethical responsibilities	10%

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