



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

PHY283 Optics (Lab)

First Semester 2017-2018

Course Catalog

1 Credit Hours. This course is an introduction to optics, it covers the following topics: reflection and refraction, mirrors and lenses, image formation, aberrations, wave optics, nature of light, wave equation, interference. interferometer, Interferometry, diffraction, polarization, radiometry, introduction to fourier transform.

Text Book

Title	Introduction to Optics
Author(s)	F. L. Pedrotti, L. M. Pedrotti, L. S. Pedrotti
Edition	2nd Edition
Short Name	
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
	Introduction to Classical and Modern Optics	Meyer-Arendt.	1st Edition	
	Optics	Hecht	1st Edition	

Instructor

Name	Dr. Hasan Al-Khateeb
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	hkhateeb@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Wed : 14:30 - 17:30 Room: LAB5 PH4 L0

Prerequisites		
Line Number	Course Name	Prerequisite Type
922820	PHY282 Optics	Pre./Con.

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Properties of Light	From
Week 2	Plane Surface and Prisms	From
Week 3	Spherical Surfaces	From
Week 4	Thin Lenses	From
Week 5	Spherical Mirrors	From
Week 6	The Effects of Stops, Lens Aberrations	From
Week 7	Optical Instruments	From
Week 8	Vibration and Waves, The Superposition of Waves	From
Week 9	Interference of Two Beams of Light	From
Week 10	Interference Involving Multiple Reflections	From
Week 11	Fraunhofer Diffraction by a Single Opening	From
Week 12	The Double Slit, The Diffraction Grating	From
Week 13	The Polarization of Light	From

Mapping of Course Objectives to Program Student Outcomes¹	Assessment method
Learn basic laws governing behaviour of light.	
Learn the basics of lenses, mirrors and prisms.	
Learn to apply mathematics and superposition of two waves in interference, diffraction and polarization.	
Learn the basic principles medical, scientific and industrial applications of optics.	

Relationship to Program Student Outcomes (Out of 100%)

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

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