

The Republic of Iraq
Ministry of Higher Education
and Scientific Research
Scientific Supervision and
Evaluation Authority



University: Shatt Al-Arab University
College: College of technical Engineering

Department Laser and Optoelectronics
Engineering Technology

The Second stage

Lecturer Name: Hwwra Hazeem Mhammed

Academic qualification

Place of work: Shatt Al-Arab University

weekly lesson schedule

Course Lecturer		Hwwra Hazeem Mhammed			
e-mail					
Title		ENGINEERING PHYSICS			
Course Coordinator					
Course Objectives		Construct energy level diagrams of the fine structure of hydrogen and hydrogen-like ions.			
Course Description		Describe the origin of sub-shells, terms and multiplets for atoms with two or more electrons not in closed sub-shells..			
Textbooks		Textbook of Engineering Physics			
final exam 50	project	Assignment	daily exams	lab	Midterm Exam
		20	20	20	10
General Notes					

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Lecturer Name: : Alla Naseer Krbat

..Scientific title:

Academic qualification:

Place of work: Shatt Al-Arab
University

weekly lesson schedule

Week	Date	Topics Covered	Number of Hours	Notes
1	10-11-2024	Introduction to Engineering Physics, Newtonian mechanics and applications, Overview of wave motion and harmonic oscillators, Wave properties: Interference and diffraction		
2	17-11-2024	Coherence and the basics of wave-particle duality, Practical: Diffraction experiments and interference patterns		
3	24-11-2024	Basics of blackbody radiation, Blackbody Radiation Spectrum, Energy Distribution in Blackbody Radiation Spectrum, Photo-Electric Effect, Experimental Study, Compton Effect		
4	1-12-2024	Wave Particle Dualism, de-Broglie Hypothesis, de-Broglie's Wavelength, de-Broglie's Wavelength-Extension to electron Particle		
5	8-12-2024	Matter Waves And Their Characteristic Properties, Phase Velocity, Group Velocity and Particle Velocity, Relation between Phase Velocity and Group Velocity,		
6-7	15-12-2024 22-12-2024	Relation between Group Velocity, Phase Velocity and Velocity of Light, Solved Problems.		
8-9	29-12-2025 5-1-2025	Dielectric Constant And Polarization Of Dielectric Materials, Dielectric Constant, Dielectric Susceptibility, Polarizability		
10-11-12	12-1-2025 19-1-2025 26-1-2025	Relation between Dielectric Constant and Polarization, Types of Polarization, Electronic Polarization, Ionic Polarization, Orientational Polarization		
13-14	2-2-2025 9-2-2025	Space Charge Polarization, Frequency and Temperature Dependence of Polarization , Ferro And Piezo–Electricity, Properties of Ferroelectric materials, Piezoelectric Materials , Important Applications of Dielectric Materials , Solved Problems		
15	16-2-2025	Classification of Magnetic Material, Antiferro Magnetic Materials, Ferrimagnetic Materials, Domain Theory of Ferromagnetism, Hysteresis Curve , Soft and Hard Magnetic Materials , Solved Problems		

lecturers signature:

Head of Department signature: