



The Hashemite University
Faculty of Science
Department of Physics

Department: Physics	
Year: 2025/2026	Semester: 1 st

Course Information	
Course Title	Quantum Mechanics I
Course Number	110102362
Course Credits	Three credit hours
Prerequisite	Physics 110102261.
Course Duration	14 - weeks
Instructor(s)	Dr. Adel Shaheen E Mail: adel_shaheen@hu.edu.jo
Course Time	9:30 – 10:30 Sun, Tue, Thu
Office Location	Phys/room # 101, 237, 213
Office Hours	10:30 – 11:30 daily

Textbooks	
1	Title Quantum Physics Author Stephen Gasiorowicz, 3 rd Edition
2	Title Introduction to quantum mechanics Author David J. Griffiths, 2 nd Edition

References
1- Quantum Mechanics by Bransden, B.H., Joachain, C.J., 2 nd Edition. 2- Quantum mechanics by Nouredine Zettili.

Course Description
Blackbody radiation, photoelectric effect, wave properties of matter, Bohr atom, Wave packets, probability interpretation of wave function, Schrodinger equation, Heisenberg uncertainty relations, expectation values, momentum in wave mechanics, eigen value equation, expansion postulate, one dimensional potentials, degeneracy and simultaneous observables, time dependence and the classical limit, operator methods, time dependence of operators.

Major Topics Covered:

Topics	# of Weeks	Contact Hours*
The emergence of quantum physics	2	6
Wave particle duality, probability, and the Schrodinger equation	3	9
Eigenvalues, eigenfunctions, and the expansion postulate	3	9
One dimensional potentials	2	6
The general structure of wave mechanics	2	6
Operator methods in quantum mechanics	2	6
Total	14	42

*Contact Hours include lectures, quizzes and exams.

Student Responsibility:

Attendance:

Attendance will be strictly enforced according to current university regulations that require the attendance of at least 85% of the total number of lectures. Students are responsible for the material covered in the class. Missing an exam without a valid excuse earns you zero points. Makeup exams are given to those with valid excuses.

Grading Plan:

First Exam:	25 points
Second Exam	25 points
Quizzes and HomeWorks:	10 points
Final Exam:	50 points