Nebraska Wesleyan University

PHYS 4000 Quantum Mechanics

Catalog

2025-2026

Course Description

An introduction to fundamental concepts and topics in quantum mechanics. Topics include the Schrödinger equation, wave functions, probability, the uncertainty principle, stationary states, one-dimensional potentials, Hilbert space and formal operator methods, the hydrogen atom, spin and angular momentum, and identical particles and entanglement. Analytical and computational solutions to the Schrödinger equation will be developed. Quantum information science and its applications will also be explored.

Prerequisite(s): PHYS 2400 Introduction to Modern Physics, CMPSC 2200 Python Programming I and MATH 2600 Calculus III or MATH 3100 Differential Equations or permission of the instructor.

(Normally offered even spring semesters.)

Course Hours

4 hours

Departments

1. Physics