PHYS 3P70 - Introduction to Quantum Mechanics

Instructor - T. Harroun

Brock calendar entry:

Concepts and ideas of Quantum Mechanics, first introduced in Y1 general physics courses, and elaborated upon in the Y2 Modern Physics course (PHYS 2P50), are put onto a firm mathematical footing. This is an essential course for Physics and combined majors.

Requirements:

The Schrödinger equation is the master equation for the time evolution of a quantum-mechanical system. Methods of solving this differential equation will be discussed in considerable detail; it is important that the students feel comfortable with the linear algebra, complex numbers, calculus, and similar mathematical topics covered in Y1 and Y2 (MATH 2F05/2F95) mathematics courses. Elementary classical mechanics is essential.

Topics covered:

Basic principles of quantum mechanics. Quantum mechanics in one dimension: bound states, barrier problems, tunnelling. Quantum mechanics in two and three dimensions: hydrogen atom, angular momentum. Spin. Approximate methods in quantum mechanics.

Textbook:

Introduction to Quantum Mechanics 2/e, David Griffiths

Lectures:

0900-1000 M W F, in TH254

Tutorials:

1100 F in MC C206

Instructor:

Thad Harroun (MC B201, ext. 4294, e-mail: tharroun@brocku.ca)

The marking scheme:

Component	Weight
Homework Assignments	35%
Midterm test	20%

Final exam	45%

Note:
Penalty for late assignments: -15% per day, including Saturdays and Sundays.
