

**UNIVERSITY OF CALGARY  
DEPARTMENT OF PHYSICS AND ASTRONOMY  
COURSE INFORMATION SHEET**

1. Course: **Physics 443, Quantum Mechanics I**

Lecture/Time/Session(s): L01: TR, 9:30-10:45, SS541, Winter 2013

Instructor: Dr. N. Moazzen-Ahmadi      Office: SB 525, 403-220-5394  
Office Hours: 1:00-3:00 p.m. Monday or by appointment  
Email: ahmadi@phas.ucalgary.ca  
Physics and Astronomy Office: SB 605, 403-220-5385

2. Prerequisite(s): Physics 325 and 343

Note: Credit for both Physics 443 and Chemistry 373 will not be allowed.

Note: The Faculty of Science policy on pre- and co-requisite checking is outlined on page 203, columns 2 and 3 of the 2009-2010 Calendar. A student may not register in a course unless a grade at least "C-" has been obtained in each pre-requisite course; it is the responsibility of students to ensure that their registrations are in order.

3. The University policy on grading and related matters is described on pages 41-53 of the 2009 - 2010 Calendar. In determining the overall grade in the course the following weights will be used:

Assignments	20%	
Midterm	20%	(In class test, March 7)
Weekly reading quizzes	15%	
Final Examination (3 hours)	45%	(To be scheduled by the Registrar)

There will be a final examination scheduled by the Registrar's Office. A passing grade on the final examination is required in order to pass the course.

4. Missed Components of Term Work. The regulations of the Faculty of Science pertaining to this matter are outlined on page 204, column 1 of the 2009-2010 Calendar. It is the student's responsibility to familiarize himself/herself with these regulations.

**TEXTBOOK:**      **No Textbook required:** Dr. R. Thompson's Quantum notes will be used.  
*Available for purchase in the Department Office, Science B 605*

Department Approval: \_\_\_\_\_ DATE: Jan 7 / 13

Associate Dean's Approval for out of regular class-time activity: \_\_\_\_\_ Date: \_\_\_\_\_

**IMPORTANT/SAFEWALK:** Campus Security will escort individuals day or night. Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.

Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under the heading "Student Misconduct (pages 49-53 for 2009-2010).

**FOIP:** This course will be conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP). As one consequence, students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page.

**STUDENT UNION INFORMATION:** VP Academic Phone: 220- 3911 Email: suvpaca@ucalgary.ca  
SU Faculty Rep. Phone: 220 3913 Email: sciencerep@su.ucalgary.ca

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## Course syllabus

*The schedule is tentative*

The Postulates of Quantum Mechanics (2 Lectures)

Probability and Operators in Wave Mechanics (4 Lectures)

The Free Particle in Quantum Mechanics (3 Lectures)

One Dimensional Potentials (3 Lectures)

Dirac Notation and Matrix Mechanics (4 Lectures)

The Postulates of Quantum Mechanics in Dirac Notation (4 Lectures)

Harmonic Oscillator (3 Lectures)

Orbital Angular Momentum and the Hydrogen Atom (2 Lectures)