

# Introduction to Quantum Physics

PHY B56 - Fall 2014

**Lecture** Tuesday 10:00 am - 12:00 pm MW 262

**Tutorial** Thursday 10:00 am - 12:00 pm PO 101

"I think I can safely say that nobody understands quantum mechanics"

– Richard Feynman

"If you are not confused by quantum physics then you haven't really understood it"

– Niels Bohr

"There is no general consensus as to what its fundamental principles are, how it should be taught, or what it really "means". Every competent physicist can "do" quantum mechanics, but the stories we tell ourselves about what we are doing are as various as the tales of Scheherazade, and almost as implausible."

– David Griffiths

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Office Hours

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## Required Materials

- **Textbook:** *Introduction to Quantum Mechanics* by David J. Griffiths (Pearson, 2nd Ed.)

ISBN# 9780131118928; U of T Bookstore SKU# 10878835

The schedule provided at the end of this document indicates the chapters and sections you must read **before** each lecture. The textbook also provides the conceptual questions and detailed problems that will be the subject of the weekly problem sets, reading quizzes, and tutorial quizzes.

- **Textbook:** *Quantum Mechanics* by Robert Scherrer (Pearson, 1st Ed.)

Handouts on the **Origins of Quantum Mechanics** and **Complex Numbers**

**Test #1 (15%)**

Our first test will be tentatively scheduled during **Week 5**. This test includes all materials discussed up to and including the tutorial session of Thursday, September 25.

**Test #2 (15%)**

Our second test will be tentatively scheduled during **Week 9**. This test includes all materials discussed up to and including the tutorial session of Thursday, October 30.

Both tests will be **90 minutes** in length and the format includes conceptual questions in multiple-choice or short-answer format, and detailed problems. The only aids allowed are your non-programmable scientific calculator, and a hand-written, double-sided, and letter-sized aid sheet. Please note that photocopies or computer printouts are not allowed.

**Final Examination (35%)**



## Class Schedule

This schedule is *tentative* and might change during the term in order to accommodate for variations in the lectures in response to student performance and understanding of the various topics.

Please note that it is your responsibility to read the assigned sections and chapters **before** each lecture.

The lecture discussions will **not** be a direct repetition of the basic material found in the textbook.

During the lectures we will concentrate on important and difficult aspects of the theories and concepts from your textbook readings.

Failing to complete the textbook readings before each lecture will significantly affect your ability to understand the class discussions.

Dates	Tuesday Lecture 10am - 12pm	Thursday Tutorial 10am - 12pm
Sep. 02 Sep. 04	<b>Light and Matter Waves</b> Scherrer Ch.1: 1, 3, 4	<b>Bohr's Atom and Blackbody Radiation</b> Scherrer Ch.1: 5, 2, 6
Sep. 09 Sep. 11	<b>Schrödinger's Equation</b> Griffiths Ch.1: 1 - 4	<b>Problem Set #01</b> Tutorial #01
Sep. 15 Sep. 18	<b>Wave Functions and Uncertainty</b> Griffiths Ch.1: 5 - 6	<b>Problem Set #02</b> Tutorial #02
Sep. 23	Station-323.856(t)3.35237(h)1.34781.398(s)-4.21006T.RtPC1 ID7PC1 ID E781(.)0.671	