

PHYS 5701: Quantum Mechanics With Applications: Fall 2021

Instructor:

Bruce Campbell
Herzberg 3378; 520-2600x4322
Office Hours: TBA

Lectures:

Tuesday and Thursday 08:35 - 09:55
Room: Richcraft 3110

Prerequisites: None formally. Undergraduate Quantum Mechanics is the functional prerequisite for the course

Marks Distribution:

Assignments: 100%

- There will be approximately half a dozen assignments given out. They are due in class at a time announced on distribution, at least one week after their distribution. Marks will be deducted for lateness. You are allowed to discuss the problem assignments with other students in this course. However, the work you turn in must be your own. Figuring out the assignments is the best way to learn the material.
- There will be regular assigned readings. These particular texts contain many good worked examples, only some of which will be discussed in detail in class.

Recommended Texts:

Introduction To Quantum Mechanics [3rd Edition]
D.J. Griffiths and Darrell F. Schroeter
Cambridge University Press (2018)
or
Modern Quantum Mechanics [2nd Edition]
J.J. Sakurai and Jim Napolitano
Pearson Education (2011)

Course Content:

After a background review, the bulk of the course is material from either:
Chapters 6 through 11 of the Griffiths and Schroeter text.
or equivalently

Chapters 1 through 6 of the Sakurai and Napolitano text.

The course content is defined by the lectures as well as the text. There will be a complete set of lecture notes posted on the course webpage in Whitespace. It will contain supplementary material in addition to what is in the recommended texts.

The Griffiths and Schroeter text is adequate for the course, but students wanting to see a deeper treatment of the same material are encouraged to follow the more elegant presentation in Sakurai and Napolitano. Either text is adequate for the course, in conjunction with the lecture notes.

N.B. The copy of the course outline which is displayed in the course page on Whitespace will be updated in case of further information arising which may benefit the class, and is the definitive guide to the course.

For Physics Department policies regarding academic integrity and privacy, please see <http://www.physics.carleton.ca/Policies.html>.

It is your responsibility to read these policies. Please let me know if you require a hardcopy version.

Academic Accommodation

You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

Pregnancy obligation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website:

http://www.carleton.ca/equity/accommodation/student_guide.htm *Religious obligation:* write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website given above. *Students with disabilities requiring academic*

accommodations in this course must register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Documented disabilities could include but are not limited to mobility/physical impairments, specific Learning Disabilities (LD), psychiatric/psychological disabilities, sensory disabilities, Attention Deficit Hyperactivity Disorder (ADHD), and chronic medical conditions. Registered PMC students are required to contact the PMC, 613-520-6608, every term to ensure that I receive your Letter of Accommodation, no later than two weeks before the first assignment is due or the first in-class test/midterm requiring accommodations. If you only require accommodations for your formally scheduled exam(s) in this course, please submit your request for accommodations to PMC by the deadline, which is the last day for course withdrawal in the term. For more details visit the PMC website:

<http://www2.carleton.ca/pmc>