

Physics 4851: Advanced Quantum Mechanics. Physics 6850: Quantum Mechanics I. Winter 2018.

Tuesday and Thursday. Slot 18. 10:30 – 11:45. Room C-3067.

PR: Physics 4850 for Physics 4851

Instructor.

Prof. Jolanta B. Lagowski. Rm C3031. Phone: 864-2667. Email: jolantal@mun.ca.

Office Hours: Contact instructor by email to request office time.

Textbooks.

Quantum Mechanics, Vol. 1-2 by Albert Messiah (1961).

Quantum Mechanics, Vol. 1-2 by C. Cohen-Tannoudji, B. Diu and F. Laloe (1977).

And other similar textbooks.

Evaluation.

Assignments	40%
Mid-term tests (75 min each)	20%
Final Exam (3 hours)	40%

No supplementary exam.

Assignments (5).

- Due approximately every two weeks or so, starting near middle of January.
- To be turned in during class on the due date.

Mid-term tests (1).

- 75 min. Approximately first week of March. Most likely on Mar. 7th (this date is provisional depending the weather and other circumstances)

Missed work.

- Students who cannot complete assignments or mid-term test need to speak to the instructor as soon as possible (undergraduate students should also consult section **6.7.5 Exemptions from Parts of the Evaluation** of the University Calendar).

Tentative Outline.

- I. Vectors and Operators
- II. Matrix Representation of Vectors and Operators
- III. General Formalism of Quantum Mechanics
- IV. Collision Theory
- V. Angular Momentum
- VI. Identical Particles
- VII. Approximation Theories

Some additional notes.

1. **Provisional dates for the assignments will be as follows:** Assignment #1 will be due at the end of January (Jan. 24th), assignment #2 due at the beginning of February (Feb. 7th), assignment #3 due at the end of February (Feb 28th), assignment #4 due at the end of March (Mar. 21st) and assignment #5 will be due last day of classes (April 4th).
2. In the case of missing of the mid-term test due to illness or bereavement (see also section **Missed work** above), the corresponding 20% will be added to the final exam (which will be worth 60% in that case).

Use of Recording Devices in Classrooms.

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Important general information from the University.

It is the student's responsibility to acquaint themselves with these items. Please read.

Student Code of Conduct

<https://www.mun.ca/student/supports-and-resources/respectful-campus/student-code-of-conduct.php>

Accommodations for Students with Disabilities

<http://www.mun.ca/blundon/accommodations/>

For graduate students see

<https://www.mun.ca/regoff/calendar/sectionNo=GRAD-0015>

for general regulations regarding course evaluations and academic misconduct etc.

For undergraduate students see the following links:

6.8.2 Exemptions From Final Examinations

<http://www.mun.ca/regoff/calendar/sectionNo=REGS-0628>

6.12 Academic Misconduct

<http://www.mun.ca/regoff/calendar/sectionNo=REGS-0748>