

**Syllabus: Physics 403 – Quantum Mechanics II  
(Fall 2020)**

**Instructor:** Nirmal Ghimire

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**Office:** Krasnow Institute, Rm 104

**Lectures:** Tuesday and Thursday 10:30 – 11:45 am. The lectures will be on Webex (primary), Zoom/blackboard collaborate (back up)

**Office Hours:** Thursday 1 -3 pm or by appointment, virtual via Webex or Zoom

**Prerequisite:** C or higher in Physics 402.

**Textbook:** Introduction to Quantum Mechanics 3<sup>rd</sup> edition, David J. Griffiths and Darrell F. Schroeter.

**Course Content:** We will follow the text quite closely. Specific topics will include. A detailed tentative schedule will be posted in blackboard.

- Time-independent perturbation theory (Chapter 7)
- The variational principle (Chapter 8)
- The WKB approximation (Chapter 9)
- Scattering (Chapter 10)
- Quantum Dynamics (Chapter 11)

**Homework:**

- Depending on the complexity 3- 5 problems will be give each week. The homework sets will include the deadline (one week typically). Homework should be scanned into Blackboard by the due date.
- Late homework policy: Homework turned in the day after the due day will pay a penalty at 50% of the original grade. Homework late by more than one day will not be accepted. Late homework can be allowed only if you have a valid cause, such as illness or family emergency, AND if you contact the instructor in advance (an email will do indicating your reason and the date when the homework will be expected).
- Working in study groups of 2-3 persons is allowed and encouraged. Any tool for collective work can be utilized. I also encourage students to exchange their personal information in the first class in order to facilitate working together. This said, *simply copying someone else's solution is not acceptable and will be considered an Honor Code violation.*

**Exams:**

- Two open-book exams. You can use lecture notes and textbook but are not allowed to use any Internet resources. Your exam solutions will be scanned and uploaded to Blackboard in the same manner as homework. A correct answer without proper derivation counts as nil.

- Midterm: October 8, Ch7-9.
- Final: Covers the course material with emphasis on the content after the midterm. The date of the final will be made available on the University Academic Calendar and it is fixed by the university. The date and time of the final exam will be announced in the class by mid-semester. It is the student's responsibility to remain current on these dates.

**Grade:** Homework: 45%, Midterm: 20%, Final: 25%, Class participation: 10%. Each homework can have different grade points. These grade points will be averaged over all the assigned homework, making 45% of the final total grade. Class participation is based on active participation e.g. asking questions and taking part in the class discussion, and random quizzes.

**Website:** Blackboard

Homework, reading assignment, lecture notes, and homework solutions will be posted here. Students should upload their homework and exams to the Blackboard.

**Accommodations for Disabilities:** *If you are a student with a disability and you need academic accommodations, please see me and contact the Office for Disability Services (ODS) at 993-2474, <http://ods.gmu.edu>. All academic accommodations must be arranged through the ODS.*

**GMU Diversity Statement:** GMU does not tolerate racism, sexism, and bigotry, and encourages diversity. The full GMU diversity statement can be read here: <http://ctfe.gmu.edu/professional-development/mason-diversity-statement/>

**Academic Integrity:** GMU is an Honor Code university; please see the [Office for Academic Integrity](#) for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely.

**Privacy:** Students must use their MasonLive email account to receive important University information, including communications related to this class. I am not allowed to respond to messages sent from or send messages to a non-Mason email address.