This is a graduate course in quantum mechanics, cross listed as an undergraduate course for registration purposes. We will build “from the ground up” this fascinating framework for describing all of Nature. There are no prerequisites, but I will assume a thorough background in Schrödinger wave mechanics, as well as advanced calculus and the basics of linear algebra.

**INSTRUCTOR:** Jim Napolitano  SC 1W07  x8019  email: napolj@rpi.edu
Office Hours: Wed 2-4pm, or by appointment

**TA/GRADER:** Ryan Krafnick  email: krafhr@rpi.edu

**WEB PAGE:** [http://www.rpi.edu/dept/phys/Courses/PHYS6510/](http://www.rpi.edu/dept/phys/Courses/PHYS6510/)

**MEETINGS:** DCC 236  Mon 9:00-9:50, Wed 10:00-11:50, Thu 9:00-9:50

**TEXTBOOK:** Sakurai & Napolitano, *Modern Quantum Mechanics*, Second Edition
Errata posted at [http://homepages.rpi.edu/~napolj/ErrataMQM.pdf](http://homepages.rpi.edu/~napolj/ErrataMQM.pdf)

A syllabus (including what will be covered in Quantum Mechanics II) is posted on the course web page. New material will be introduced in one-hour lectures starting at 9am on Mondays and Thursdays, and at 11am on Wednesdays. A one-hour [open-book](http://www.rpi.edu/dept/phys/Courses/PHYS6510/) quiz will be given on Wednesdays at 10am, typically two short problems. There will be some adjustments to the regular schedule (including makeup sessions) when I have to miss classes because of travel.

**GRADING POLICY:** Grades will be determined by scores on the weekly quizzes and on the homework assignments. Quizzes count towards 40% of the grade, the first six homework assignments 40%, and the seventh assignment 20%. Quiz scores may be curved if necessary. All quizzes will all carry the same weight. The final homework assignment is to be worked independently, but you are encouraged to collaborate on the others.

Cutoffs for course grades A, B, C, and D are 90%, 80%, 70%, and 60% respectively. (Note that a grade of D is only available for students registered for PHYS4510.) I expect to make some use of “grade modifiers”, that is ± after the grade. I may make other adjustments to the overall grading scheme if there are special circumstances.

**LEARNING OUTCOMES**

Upon successfully completing the course students will demonstrate an ability to apply concepts and theories of Quantum Mechanics in problem solving tasks, as well as the ability to make use of physical principles along with mathematics to describe quantum mechanical phenomena. The quizzes will emphasize these abilities, as well as the raw knowledge associated with this subject.

**ACADEMIC INTEGRITY STATEMENT**

Put simply, don’t copy someone else’s homework, and don’t cheat on quizzes. If I suspect you of either, I will ask for an explanation. If your explanation is unsatisfactory, you will be given a grade of zero and reported to the Dean of Students. If this happens more than once, you will be given an F for the course.