

Phys 5312 Quantum Mechanics II Fall 2014

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Office: RFM 3230 Office Hours: MW 11:00-12:00 and by appointment

Course Information

- **Class meetings:** MW 3:30 – 4:50 SUPP 00257-A primary with RFM 3219 as backup.
- **Textbook:** “Applied Quantum Mechanics, 2nd Edition” A. F. J. Levi, Cambridge Univ. Press, 2006. You do not need to purchase this text, it is already available to you through the Alkek Library. <http://site.ebrary.com/lib/txstate/docDetail.action?docID=10129244>.

You do not have permission to print using university printers.

- **Necessary background knowledge:** Physics: Should include a basic understanding of Newtonian mechanics, waves and Maxwell’s equations, modern physics with quantum treatment. Mathematics: A basic working knowledge of differential calculus, vector calculus, linear algebra, statistics and geometry. Computer skills: An ability to program numerical algorithms in MATLAB (or similar) language and display results in graphical form.

Course Description

- **Overview:** This course covers some of the basics of quantum theory and their application to important problems in science and engineering. Following this course, students are expected to have a working knowledge of quantum theory and demonstrated ability to apply the methods and principles to physics problems.
- **Grading components:** Grades will be based on homework (40%) and exams (20% each).
- **Grading scale:** A=100-85%, B=84-75%, C=74-65% and D=64-50%, F=49 to 0%.
- **Exam 1:** Wednesday, October 1 in class (tentative).
- **Exam 2:** Wednesday, November 5 in class (tentative).
- **Final Exam:** Monday, December 8, 2:00 – 4:30. **Comprehensive.**
- **Homework:** Due every Monday in class.
 - Late homework will only be accepted 24 h after due date with a 10% penalty on that set. After that, late homework will not be accepted. Extenuating circumstances should be discussed with the instructor in advance or on the (Monday) due date.
 - Produce work in legible and professional form. If the instructor cannot read your work, or follow your solution, you will receive no credit. Solutions are made up of discussion, descriptions, graphs, and equations, like what is found in a physics textbook. When computer programs are used to solve certain problems, the code must be handed in and annotated so that the instructor can follow the logic. Computer programs will constitute significant portion of the homework.
 - You may work with others to solve your homework assignments, but by submitting your work you are attesting to a full understanding of the work presented.
 - You may not submit solutions found on the internet, because this is not your work and handing in something that is not your own is considered plagiarism.

Class Policies:

- You are responsible for all material presented in class whether you attend or not.
- Each student is responsible for establishing and maintaining their Texas State email address and TRACS course site.
- **No electronic devices including cell phones** are allowed in class unless need for such device for reason of a disability is documented. **Electronic devices (cell phones, tablets, laptops, mp3 players, etc.) should be turned off and stored before class.**

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Email Communication:

A Texas State email address is a course requirement. If you send to the instructor you must use your Texas State email address, for example, zzz99@txstate.edu. This is University policy. Messages from other email services will not be read. If you are not at a University computer, emails can be sent via Texas State Bobcat Mail (go to www.txstate.edu and select bobcatmail). **Put your course number (PHYS 5312) in the subject line along with a description of the content.** Putting the course number in the subject allows your instructor to respond to you in a timely manner.

University policy discourages sending grade information via email. Use office hours to discuss grading and to go over exams.

Special Needs:

Students with special needs (as documented by the Office of Disability Services) should identify themselves at the beginning of the semester. Students with special testing accommodations will take their tests at Disability Services in the LBJ Center. Please see the instructor at least a few days before the test to make sure everything is in order and that a test will be available for you. Disability Services requires that signed forms be presented to them at least two business days before the test is scheduled.

TEXAS STATE UNIVERSITY POLICIES:

You are expected to know Texas State's rules concerning Academic Honesty. You can get information on Academic Honesty from the Dean of Students Office or your instructor or your copy of the Texan State student handbook. Academic dishonesty will not be tolerated and will be treated according to the university honor code.

Texas State Academic Honor Code

As members of a community dedicated to learning, inquiry and creation, the students, faculty and administration of our university live by the principles in this Honor Code. These principles require all members of this community to be conscientious, respectful and honest.

WE ARE CONSCIENTIOUS. We complete our work on time and make every effort to do it right. We come to class and meetings prepared and are willing to demonstrate it. We hold ourselves to doing what is required, embrace rigor, and shun mediocrity, special requests, and excuses.

WE ARE RESPECTFUL. We act civilly toward one another and we cooperate with each other. We will strive to create an environment in which people respect and listen to one another, speaking when appropriate, and permitting other people to participate and express their views.

WE ARE HONEST. We do our own work and are honest with one another in all matters. We understand how various acts of dishonesty, like plagiarizing, falsifying data, and giving or receiving assistance to which one is not entitled, conflict as much with academic achievement as with the values of honesty and integrity.