

PHYS 4513 Introductory Quantum Mechanics Spring 2018

Lectures: MWF 1:30-2:20 PS 108

Instructor: Dr. Donghua Zhou Tel: 744-3277 email: donghua@okstate.edu

Office Hours: You are encouraged to seek help from the instructor often. We can find mutually convenient time by appointment. @ 230 L HBRC (*please call 744-3277 when you are in the lobby*)

Prerequisites: PHYS3713 Modern Physics I

Textbook: A Modern Approach to Quantum Mechanics, by John S. Townsend, ISBN-13: 978-1891389788, publisher: Univ Science Books; 2 edition (February 24, 2012)

Course Webpages:

<http://oxygen.hbrc.okstate.edu/4513/> **Main:** syllabus

<http://oxygen.hbrc.okstate.edu/4513/resources.html> **Resources:** notes, reading materials, homework assignments and solutions

<https://online.okstate.edu/d2l/home> **D2L:** homework grades are posted here

Course Description

This course introduces Quantum Mechanics beyond what has been covered in PHYS3713 Modern Physics I. It covers matrix and operator methods, spin, angular momentum, non-commuting observables, time evolution, harmonic oscillator, central potentials, and perturbation theory.

In-class Questions

Questions will be given in the lectures for you to answer using clickers or mobile devices. Most of you should already have a clicker from previous years. If you don't own a clicker, you may turn in your answer in a piece of paper. **Please give your device ID to the instructor in person or by email.** Scores will be exported to **D2L** after each lecture.

Homework

Homework will be assigned weekly on **Resources** page. The assignments may consist of discussion, multiple choice, and regular questions. Homework should be turned in to the instructor after lecture on Friday of the following week. Solutions will be posted on the **Resources** page after the due date.

You are expected to complete your assignments in time. In special cases that can be justified, it is up to the instructor to decide whether to grant extension.

- Extension requests have to be made within 48 hours after the deadline.
- 20% of your points will be deducted as penalty.

Exams

There will be two midterm exams and one final exam, all of which are closed book. No make-up exams will be given unless a valid excuse can be provided (for example, a note from the doctor in case of serious illness). A calculator is allowed and an equation sheet will be provided. The exams consist of discussion, multiple choice questions, and

problems. The final exam is comprehensive. The schedule for the exams will be announced during the semester.

Grades

The final grades will be determined as follows:

Homework	20%
In-class questions	10% [80% participation, 20% correctness]
Midterm 1	20%
Midterm 2	20%
Final exam	30%

The final score will be rounded to the closest integer before applying the grading scale, which is $A \geq 85 > B \geq 75 > C \geq 65 > D \geq 55 > F$. Requests such as converting 74.4 to 75 for B will be ignored.

Request to change grade claiming lost or mistaken homework, clicker, exam, and any other type of scores that cannot be verified will be disregarded. Students should work with the instructor to solve issues of score loss or errors within one week of occurrence, not at the end of the semester.

Academic Conduct and Withdrawals: The University procedures on academic integrity and withdrawals will be strictly enforced. **Cheating on any exam will result in an F! grade for the course.** Please consult the OSU syllabus attachment at http://oxygen.hbrc.okstate.edu/4513/syllabusAttachment_Spring2018.pdf on academic integrity and important dates.