

# Syllabus for PHY 521 Spring 2017

## Introduction to Quantum Mechanics II

Class schedule: M W F 11:00–11:50, CP 183  
Instructor: Christopher B. Crawford  
CP 373, 257-2504, [crawford@pa.uky.edu](mailto:crawford@pa.uky.edu)  
Office hours: by appointment  
Homepage: [http://www.pa.uky.edu/~crawford/phy521\\_sp17](http://www.pa.uky.edu/~crawford/phy521_sp17)  
Textbook: David J. Griffiths, “Introduction to Quantum Mechanics,” (required)  
Stephen Gasiorowicz, “Quantum Physics,” (recommended)  
Prerequisites: PHY 520

**Course Description** A continuation of PHY 520 introducing the quantum description of systems with spin and approximation methods. Principles of quantum mechanics will be illustrated by their application to model systems selected from the fields of atomic, solid state, nuclear, and particle physics.

**Office Hours** The course is conceptually challenging and will require significant effort, but I am committed to help you succeed if you are willing to do the necessary work. I have an open door policy: come by my office and discuss physics at anytime unless my door is closed (for a phone conference or approaching deadline). Please prepare by reading the assigned chapters before coming to my office, and turn off cell phones and text messaging while in my office. We will have an optional one hour homework recitation each week in my office.

**Attendance and Reading Journal** There is no credit for attendance; however, students are responsible for all reading assignments and any material discussed in class. Reading journals will be optional this semester. They may be turned in for evaluation during midterm and final exams. A consistent and detailed reading journal will have a positive affect on a border-line final grade.

**Homework** Weekly homework assignments will be assigned seven days before they are due. They may be submitted digitally on Canvas or turned in at the beginning of class. About half of the credit will be for custom problems and the other half for homework assigned from the textbook. There will be a penalty of 25% per class for late homework. Students are encouraged to study and discuss homework together, but must turn in their own work. A class list will be circulated to facilitate study groups.

**Group project** A project similar to last semester will be presented by each group of three students on April 21. The project will still involve a computer demonstration component, but emphasis will be placed on the written and oral presentation of the concepts. The topic must be chosen from Griffiths chapters 10 or 12, or be approved by the instructor.

**Exams** There will be one midterm exam and a cumulative final exam. Both exams are closed book, with an  $8\frac{1}{2} \times 11$  in<sup>2</sup> formula sheet allowed. The midterm will be scheduled during an evening to allow for extra time.

**Grading** Arrangements must be made with the instructor before the due date to receive a homework extension. Exams will only be rescheduled for officially excused absences. Extra credit will be awarded for finding new errors in the textbook, or solving special questions posed during class. The following table shows

the percentage range to guarantee each letter grade, but the instructor may upgrade the final grade based on effort, class participation, and the reading journal.

Grade breakdown		Letter grade	
homework assignments	35%	A	85–100%
group project	10%	B	70–84%
midterm exam	25%	C	55–69%
final exam	30%	D	40–54%
		E	00–39%

**Academic integrity** Copying homework or exams from people, solution manuals, online, or any other source is plagiarism and will not be tolerated. University policies and procedures regarding cheating and other academic conduct will be strictly adhered to and can be reviewed at [www.uky.edu/StudentAffairs/Code](http://www.uky.edu/StudentAffairs/Code).

**Course evaluation** Course evaluations are an important component of our Department's instructional program. We value your feedback on both the course content and instructor. Instructions for how to complete the course evaluation will be emailed to the students and announced in class near the end of the semester. We also appreciate immediate feedback at [http://www.pa.uky.edu/~crawford/phy521\\_sp17/feedback.html](http://www.pa.uky.edu/~crawford/phy521_sp17/feedback.html) and will address issues or incorporate suggestions into the course in a timely manner.

**Academic accommodations due to disability** If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center, <http://www.uky.edu/StudentAffairs/DisabilityResourceCenter>, for coordination of campus disability services available to students with disabilities.

See <http://www.ms.uky.edu/~shenz/ma113/ServicesAvailableToUKStudentsF12.pdf> or <http://uksga.org/resource-cheat-sheet> for student resources.

**Intellectual property** Class lectures and course materials are the intellectual property of the instructor. Students may record lectures only for their personal use. Any other use, including sharing with other students in the class, requires specific permission from the instructor. Recording for any business/commercial purpose is a violation of federal IP (copyright) law and class policy and, thus, is strictly prohibited.