

**Chem. 120A Physical Chemistry
Introduction to Quantum Mechanics and Spectroscopy**

Lectures

MWF 11:00 AM – 12:00 PM, 145 Dwinelle

Discussion

M,T 7:00 – 8:30 PM, 180 Tan (M) and 9 Lewis (T).

Instructors

Professor Birgitta Whaley
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Professorial office hours: M 1-2 PM, Th 1-2 PM, in office of Professor teaching that week

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Office hours: F 9-11 AM
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Students who are unable to make office hours but who need to meet with one of the Graduate Student Instructors (GSIs) for course-related issues should contact GSIs through Piazza.

Course grading

Problem sets will be assigned for homework, on an approximate weekly schedule. Homework will be due at the end of class about one week after assigned. Specific due dates for problem sets and examinations are given in the Course Outline and Schedule. There will be two midterm examinations, and a final examination, the dates for which are also noted on the Course Outline and Schedule. Grades will be based upon scores on homework (25%), midterms (30%), and the final examination (45%).

Course Websites

If you are enrolled for this class, you will automatically be given access to the bCourses site (Physical Chemistry 120A, Spring 2017). All course materials (problem sets, solutions and any supplemental materials) as well as all announcements will be posted on the bCourses site. We shall also make extensive use of Piazza, so please sign up for this at: <http://piazza.com/berkeley/spring2017/chem120a>. All discussions will be made through Piazza.

Webcast

We have included the course in the Spring 2017 Course Capture program. Course recordings will be automatically posted to CalCentral, the student portal, on the Class Page for Chem 120A.

Lectures and Discussion Sections

Lectures are scheduled on Monday, Wednesday and Friday at 11:00 AM in 145 Dwinelle Hall. We also offer optional Discussion Sessions held each Monday (in 180 Tan) and Tuesday (in 9 Lewis) evening from 7:00 PM to 8:30 PM.

Textbooks and Reading Assignments

The textbook for the course is

- P. W. Atkins & R. S. Friedman, *Molecular Quantum Mechanics 5th Edition* (Oxford University Press, Oxford, 2010);

Reading assignments from this book are given in the Lecture Outline and Schedule.

Additional readings from other texts is suggested. These other texts include:

Chemical bond:

- D. A. McQuarrie, *Quantum Chemistry* (University Science Books; 2 edition, August 15, 2007).
- Ira N. Levine, *Quantum Chemistry*, (Prentice Hall; 7 edition, February 16, 2013).
- Eugen Merzbacher, *Quantum Mechanics*, (Wiley; 3rd edition, 2013).

Spectroscopy:

- Ira N. Levine, *Molecular Spectroscopy*, (Wiley, April 1975).
- G. M. Barrow, *Molecular Spectroscopy*, (McGraw-Hill, International Edition, 1988).