

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

**Lectures**

MWF 9:00 AM – 10:00 AM, 159 Mulford Hall

**Discussion**

Wednesday 6-8 pm, 222 Wheeler Hall

**Instructors**

Professor Birgitta Whaley  
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510-643-6820

Office hours: M 1-2 PM, Th 1-2 PM  
Gilman 219

GSI Ian Convy  
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Office hours: W 11 AM – 12 Noon, F 2-3 PM  
Lewis 1

GSI Carlos Mejuto Zaera  
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Office hours: Tu, Th 9-10 AM  
Lewis 1

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. We shall aim to release the problem set on Fridays and the problem set will be due at the end of class on the following Friday. Specific due dates for problem sets and examinations are given in the Course Outline and Schedule. There will be one midterm examination in class on Monday, October 21, and a final examination on Thursday December 19, 7-10 pm. Grades will be based upon scores on homework (25%), midterm (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, Fall 2019). 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, in which you should also already be enrolled. If not please sign up at <http://piazza.com/berkeley/fall2019/chem120a>. All online discussion will be carried out through Piazza.

**Webcast**

We have included the course in the Fall 2019 Course Capture program. Course recordings will be automatically posted to [coursecapture.berkeley.edu](http://coursecapture.berkeley.edu).

**Prerequisites**

Chem 4B or equivalent, Physics 7B or 8B, Mathematics 53, Mathematics 54. Concurrent enrollment in Math 54 will not be allowed. If you have not already taken Math 54, and cannot show an equivalent course on your transcript, you should enroll in that course and take Chem 120A in a subsequent semester.

## Textbooks and Reading Assignments

The textbook for the course is

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

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

Alternative texts that you may find useful:

- D. A. McQuarrie, *Quantum Chemistry* (University Science Books; 2<sup>nd</sup> edition, August 15, 2007).
- David J. Griffiths, *Introduction to Quantum Mechanics* (Pearson Prentice Hall, 2<sup>nd</sup> edition 2004)
- John Townsend *Modern Approach to Quantum Mechanics* (University Science Books, 2<sup>nd</sup> edition 2000)
- Ira N. Levine, *Quantum Chemistry*, (Prentice Hall; 7<sup>th</sup> edition, February 16, 2013).

Copies of these books can be found in the Chemistry and/or Physics libraries. We have requested that they be placed on a 2-hour reserve.