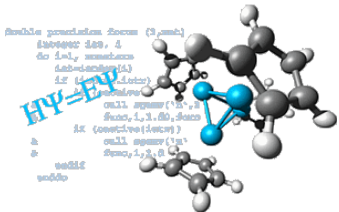


## CHEM 260 – Advanced Physical Chemistry



**Time:** 10:05 am - 11:20 am TR

**Room:** Discovery W213

**Lecturer:** Jianing Li ([uvm.pchem@gmail.com](mailto:uvm.pchem@gmail.com), Discovery W309)

**Office Hour:** TBA

### Summary

CHEM260 is the second semester of the year-long course in physical chemistry. During the first semester all aspects of physical chemistry (quantum mechanics, thermodynamics, and kinetics) were covered. This companion course, CHEM260, covers advanced topics plus statistical mechanics, but in the depth of treatment takes off where CHEM165 ends.

In physical chemistry, the general objective is to understand the underlying theory of many of the facts and rules you have learned in prior chemistry courses. It is the goal of CHEM260 to help students to understand how a study of physical chemistry provides clear answers to the chemical problems (e.g. structure-mechanism-function relationship) from a macroscopic and/or microscopic view.

### Textbooks

#### Required:

- *Physical Chemistry for the Chemical Sciences*, by Raymond Chang and John W. Thomas, JR

### Topics

Lecture	Topic	Lecture	Topic
1-4	Electronic Structure of Atoms	14-18	Statistical Thermodynamics
5-8	Electronic Structure of Molecules	19-23	Electrolyte & Nonelectrolyte Solutions
9-11	Electronic Spectroscopy & Magnetic Resonance Spectroscopy	24-25	Solid & Liquid States
12-13	Intermolecular Forces	26	Computer Modeling

Note: Lecture numbers are approximate.

### Grading

- in-class quizzes (15%)
- homework assignments (10%)
- midterm exam (30%)
- final exam (45%)