

PHYSICAL CHEMISTRY II

Syllabus for Chemistry 3354

Spring, 2009

Instructor

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Office Hours: Please e-mail me with the **specifics** regarding why you want to meet before scheduling a meeting. I definitely prefer e-mail (which would be answered as soon as possible), but you may also call my office and leave a **detailed** message.

Introduction

Physical chemistry is the quantitative and theoretical study of the properties and structure of matter. The aim of this course is to give the student an understanding of the principles, laws, and theories of physical chemistry that will serve the needs of the chemistry, biochemistry, premedical, and engineering student. This is the second half of the physical chemistry sequence; emphasis will be on quantum mechanics, statistical mechanics, and spectroscopy.

Instructional Materials

- Text: Atkins and de Paula, *Physical Chemistry*, 8th Edition, New York: Freeman and Company, 2006. ISBN: 0-7167-8759-8.
- Student Solutions Manual: Atkins, Trapp, Giunta & Cady, *Solutions Manual to Accompany Physical Chemistry*, 8th edition, ISBN: 0-7167-6206-4
- *Blackboard Learning System*

Course Requirements

- Differential and integral calculus, college physics, general chemistry, analytical chemistry, and organic chemistry are prerequisites for this course.
- Attendance is VERY IMPORTANT. Class participation, initiative, and attendance will be considered in the final course grade. **You must keep up with the material as the semester progresses.**

- The student **MUST** study outside of class. Outside work should include reading assigned material, doing assigned questions and problems, reviewing lecture notes, correcting errors made in past work, etc. **Physical chemistry requires study and practice.**
- You should check Blackboard regularly for announcements.
- Physical Chemistry I Laboratory 3155 (1 semester hour credit) should be taken concurrently with this course. A student cannot use this lecture course as part of his degree requirements without the corresponding laboratory course.
- The last day to withdraw from the course is Wednesday, March 25.

Grading

- There will be three (3) exams given during the semester and regular homework assignments. Each exam will account for 20% of the final grade. The homework assignments will count for **nothing** because collective learning is strongly encouraged –**however**, random, short pop quizzes at the beginning of class based on the homework assignments will account for 20% of your final grade! Not only will this gauge your understanding of the material, but also make sure you are in class on time –**since the quiz will be given at the beginning of each class**. The best 10 quiz grades will be considered for your final grade.
- There will be a comprehensive (over **both** semesters) final examination. The final examination will account for 20% of the final grade. All students are required to take the final examination in order to receive a passing grade in the course.

Course Coverage

1. Quantum Theory
2. Atomic and molecular structure
3. Statistical Thermodynamics
4. Spectroscopy