

SYLLABUS – Physical Chemistry II (CHEM 332)
Department of Chemistry and Biochemistry
George Mason University

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TEXTBOOKS FOR COURSE

Physical Chemistry 3rd Ed., Engel and Reid, Pearson Publishing

Physical Chemistry II (CHEM 332)

Physical Chemistry is generally considered one of the harder disciplines of chemistry to learn. You will therefore be expected to work diligently in and out of class in order to receive a passing grade. Your attendance in class will not be recorded, however, it is strongly recommended that you attend all classes. Failure to do so will result in poor performance in your exams, assignments and quizzes. You are reminded that during all aspects of this course you are to adhere to the University Honor Code (<http://honorcode.gmu.edu/>).

This course primarily concentrates on quantum mechanics, spectroscopy, atomic and molecular structure, and statistical mechanics. Consequently, there is a lot of math that you are going to be required to perform in the course. However, exams, tests, assignments and quizzes will not test your abilities as a mathematician. They will test your understanding of the theory and the application of theory to solve chemical problems. Final and Mid-Term exams may have a take-home portion due to the requirement of a computer to solve some problems.

If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Resources at 703-993-2474. All academic accommodations must be arranged through that office.

Your final grade will be evaluated as follows:

Final Exam - 30%

Mid-Term Exam 1 - 20%

Mid-Term Exam 2 - 20%

Homework - 30%

The final exam will be cumulative and will cover all material covered in the course. Please check the registrar's website for the date and time of the final exam. MidTerm exams are not cumulative and will only cover the current material studied. They are scheduled below in the table (pending changes).

Homework will consist of a mixture of online assessment through Mastering Chemistry, in addition to problems assigned in class that will make use of extensive spreadsheet calculations.

The grading scale for the course is as follows:

A+ >95% A 90-94% A- 85-89% B+ 80-84% B 75-79% B- 70-74%
 C+ 65-69% C 60-64% C- 55-59% D 50-55% F <50%

Final scores will NOT be curved. Your final score will be determined by your final grade

Lecture content, quizzes and other pertinent information can be found on the GMU Blackboard system at mymason.gmu.edu

WEEK #	SECTION	COMMENT
1	From Classical to Quantum Mechanics	Ch. 12
2	From Classical to Quantum Mechanics	Ch. 12
3	Schrodinger's Equation / Quantum Mechanical Postulates	Ch. 13 & 14
4	Quantum Particle in a Box	Ch. 15 & 16
5	The Hydrogen Atom	Ch 20
6	The Hydrogen Atom	Ch 20
7	Many Electron Atoms	Ch 21 - Mid-Term 1
8	Atomic Spectroscopy	Ch 22
9	Rotational Spectroscopy	Ch 18 & 19
10	Vibrational Spectroscopy	Ch 18 & 19
11	Electronic Spectroscopy	Ch 25
12	Statistical Mechanics	Ch 29 & 30 - Mid-Term 2
13	Statistical Mechanics	Ch 31
14	Review	
15	Final Exam	