PHYSICAL CHEMISTRY I – CHEM 331

Syllabus

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Email Policy: I am happy to try and answer simple questions by email, but often with complex problems it's easier in person. All emails must be sent from your GMU email address.

Textbook: Physical Chemistry 3th Ed., Engel and Reid, Pearson

Schedule

Week	Chapter	Topic
1	1 & 7	Fundamental Concepts of Thermodynamics
2	2	The First Law of Thermodynamics
3	2	The First Law of Thermodynamics
4	3	The Importance of State Functions
5	4	Thermochemistry
	1-4	**Mid Term I**
6	5	Second and Third Laws of Thermodynamics
7	5	Second and Third Laws of Thermodynamics
8	6	Chemical Equilibrium
9	6	Chemical Equilibrium
10	8	Phase Diagrams
	5, 6 & 8	**Mid-Term II**
11	9	Ideal and Real Solutions
12	10	Electrolyte Solutions
13	11	Electrochemical Cells
	1-11	**Final Exam**

I.

I. Introduction

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 the thermodynamics of chemical processes. 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.

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.

II. Exams

Lecture evaluations will be based, in part, on two equally weighted mid-term exams each worth 20% of your final grade. These will be given during the semester at regular intervals as indicated on the proposed schedule. The actual dates of these exams will depend largely on how quickly we get through the course material. A final cumulative exam worth 30% of your final grade will also occur during the university's final exam period for the Fall semester. The final exam is cumulative.

Provisions for making up a missed exam are very limited and will be considered only for *extremely extenuating* circumstances. This will only be done for one excused absence. An absence will be excused **ONLY** if the student has provided the instructor with adequate documentation covering the excuse (e.g., note from a physician for an emergency doctor's visit). Excuses such a slight headache or car troubles will not be accepted. Any non-excused absence will result in a zero score for the exam.

A valid GMU ID is required for all exams. Other forms of ID will not be accepted. Students are responsible for providing their own calculators, pencils, and Scan-Tron forms for examinations. You should be very familiar with your calculator prior to exam dates. PROGRAMMABLE CALCULATORS ARE NOT ALLOWED. Sharing a calculator is not allowed.

ALL cell phones and communication devices are to be turned off, properly secured and stored away BEFORE the exams begin.

III. Homework

There will be regular homework (one homework assignment per chapter) covering the material of lecture content that will be administered through Pearson's Mastering Chemistry (www.masteringchemistry.com) that will count 20% towards your final grade. A license for Mastering Chemistry should have been bundled with your textbook. If you bought a used copy of the book you will need to purchase a license separately.

IV. Quizzes

In class quizzes will be given randomly using the i>clicker system. If you do not already own an i>clicker, you may purchase one from the university bookstore. I will allow students to use i>clickerGO on their smartphone or laptop if you do not wish to purchase an i>clicker. Visit iclicker.com for details. Further details will be given in lecture.

V. Grading Policy

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 grade will be determined by your final score.

Quizzes	**10%**
Homework	**20%**
Mid-Term Exams	**40%**
Final Exam	**30%**
Total	**100%**