

Physical Chemistry

Homework Guide

A large part of this course is the investigation of systems through comprehensive homework assignments. You will be asked to turn them in and selected problems will be graded and you will be credited as part of your course points as outlined in the syllabus. These homework problems are weighted heavily in your final grade.

These homework problems are expansive at times and are intended for you to investigate physical systems and to apply methods and concepts in order to obtain information about the physical world. Problems are often multi-step and the strategy in solving the problems comes from your understanding of the concepts. Included in the homework sets are questions to ask yourself on the concepts as well as follow-up considerations that are intended to have you understand why you went through the exercise.

My objective is to assess your conceptual knowledge AND your ability to apply the concepts using the methods and techniques outlined. In order to do this, I must be able to read and understand everything you are doing and your reasoning. Therefore, **I am going to adhere to extremely strict standards with regard to your homework submissions!**

If, in my judgment, any of the standards outlined are not being adhered to, I will simply not accept your work for grading. As the homework problems constitute a significant part of your grade, it is in your interest to adhere to the highest standards for submission.

Standards and Guidelines

- All work must be neat and orderly and all writing must be easily read to my standards. If you have to use engineering grid and block print, do so. But any hard to read, incomplete or disorganized material will not be accepted.
- All problems must **include the question number and the written question**, clearly delineated from the rest of the page. It is not necessary to include all commentary, only the question to be answered.
- All problems MUST be solved in complete and continuous fashion, in proper conceptual order, writing from left to right and top to bottom.
- All work MUST include descriptive annotations outlining your reasoning, strategy and providing a guide to the reader as to what you are doing and why. **Any work that is just a page full of equations and numbers will not be sufficient.** Your work must be written as you are writing a paragraph with a logical flow and descriptive narrative.
- All work must include the equations to be used followed by substitution of appropriate values and must include proper units and a reasonable representation of significant figures.
- **Box in, underline or otherwise highlight** the final answer to a given problem

A Note on Collaborative Work

The homework sets as presented are often done by groups in a collaborative fashion. Such collaborative work can be very beneficial as an active exchange of thoughts and approaches to the solutions stimulates the process.

However, such group work can also be detrimental. In some cases, work is divided among individuals in order to reduce the work load. In other instances, when a member of the group proposes a solution, the remaining members accept the approach without question. The remaining members then produce their own documents with identical solutions. Such activities are not in the best interest of the members of the group in the learning process.

If collaborative work shows evidence of such activities, I will take the average of the scores of members of the group and divide that number by the number of members and assign each that score reflecting the fractional effort put forth by each of the members.

When working in a group, you are not excused from independent thought. In fact, as a group, you should have less error as thoughts and solutions are challenged. Your purpose in this course is to be able to demonstrate concepts presented by execution of physical problems followed by a cognitive discussion and demonstration of the acquisition of the material on the exams, not simply to complete the assignment. The problems mean something, physically and are intended to support your understanding of the physio-chemical world, the reasons why you use the expressions you use and why they work or why they won't work. This requires individual independent thought. So when working collaboratively, please adhere to the spirit of learning and the experience of accomplishment on an individual level.