PHYSICAL CHEMISTRY SURVIVAL GUIDE

Chemistry 342 is a rigorous course covering the fundamentals and applications of thermodynamics. The course involves logical reasoning and quantitative problem solving to a greater degree than most of the other courses you have taken.

The ONLY way to succeed in this course is through hard work. You must keep up with the work everyday, because succeeding topics build on and require an understanding of what was covered before. Here is what I expect from you:

1. Get to class on time and take careful notes; you should be able to reconstruct the lecture from your notes.
2. Go through the textbook to find the relevant reading material on topics listed in the outline. After each lecture, read the corresponding sections in the textbook. As you read, work through the mathematics and the numerical examples provided by the author. Your goal is to understand (not memorize). Thus, you should concentrate on how the author arrives at the conclusions, rather than just the final results.

At the end of the chapter is a checklist of 'key ideas'. Before you leave that chapter, make sure that you can write a word definition or mathematical equation for each of the key ideas.

3. After each lecture, go over your notes and fill in the mathematical details. Concentrate on the steps in our reasoning, not just on the final results.
4. Work on the corresponding problems in the back of the chapter. First try to do them without looking back at the results in those sections; needing to refer back to that material shows you that you haven't yet mastered it! Do NOT use the Solutions Manual except to check your work. If you are truly stuck on a problem, you can use the Solutions Manual for a hint on how to start it, but remember, this is a clear sign that you do not understand the material! If you can not make sense of the solution, then you should go back to reading the textbook again.
5. Jot down any questions or areas of difficulty, to be raised with the TA or with the lecturer during office hours, or in the discussion period. Get help early!

6. Before the next lecture, read over the textbook sections that will be covered, to prepare you for what will be discussed. Assigned Problem Sets will require study of those parts of the textbook pertaining to the problems, usually before the lectures on the topic.
7. Read the Problem Set as soon as it is assigned, and attempt to solve the problems right away. *It is usually not possible to do the entire problem set the night before it is due.* You may ask the TA for interpretation of a problem or for guidance on portions of the textbook that may be helpful in approaching a problem. The TA is not permitted to solve the problems for you, nor will he show you how to do it. This would deprive you entirely of the benefits of the problem sets. In the exams, as a test of your understanding, you will be tested on how well you figure out how to solve a problem you have not seen before. Consider the Problem Sets as the dry run for this process.