

SOME SUGGESTIONS FOR SUCCEEDING IN CHEMISTRY

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Chemistry is a complex subject. It includes a great number of abstract concepts along with mathematical manipulations of equations and data. As you progress through a chemistry course, new material presented builds on earlier material previously covered. There is also a large vocabulary of technical terms.

At the college level, the class moves through topics at a rapid pace with the expectation that students will read and review information in their textbooks and will consult additional sources (books, articles, and the Internet) to aid in learning and understanding course information. Because concepts and problem solving can be varied in many ways and be applied to different types of compounds and situations, **this is not a course where you can memorize course material** and solutions to specific problems.

Succeeding in chemistry requires **constant study and review** of class material since many concepts build upon previous material. **Problem solving**, actually working out problems, as listed in assignments, is essential to success in the course. Chemistry is not a course where one can just read over or cram information before a quiz or exam.

The following suggestions will be helpful in helping you to succeed in a general chemistry course, either at the college or the high school level:

1. Always read the chapter in the textbook before it is covered in class.

A chemistry textbook is not a novel and it has to be approached in a different manner. Before a thorough reading, **scan the chapter(s)** to find out the kind of material covered. Look at any learning objectives or chapter outlines, the section headings, illustrations and tables, margin notes, and boxes containing relevant information and applications. Also look at the chapter summary and types of questions asked at the end of the chapter.

Read the chapter. You probably will not understand all the material after the first reading, it may take several readings. *Make notations of anything you do not understand* in the textbook or on a separate sheet of paper - you will **not** remember them unless you write them down. It is in the lecture portion of the course where this material will be explained.

When necessary, go back to previous chapters and review pertinent information that forms the foundation of the current material.

2. Attend the lectures.

Depending on your instructor, each topic and chapter will be explained in lecture along with illustrations, relevant applications, supplementary material, demonstrations, and occasional hands-on activities. Important concepts will be stressed. Often, concepts will be explained in a different way from your textbook and they may be illustrated by demonstrations. Keep your notes from your chapter reading handy during the lecture to check that all your questions or uncertainties are addressed.

3. Ask questions.

The only *stupid questions* are those that are **not** asked. If you do not understand something, chances are that there are others with the same question - **ASK IT**, no one else will.

If you are really self-conscious about asking questions in class, then ask your instructor before or after class. Also, stop in your instructor's office during his/her office hours or make an appointment to meet with your instructor.

4. Keep your work organized.

Well organized material is easier to follow and understand and it is the key to successfully completing the chemistry course. Organize your notes by topic and sub-topic or rewrite them in outline form. Make notations in your notes of things you do *not* understand, then, seek help. This organization is especially helpful when reviewing for quizzes and exams.

Good organization is especially helpful with problem solving. As you work out each problem, you should show the formula used or a concept map of the solution, identify what is being asked, and list the given data and additional factors or information needed. Substitute the proper terms into the formula and be sure to include the proper physical units. Do the arithmetic last. Use of the physical units in a problem provides a quick means for checking your results.

5. Try all the homework questions and problems.

You must read and answer assigned questions. It is also essential that you physically work out assigned problems and calculations.

If you get stuck on a problem, no matter how little or how much you have done of it, *do not spend more than 10 minutes* with it, try another problem. Try the problem again, from scratch, the following morning or evening. If you are still stuck, then write a notation on your paper stating what your difficulty is (e.g. "what do I do next?"; "how do I use this item of data?", etc...). At the earliest possible opportunity, ASK your instructor or a tutor for help. **SAVE YOUR WORK** (including your rough notes) - it will give your instructor a starting point for an explanation and help you to see your error or difficulty.

6. Study and review the course material on a regular basis.

Try to study in short sessions. You will retain more information from several 10 or 15 minute study sessions than you will from one long session. Make up some cards listing items that you have difficulty remembering, carry them with you, and review them when you find yourself unoccupied (such as waiting for someone, standing in a line, etc...). It is also helpful to make up mnemonics for lists of items or terms, or for concepts.

7. Get the addresses and telephone numbers of TWO classmates.

If you miss a class, you can get the notes from one or both classmates. Study together, you will be surprised at how much you learn from each other.

One of the best ways to get help in the chemistry course is to talk to your instructor. Make an appointment with him/her and **keep it**.