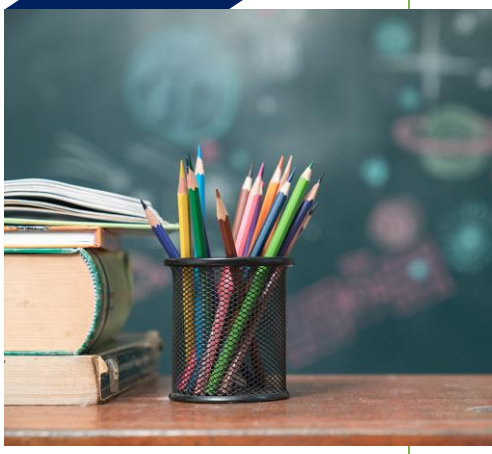
TUTOR STUDY TIPS: CHEMISTRY AND PHYSICS

Here are a few things that you should keep in mind when taking chemistry and physics:



MATH IS VITAL

Much of chemistry and physics requires you to perform calculations. If you are confident in your math skills, it will save you time when solving word problems or working with formulas. If you are not comfortable with math, you must review it since you are expected to already have these skills. The professor will not stop or slow down to review math concepts. The following are just some of the math topics you may want to review for your chemistry or physics course:

- Algebra (Solving for a variable in addition/subtraction and multiplication/division)
- Metric and Unit Conversions
- Calculating with significant figures
- Scientific Notation
- Exponent rules (Calculations with exponents and calculations with scientific notation)
- Logarithms (Logarithms with base 10 and natural logarithms)
- Geometry and trigonometry
- The quadratic formula

Helpful sites for basic math review:
https://rapidlearningcenter.com/chemistry/college_chemistry/basic-math-for-chemistry.html
https://www.rapidlearningcenter.com/physics/college-physics/02-Basic-Math-for-Physics.htm

GET ACCESS TO THE TEXTBOOK

There is a lot of information you must learn and understand in chemistry and physics. Textbooks organize and break down concepts in a systematic way, thus making it easier for students to understand and follow. In addition, some information provided in a textbook may not be covered in a professor's PowerPoint slides. Therefore, it is vital that you have access to the textbook. We recognize that textbooks can be quite costly. If you cannot buy it, try to make photocopies or find a free one online.

READ AND "KNOW" YOUR TEXTBOOK

Each chapter contains information on new topics and introduces the theories, concepts, rules, and formulas pertaining to those topics. When reading your textbook, notice the various features that call attention to important material, such as **bolded vocabulary**, graphics, charts, and illustrations.

It is also important to "know" your textbook. For example, chemistry and physics textbooks often have information (such as charts, constants, conversions) in the **appendix** (found in the back of the book) that you will need to refer to for many of the problems that you will be doing. Make sure you can locate these pages in your textbook or have easy access to the information found there.

ADDITIONAL STUDY TIPS

- **Focus on the concepts.** While formulas and equations are an important part of chemistry and physics, it is essential to understand the *concepts and theories* first. Professors may ask you questions in different ways, so you will need to understand the concepts in order to apply the correct formulas and equations. As a general rule, if you want to test your own understanding of a concept, make sure that you can verbally explain the concept to someone else.

- **Be an active listener and take notes in class.** Class lectures are not simply repetitions of the textbook or PowerPoint slides. Class lectures provide an opportunity to find out what information is important and ask the professor questions. In other words, class lectures can help you **synthesize** your knowledge. Therefore, you should not only attend lecture, but actively listen to the professor and take notes in class. It's always a good idea to read or at least preview the textbook chapters that will be reviewed in class ahead of time. After class, reorganize your notes to further review what you learned.

- **Understand and memorize any rules or formulas you are expected to know.** Some rules and formulas will be used often during the course of the semester. For example, you should have a firm understanding of the metric system and metric conversions. Make sure you understand the relationship within the metric system and other formulas that will be used during your course.

- **Review your lessons daily.** Review the syllabus early in the semester and create a schedule. Do not procrastinate, because you can fall behind very easily in college courses.

- **Talk to your classmates and professor.** Chemistry and physics are difficult subjects. Form study groups with classmates to help you improve your understanding and stay motivated. Visit your professor during his or her office hours to ask questions.

- **Visit the Center for Tutoring and Academic Support in the Library Building, L-113.** Although tutoring is not a substitute for your course, it can be a great supplement. Tutors will not lecture the way your professors do but will ask questions to promote critical thinking to help you better grasp the concepts you are learning. Bring your textbook, notes taken in class, and any other materials provided by the professor to the session.