Module 7: Succeeding in College Chemistry
Common Misconceptions

Fundamentals of Chemistry Open Course

Learning Objectives | Module 7

1. Recognize and avoid common misconceptions related to the study of chemistry.

2. Apply productive study skills to learn efficiently and effectively in college.

3. Reflect on key lingering questions that will guide future studies in introductory and organic chemistry.

Misconception 1. "Chemistry is just math."

- Although it is true that much of introductory chemistry involves algorithmic problem solving, developing conceptual understanding will make things much easier than memorizing processes.

- To develop conceptual understanding, make the extra effort to visualize the submicroscopic situation, even in problems for which some macroscopic quantity is the goal.

- When solving quantitative problems, at each step ask and answer the question: why am I taking this step?

Misconception 2. "I won't use any of this later."

- Introductory chemistry provides an essential foundation for study in many more advanced areas.
  - Organic chemistry
  - Biochemistry
  - Chemical engineering
  - Materials science and engineering
  - Pharmaceutical sciences
  - Many more!

- Many of the skills you develop in introductory chemistry should be automatic in more advanced coursework and your professional life. Start learning now!

- Strategies for studying and solving problems in your introductory chemistry course may transfer to other courses.

Misconception 3. “I’m not a chemistry person.”

- Success in *any* new endeavor—chemistry or otherwise—requires a growth mindset.
  You may not understand everything at first. That’s okay!

- Keep an open mind and be willing to change your approach to studying if things aren’t working.

- You won’t like everything you learn. This is completely normal and is an “affliction” that even experts suffer from.
  When this happens, notice it—you’ll probably need to invest some extra effort to motivate yourself.