Study Goals:
1st Year Chemistry

LEARNING
DEVELOPMENT & SUCCESS

Reflect on your study habits using the suggestions below
Have you tried some of them? What worked and what didn't? Ready to try something new?
Check off which tasks you'd like to accomplish in preparation for your Chemistry exam.

Structure and Organization

Organized notes make it easier to find information. You may consider creating your own condensed summary notes. Summary notes do not replace your original lecture notes, but aid as a review tool. Time the completion of your notes accordingly.

- Gather and organize lecture slides with notes, either in electronic or printed form ◯
- Make a topic and task list to serve as a study checklist ◯
- Identify key equations and concepts within the chemistry workbook ◯
- Put notes into your own words, in condensed form (for faster comprehension upon review) ◯
- Identify relevant practice questions for each section ◯

Comprehension/Understanding

Many test questions are rooted in understanding of chemistry concepts. Generating questions that encourage the comparison and application of multiple concepts can support "deeper" understanding.

- Read actively and process information as you go ◯
- Consider why each step is necessary in practice questions/ past exams ◯
  (Why was this step done here? What is its purpose in finding the answer?)
- Consider how different variables relate to each other and why formulas work ◯
  (eg. # moles = mass/molar mass because mol=g/(g/mol))
- Analyze how smaller equations/concepts fit into the bigger picture ◯
  (Create concept maps, flow charts)
- Discuss topics with study group/study partner/PAL Learning Peer ◯

Self-Testing

Many students do the practice questions, yet perform poorly on the chemistry examinations. The key to effective self-testing is to practice in a way that is conducive to greater understanding (Active Learning), especially with past exams and practice questions.

- Do practice exams that are provided in the lab manual ◯
- Answer practice questions without looking at your notes ◯
  (Doing practice questions with your notes may give the illusion of knowledge)
- Explain concepts and question solutions to a friend or Learning Peer ◯
- Pretend you are teaching the course material by explaining it in your own words ◯
- Identify areas of strength/weakness after writing the exam; adjust how you study ◯

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Tackling a Problem

Chemistry word problems may be tricky to approach since they require both an understanding of the question as well as application of skills. Following a general problem-solving method ensures that you don't miss out on any of the critical components needed to answer the question.

- Read the question and mark/write down the known and unknown variables ◯
  (What information were you given and what do you need to find?)
- Write down the appropriate formulas with the variables involved ◯
- Look for patterns in the formulas ◯
  (This is where past experience with different practice problems is helpful)
- Develop a plan of action ◯
  (E.g. In which order will you apply the formulas?)
- Solve according to your plan of action ◯
- Check your answer to ensure that it makes sense logically ◯
- If needed, make a new plan of action and repeat the process ◯

Helpful Tips

Here are some reminders to help you achieve success in your chemistry course.

- Review basic math concepts that may appear in questions and/or calculations ◯
  (This can include exponents, fractions, scientific notation, manipulating or solving algebraic equations)
- Pay attention to the units given in the question, and always double-check them ◯
  (Do you need to do any unit conversions to answer the question? Or Do the formulas used require specific units?)
- Double-check all your calculations ◯
- Practice both comprehension questions and more complex application questions ◯
- If you need assistance with a concept/question, seek help early! ◯
  (Go to the Prof, TA, OWL forum, Chemistry Resource Room, PAL Centre)