

# Strategies to Succeed in Chemistry, Math, and Physics

OSU Academic Success Center 2012

**Confused about Chemistry, Math or Physics, and not sure what to do about it?** Here are some tips about studying, homework, and test-taking that you DO NOT want to miss! **Advice directly from the professors themselves:**

## Complete your homework to learn the *concept*, not the *specific problem*.

Can you read a problem and understand what *kind* of question it is asking? Can you identify the formula in the problem? Before solving problems, study the concepts and make sure you understand them. Understanding the concept is crucial for working through the difficult problems you will be faced with!

Steps of Problem	Explanation of Each Step
$P_1 \times V_1 = P_2 \times V_2$	Rearrange to solve for $P_2$
$P_2 = P_1 \times \frac{V_1}{V_2}$	Plug in numbers to solve

**SAMPLE TECHNIQUE:** Take a piece of paper and draw a line down the middle. On the left side, work through one step of the problem, and on the right side, explain what you are doing.

**Troubleshooting:** Visit your professor or TA and have them **watch** you work out a problem instead of *showing* you how to do it. Your professors will LOVE to hear that you have been thinking about the problems and will be able to pinpoint the exact place you got stuck.

## Homework as a learning aid:

- Use your homework as a test of the concepts you have learned in class. Write out your homework in an organized way. This can be useful to you as you are trying to master more challenging problems or review for the test.
- Find similar example problems in your textbook.
- Use a different textbook or additional study material to work through the concepts.
- Try to read through a group of problems and see if you can identify their similarities.
- Do a couple problems every day and start your assignment early!

## Make a reference sheet.

- Extract the key information and formulas so that you can refer to them when necessary. This will also help you to prepare a notecard for the exam, if allowed by the professor.

## Attending class is extremely important.

- Prepare for class by looking through your textbook. Skim over the ideas and recognize important concepts.
- Use the examples from class as practice problems! Cover the explanation and try to work through them yourself.

## Practice tests are an important study material.

- Take the test in a test-like environment. Use only the resources you will have at the time of the test, and in the time you will be allowed. Don't look at the answers too quickly! Try to work through the problem yourself first.
- Use these tests to figure out what kind of information you are missing and which concepts you do not understand.
- Go through the practice test and take questions to the TA or professor.
- Look at the chapter objectives for a potential study guide.

## Where are your resources?

- Ask your Academic Coach for additional tips!
- Is supplemental instruction offered for this course? If so, learn about Supplemental Instruction from your professor or the Academic Success Center website: <http://success.oregonstate.edu/>
- Have you found others in the class who would like to form a study group? Your peers are one of your best resources! Talking through concepts and example problems are an excellent way to learn.
- Have you visited the Collaborative Learning Center? Check your class website or the OSU library website for listings of general hours and specific TA hours. <http://osulibrary.oregonstate.edu/clc>
- Need a tutor? Some departments offer a list of private tutors.