

How to Succeed at Chemistry by Really Trying

Welcome to Chemistry or, if this isn't the first course you've taken in Chemistry, welcome back to it. I hope you have a successful semester, and I'm here to help you achieve that goal.

At this point you may be wondering just *how* to go about getting the mark you want – especially if you've “heard of me” before. What are my expectations? Are my tests *really* that bad? If they are, how can you best prepare for them?

The philosophy I outline below (developed during my many years of teaching) as well as the advice offered, if taken to heart, provide my best answer to the questions above. Of course nothing in life is certain, so I can't guarantee that following the philosophy and advice below will get you an “A”, but I can say that it will greatly increase your chances of it. The converse is also true: ignoring what's written below will greatly increase your chances of failure.

My Philosophy

Solving Chemistry problems is a skill to be mastered. Here's an analogy that I hope will help to illustrate what I mean. Let's suppose that you're just learning to drive a car, and you have a month to go before your driving test. You take one lesson, don't think about the car at all for four weeks, and practise for an hour on the day of the driving test.

It's probably not hard to imagine what would happen in that situation: you'd fail your driving test miserably. Learning to drive a car (a relatively intellectually simple exercise) is something that requires practice, after all (some people more than others).

Everyone knows that you have to practise a lot to learn how to drive, but few people seem to realize that it's just as true of learning Chemistry. If you want to do well on Chemistry tests, you have to practise a lot, and not limit yourself to practising on test day. There is *no other way* to get good at it.

So you gotta do problems. Don't just dive in and do any old random problems, though; there's a strategy to problem solving that'll make it both easier for and more beneficial to you. What is it? Read on to find out.

How to do Problems

Read your notes first. Give your brain a hand and remind yourself of what you learned in class before you try to apply it. This will help not only because you'll be reminded of what you learned, but because if there were points of confusion for you in class you'll be reminded that you need to clear them up before you try to solve any problems.

Next, redo the in-class examples. That will further reinforce what you learned in class. This, in the car analogy, would be like going back to the same place you took your driving lesson and repeating what you did there.

Do textbook exercises next. Working on the simple textbook exercises first (the ones with the low numbers) is the first step to making sure that you understand the concept, and haven't just memorized a solution to a problem. To continue with the car analogy, you'd be driving down different streets than the one on which you took your first lesson, but doing the same things. Try the harder, higher-numbered problems when you're sure you're ready. Doing the harder problems, in the car analogy, would be akin to getting in a different car and driving *it* through different streets than the one on which you had your original lesson. Doing the *really* hard textbook problems would be like driving the car on the highway.

Do problems from the web next. The web problems (especially the ones on the tests) are much harder, very often because they're asked in different ways than they were in class, or because they combine more than one concept into a single question. Just as you wouldn't start out learning to drive by trying to merge with freeway traffic at 100 kph, you wouldn't start out trying to learn how to do Chemistry by doing these problems. Get good at the simple stuff *before* you try the hard stuff. There are *no shortcuts*.

There are also a few things you can do outside of problem-solving that will help you with problem-solving.

More Advice that May Help Your Grade

Attend class. No, we don't take attendance, and no, we don't strap/glue you to the chair or force you to be there, but regular attendance really *is* in your best interest. Why? Well, imagine what would happen at your driving test if you'd prepared by letting one of your friends tell you how to drive a car: it Wouldn't Be Pretty. The same disasters occur after you "get the notes from someone" too. We all process things a little differently, and if you're not around to soak it up firsthand there's a very good chance you'll be missing subtle nuances that may be important to you but aren't important to the other person taking the notes.

Besides, good money was spent so you could attend classes, so why not do it?

Don't wait until the last minute. You need to give your brain time to absorb, comprehend, and subsequently retain the material you need to master. Because of this, studying for 12 hours the day before the test is *not* as beneficial as studying for one hour a day for twelve days. Even worse is if you wait until the day of the test to study and do problems: if you do this *you will not retain anything*. I have, in all my years of teaching, *never* seen an instance where studying on test day did *any* good. Practising a little every day will give your brain the best chance to absorb all the material it has to, just like practicing a little every day in the car will give you the best chance to get good at driving the car on the day of your driving test.

An "A" is easier to get than a "C". Why? Because you know *exactly* what you have to do to get an "A", but it's *much* harder to predict what work is necessary to get a "C". What happens if you aim for a "C" and do too little work? Of course I'm not so unrealistic that I expect you'll all get "A"s, but I hope you'll all work like you *want* one. If you do, you'll be surprised to find out just how hard I'll work with you to help you get one. I *want* you all to do well, but it's up to you to make the initial effort.

What I Have to Do:

It's all well and good to offer the advice above, but it's only half the battle. If you're willing to do your part, I'm willing to do mine. Here's what I'll do:

- 1) I will try to explain things as clearly as I'm able. If my explanation is not to your satisfaction, please *tell me* so I can try again. I *like it* when people offer up feedback like that.
- 2) I will never deliberately try to make someone feel stupid for asking a question. If you find yourself being made to feel that way, please tell me so I can stop doing it.
- 3) I'll make myself available for questions as much as possible, but please remember that my time is mine to offer and not yours to take. If you're reasonable with your requests, I'll be flexible with my accommodations. Fair is fair.

Hopefully this helps. Good luck in the course!