I | Preparing for College Courses

Pre-semester class preparation—only a few hours of work – often overlooked for various reasons—can make the difference between an F and an A.

If you are in college or about to start, make sure to approach it with a mature adult mindset. Acting like a child and complaining when things don't go your way will only make you feel bad about yourself and give others the impression that you are not ready for adulthood. The chemicals excreted by your body from the anger and stress you allow to happen will literally cause you to do worse in class.

Stressing, having anxiety, getting angry, and or focusing on getting that A instead of understanding the material are harmful solutions. These actions will all make you perform worse in your studies. The very thing you are trying to prevent from happening increases because of these mental obsessions.

It is best to approach science with the mind of a relaxed, easygoing Buddhist. Focus on understanding the material. Obsessing about getting that A does absolutely nothing but take up energy and cause stress. When a person is stressed, they don't think right. Get it? Just relax. Any G.P.A. above 3.0 is far above average and will get you into grad school with no problem. A GPA of 2.5 or higher will admit you with a probationary period, and is mostly what is needed for a job as well. Don't believe me? Check out the videos I made on job applications and grad school entrance!

Of course, I am speaking to engineers, mathematicians, computer scientists, physicists, and serious STEM majors headed to research careers. If you are premed or a business major, you will likely need a 3.8 GPA or higher in most cases—that is, to get into graduate school.

So, just take it easy. Ask anyone who has graduated if stressing about the G.P.A. was worth it.

I. Before the Semester Starts

Before starting a math-based subject, such as physics, engineering, or a STEM course, one should be prepared for the semester.

College is not high school; college is a place to prepare for a professional career where one is expected to be responsible, prepared, self-motivating, self-sufficient, with a ton of skills, licenses, certificates, work experience, letters of recommendation, and, last but not **least, a degree**.

A professor is not a teacher, and a lecture is not a class. A lecture is where one goes to have information reiterated to them that they have already been prepped on, as well as to learn how to communicate scientifically. Skipping lectures increases your chances of failure by nearly 100%. Think of a lecture as going to a foreign-language movie without subtitles. You

probably would want to at least have an idea of what the story is about, right? If math is a language, you probably want to prep yourself in it before the show.

Too often in college, I hear students say, “My professor sucks.” “This wasn’t in the study guide.” “What am I paying for if the professor isn’t going to explain things in a way I understand?” … “My mom cooked for me for 18 years! I think I know a thing or two!” ... The list goes on and on. Excuses, victimization, blaming, ..., judging, shaming—a nonscientific attitude.

When I was in my first semester of college, a professor gave me the best advice I could have ever gotten. I went to him, confused about the material for College Algebra. I explained that his lectures were not helping me, nor was the book or online homework. He explained, in a nice way, that to be successful in college, the only person I could rely on to learn from is myself. In other words, if I am in a job and I can't figure something out, who am I supposed to go to for help, when the very reason I was hired was to figure it out?

ii. Reading a Textbook Properly

The above title may sound odd, but there is a correct (subjective) way to read a math-based textbook based on my experiences and observations.

First, most students don’t like opening the textbook or reading the notes the professor has provided. Sure, you got through Algebra, Trigonometry, and Precalculus without opening a book. But now you are in actual Calculus and/or Physics and are wondering why you are doing so terribly in the course?

It should be immediately understood that math beyond Precalculus is only reiterations of what you have already learned or applications of what you have learned. It is like knowing the alphabet and sentence structure – now you must write paragraphs, stories, and so on.

My point is that Calculus and higher courses are more closely related to English courses than to arithmetic, which is often confused with mathematics. You cannot solve any problem without knowing the words, their definitions, the theorems they are used in, and how to apply them. Everything else just boils down to basic algebraic arithmetic.

When you read the textbook, **you should read it like a novel** while also taking your time to fully absorb and rewrite all the information in your own words to reinforce the data. (Reference the “Before Starting a STEM Degree Portion” for a full explanation of how to take notes and read the textbook.)

To best learn a subject, you must first familiarize yourself with the textbook from back to front before entering chapter 1. Once you get to chapter 1, you then start at paragraph 1. You do not move to paragraph 2 until you fully understand paragraph 1. Once paragraph 1 is completely understood, move to paragraph 2 and repeat the process. Do the same for the example problems.

NOTE* The example problems and questions solved during lecture are what *usually* make up 80% (if not all) of the exam. If you cannot solve these on a timer in a stressful environment before the exam—without referencing anything and no calculator—you will never be able to do it when the exam comes. I.e., take F*****G practice exams each week!

If you do this, you will cut your study time by at least 50% as you will quickly absorb the lecture.

iii. preparing for the first lecture

Let us assume you are just finishing summer vacation, and the furthest thing from your mind is cracking open a textbook on a foreign subject. It's a dilemma. I know; I am guilty. I am not a saint; I only know the best route, and when I have taken this advice and observed my students follow it, school becomes much easier and more productive.

For example, assume you are taking Physics 1 or Mechanics in college, or perhaps Calculus 1—Differential. The first week may or may not be a review of previous courses covering basic mathematical techniques and concepts. Do not rely on this. Assume that the first week is just as intense as any other week. That is, you will hit the ground running, and the professor will explain the context of the course as if you had just finished the prerequisite the previous week. They couldn't care less that you spent three months doing nothing but diddling yourself over the summer.

"Math is like exercise: if you don't continuously partake in practice, you will lose all the muscle mass and become weak."

For most students, if they are prepped on the course material a few weeks ahead of the semester and maintain a consistent 'stay ahead of the game' strategy, their weekly study time is just doing the homework, which becomes very-very simple in comparison to those who try to learn everything from the lecture alone.

Wouldn't you like to just do the homework without trying to learn each problem on the fly, ace it, and focus on other things? Just be a few weeks ahead of each lecture, and you can!