

2 – Before Starting a College STEM Degree

1. **Lectures** may be optional, but they are not! It is an option for two reasons: (1) You are an adult, and no one can make you go to a lecture, and (2) a test of integrity and responsibility. You must understand that college is shaping you into an adult. If you treat college like high school, you are going to go back to school when you graduate. If you treat it like a professional career, you will become highly employable!
2. Reading (or learning from) the **textbook**. You must learn from the textbook. When you have a syllabus that says, “You can use the assigned textbook, lecture notes, class, and office hours,” anything else is not following the code of conduct (plagiarism)! Watching Khan Academy (or similar platforms, private tutors, or solution manuals) is like listening to an audiobook read by an **unaccredited amateur**. If your professor does not permit you to use these things, it is unethical. But mostly, your job as a STEM professional is to learn how to fluently read scientific data—that is, textbooks. What makes you think listening to another’s interpretation of a data source is acceptable to a degree in which you are supposed to struggle through to interpret for yourself? The entire undergraduate degree could be summed up as, “Bachelor’s: The art of learning how to read textbooks.” **The internet is unaccredited** and built by amateurs. Twenty years ago (before Khan Academy and all the other cheating platforms), the success rate for STEM majors was 50%. It is still 50%! What is the difference? People used to be able to get jobs, but employers have no faith in hiring someone who needs their mama to read them a bedtime story (the textbook)!
3. **The flow of your curriculum** is why the internet is bad. When I say “internet,” I am referring to using services like Chegg, WyzAnt, YouTube, Khan Academy, and Solution Manuals. It is also unacceptable to use ChatGPT for critical thinking—not grunt work. ChatGPT and similar tools are excellent for mundane tasks, but not for tasks that require critical thinking. The reason why is not just because it is—by definition—cheating, but because they may show techniques that you are not allowed to know yet or haven’t been taught yet, or may come from a different subject, and so on. Students are expelled from college every day for using these platforms. They are accused of using techniques not covered in their curriculum, which is seen as AI, cheating, and plagiarism. If you don’t want to do the work, why the F*CK are you a STEM Major?
4. **Practice exams** are the most important part of studying! Homework is usually worth so little that, after an end-of-semester grade adjustment, it is irrelevant to the final grade. In other words, the exams determine the grade. NO ONE IS GOOD AT EXAMS!!! You can only get better at them with practice. If you spend all your time getting 100s on homework, you will get really good at doing homework! If you spend all your time doing practice exams, you will become an expert at taking exams! You will study less, understand more, and become better qualified for letters of recommendation from the professor.

5. **Respecting the professor and your classmates:** You need letters of recommendation to get into grad school, secure internships, research positions, and, in most cases, jobs. You will not receive letters of recommendation if you are absent from the lecture and are perceived as a disrespectful person. It is a good idea to treat your professor like a potential future boss and your classmates like potential colleagues. Suppose you are a rude, no-show, arrogant, pompous, or know-it-all person (with a narcissistic personality). In that case, you will not be considered for employment. This extends to the classroom, where receiving letters of recommendation and procuring a research or internship position are key. Lecture is a great place to learn how to deal with obnoxious people positively.
6. **Focusing on your resume from day 1:** It is crucial to start building it immediately. As an incoming freshman, one of the first things you should do (in your free time) is look up job applications for positions you may be interested in in the future. Do not worry if you cannot find something exact to what you are looking for. The point is to become familiar with everything required for qualifications. Typically, an application will require a wide range of skills, including proficiency in Microsoft Office tools, multiple coding languages, and other relevant technologies such as HTML, SQL, and so forth. During the summer months and in your spare time, you should focus on building these skills. Some may require a certificate or license, while others may simply need basic knowledge or familiarity through practice. This way, over the coming years, you can meet the qualifications by the time of graduation.
7. **Internships and work experience:** Upon graduation, you will have access to both entry-level positions and those that require experience. Unfortunately, you may have to take on a lower salary in an entry-level position to gain experience for a better position later on. Most jobs want you to have 3-5 years of experience with a master's degree these days. To overcome this obstacle upon graduation, it would be beneficial to prepare for it by working and to plan on pursuing the accelerated MS/BS program. You will then graduate with all the necessary experience and skills, and a master's degree, in less time. You can work over the summer at any job in your first year. In your second year, now that you have work experience, you should be able to transition into something more prestigious, such as an internship. You will not get an internship if you skip a lecture, as you will need a professor's letter of recommendation (the same applies to jobs). It is also recommended that you attempt to do research of some sort with your professors. Research can also open doors to skill qualifications. Research is a great experience, even without work experience, because professors will always need grunt workers. The grunt work will include the use of many software applications that you will need on your resume. There are many ways to multitask between qualification building and work experience. If you work over the summer and do some assistance in fall and spring, along with focusing on your qualifications, then by the time you graduate with your bachelor's, you may be very qualified for jobs. Do all of the above starting freshman year, and the so-called "terrible job market" won't be terrible at all!