

## **Strategies for Success For Science, Technology, Engineering and Mathematics (STEM) Majors**

### **Semester Success Tips**

1. carefully review the course syllabus
2. go to your professor's office hours; get to know your professor
3. send e-mail to your prof. if you have a question and can't wait for office hours
4. contact your prof. to let her/him know if anything is preventing you from studying or doing well in a course
5. if allowed, ask your prof. to review a draft of your term paper to get feedback
6. go to the TA office hours and contact the TA if you have questions
7. keep up with the course – don't fall behind; keep ahead of the course if at all possible
8. use the STAR centers (quiet area with lots of resources)
9. use multiple sources: other textbooks, web pages (but be careful!), etc.
10. ask questions in class
11. if the classroom is very large, sit near the front so you can hear and see everything
12. form and/or join study groups --> a “study buddy” is not necessarily your best friend
13. develop routines to keep your life organized (shopping/laundry/studying/relaxing/exercise)
14. plan in advance – time management is crucial; perhaps the biggest challenge for a post-PhD
15. roommate issues – don't wait until minor problems grow big; don't suffer silently; be flexible/creative with solutions (e.g. earphones and earplugs); allow RAs to help find a solution and/or mediate a dispute.
16. use flash cards to help memorize things
17. use mnemonics to help memorize names/facts
18. make outlines of chapters
19. type your handwritten lecture notes
20. time management - use your resources wisely, especially your time
21. study for your classes soon after the lectures - don't wait a few days
22. build and cultivate your support network: friends, study partners, and family
23. be able to “move on” if you experience a disappointment or setback
24. always write using college-level English, and always use a spelling checker
25. be able to say “I don't understand” and “I don't know” without feeling dumb
26. we can learn from our mistakes, if we want to
27. don't trick yourself into thinking you know something if you don't; a good test of whether you really know something is to ask yourself the question “Can I teach this to someone else?”

## Long-term Success Tips

1. join a departmental/professional organization/club/society
2. do research with a faculty adviser
3. begin to build professional relationships with faculty so you can ask for a letter of recommendation
4. take personal responsibility for your success
5. time management is crucial - pay attention to where your time goes
6. don't overextend; don't volunteer for everything – “service work” does not make up for mediocre grades; learn to comfortably say “no” to requests of your time
7. exercise regularly and live a healthy lifestyle
8. get enough sleep!!
9. take advantage of interrelated themes – use synergy to your advantage
10. focus on courses in your major
11. quality over quantity: a single “A” grade in your major is worth 2 or 3 “B” grades
12. practice and prepare for the GRE subject exams/MCAT/etc.
13. read popular science articles in your field (e.g. NewScientist, Scientific American, etc.)
14. learn the lingo/buzzwords to speak and write like a pro (e.g. data are plural; what do “et al.” and “i.e.” and “in vitro” mean?)
15. don't obsess over your GPA: other factors are important (research/internship experience, GREs/MCAT, letters of recommendation, etc.)
16. to write well you need to read a lot: read about what's happening in your field
17. always write with care - don't form sloppy writing habits; you will be judged by how you write; if you can't write proper English, who is going to think you are smart?
18. if things are going badly, it may be wise to make a “strategic retreat”; back off a bit, then come back later stronger
19. technical writing is like writing in another language - it can take time and lots of practice
20. practice interviewing for jobs, etc.
21. networking and making professional connections is very helpful - you can't do it alone
22. “big fish” vs. “big struggle” - choose a nurturing, friendly university, not necessarily the top research university
23. don't pretend to be what you aren't
24. be aware of the glass ceiling for women scientists - although it seems to be shrinking, it still exists, so just deal with it for now
25. don't let poor teaching get in your way - succeed in spite of your lousy professors!
26. ask yourself what you really like doing; if you don't like it, maybe you should change
27. you don't need to know “what you want to be when you grow up”; you can learn on the way
28. remember that a degree in science provides a lot of options in case later in life you don't want to do research as a career
29. if you know you are not good at standardized exams (like the GREs, MCAT, etc.) enroll in a practice course (like Kaplan)
30. college is an investment: work hard for a few years now and it will pay off later: a fun job with good pay for the rest of your life
31. learn how to cope with failure/discontentment/conflict because it *will* happen along the way, just as it happens to everyone at some point; this is where your support network can really help
32. help others along the way - in addition to being a good thing, it'll make you feel better if you are feeling down
33. develop a “reputation for integrity” - impress
34. success in science often depends on (i) being naturally gifted, (ii) being lucky, and (iii) working hard: you can't change the first two, but you can make a lot of progress by working hard
35. “luck” is sometimes simply being open and ready to take advantage of opportunities
36. Have fun!! Enjoy what you are doing! Yes it can be stressful, but it is also very exciting!