

Tips for Academic Success

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1. You Do Not Become a College Student Overnight

You've been accepted to MSU and you have a college ID card now. You are sitting in college classrooms taking college courses. But you do not automatically change overnight. The transition from high school to college takes time and you need to adjust in many ways in order to become a "real" college student.

You learn to be one. The freshman year is a transitional period during which you learn how to manage yourself, how to study, and how to deal with many problems that you did not have in high school.

The differences between studying in high school and college include:

- You are totally on your own; you need to manage your personal life, studying, finances, and entertainment.
- You are expected to be able to study on your own, manage your time, choose your courses, preview and review, prepare for tests, and find help when needed.
- You are taking more courses. Professors cover more material. You are expected to learn more outside the classroom by reading your text and doing the homework.

You are expected to deal with many problems on your own, and be able to work with other people. Be prepared to learn not only the course material, but life skills as well. Then your transition to college will be smoother.

Be prepared to work hard. You don't have to learn this lesson the hard way, the way this student did last year:

"My personal academic difficulties stemmed from a lack of preparedness for a college/away-from-home-environment. When I first arrived at MSU, I had minimal work ethic, which meant I did practically no work outside the classroom, and I often chose more sleep over class attendance. This was due, I believe, to a personal lack of responsibility and my own inability to budget time."

If you take responsibility for attending class, doing the homework, and learning to budget your time, including time for sleeping, you should be fine

2. Set Your Goals, Achieve Total Success

Set Long-Term and Short-Term Goals

Set Priorities

Integrate All the Parts into Your Total Success

Knowing clearly what you want will set you on the right path from the very beginning of your journey to success. What are the important goals in your college career? In your life? How can you set priorities, keep a balance and achieve your total success?

What is total success, anyway?

Total Success = Good health, physical well-being
+ Positive attitude in mind, emotions, and personality
+ Good academic performance
+ Active social activities, personal skills, leadership
+ Sufficient financial, business and other real-life skills

Suggestions for you to achieve your total success

- Invest in your physical well-being: exercise. Your body is the vehicle to carry your wisdom, knowledge and everything to your future. Good health will help you study more effectively.
- Invest in your studies, the foundation of your career and future. Get to know yourself, your professor and the course, choose the best study style that fits you. Know what to learn and learn it well.
- Invest in your social skills, friendships, leadership abilities, and relationships. Academic success alone will not bring you success and happiness in your personal life.
- Entertainment is essential, re-energize yourself. Balanced entertainment will actually help you study.
- Take care of your finances, and balance work with study.

A four-year college program should train you to be a professional, mature and well-developed individual. There is no doubt that study plays a central role. It is easy to agree that we need to study and cannot "play" too much. However, if one pays attention only to studies, ignoring other parts of life such as health, social life, and friendships, then one will not be able to achieve total success. Integrating all the parts together is the right way to a successful, happy and meaningful life.

3. Motivation: Why do you want to be successful?

Motivation is the energy to study, to achieve and to maintain these positive behaviors over time. Here are some suggestions to increase and improve your motivation:

1. Success builds success. Get into the success cycle. Everybody wants to be successful, but you should be willing to do the hard work to have a successful start. When you feel the job becomes too hard, just remind yourself that your success today will help you to be more successful tomorrow. Studying is like putting credit into your bank account. Every effort counts.

2. Realize that your college study is the foundation for your success in your future. The knowledge learned in the first year is needed in subsequent courses. Many of your future projects and problems in your major will come down to whether you can do the related basic math and sciences. With a better background, your potential for success is much improved.
3. Make learning your number one priority. Socializing and recreational activities, although important and not to be ignored, should take a back seat to learning.
4. Set realistic goals. Try setting goals during a specific time interval such as a day, week, or term. When your job is too big, cut it into small parts. Then it will be easier for you to see what you have achieved and you will be better motivated to continue.
5. Recognize when you need to increase effort and when you need to focus on underdeveloped abilities. Highly motivated students view their effort and ability as the most important factors of their success.
6. Get to know your professors. Use your professor to guide your activities and give you feedback. This may influence the professors' positive feelings about you and at grading time, this may prove advantageous.
7. Reward yourself a little to maintain your motivation.
8. Compete with yourself. Keep bettering your previous grades rather than focusing on the performance of others.

4. Learning a Subject: What to learn and how to learn

There is something special about each course. Your grades will improve when you discover exactly what you need to learn and how to learn it.

What to learn: For each course or each chapter, you need:

1. **Contents:** Be very clear about what this chapter or course covers and what problems are solved. At the end of each chapter, try to list all you have learned and put them into an order you understand.
 - General theories (theorems, formulas, etc.);
 - Related exercises, problems.
2. **Methods:** Special methods exist to prove theorems and solve problems. You should study those methods. Then you will be much better with problem solving. Each chapter or each course normally has several typical methods that you are expected to learn and apply to problems. If you are aware and pay attention to those "tricks," learning and problem solving will become much easier.
3. **Special examples and problems:** Sometimes there are special examples and problems that require special tricks to solve. Pay attention. Those problems have more of a chance to be the candidates for test problems.

4. **Summaries of each chapter and the course:** You should have a summary for each chapter and a summary for the course at the end. Then it is much easier for you to understand and retrieve the material. Only well-organized knowledge can be remembered for a long time.

How to get it: The academic success skills given in the following pages should help you to achieve the goals of learning.

- Set up goals
- Time management
- Preview
- Go to lecture and take notes
- Review and summarize: get the key facts
- Homework
- Test, prepare, get the points

5. Time Management

Be efficient. Keep it simple. Schedule your time. Get important things done.

Has it occurred to you that you are busy all day but nothing important gets done? Setting priorities and effectively managing your time are vital to your success. Here are some tips for effective scheduling and time management:

1. Keep a long-term schedule (one year, four years) so that you can plan ahead and avoid missing important targets. Put all the activities (tests, projects) into your calendar for the whole term.
2. Keep weekly and daily schedules. Plan ahead every week and every day.
3. Review your learning style and take this into account when developing a study schedule.
4. When setting up your schedule, utilize all sources of information available (Course syllabus, term activities calendar, sports schedules, etc).
5. Spread work out over the entire term. Studying small amounts daily works better than does cramming or pulling an "all-nighter".
6. Don't forget computer access needs. Avoid heavy user traffic, especially printers. Plan ahead as much as possible.
7. Conquer procrastination. Here are some tips:
 - a. Fear of failure: Identify the fear and determine its causes. Are you putting things off because of your fear of failure? Rationally analyze your situation.
 - b. Do a task analysis.

- c. If you feel overwhelmed, break down your task into smaller pieces, set goals for each segment and achieve them one by one until you cross the finish line.
 - d. Weigh the consequences.
What if I put this off? I might not be able to finish this before it's due, then I couldn't get a passing grade. I might fail in this course...
 - e. Create a deadline
Work with the deadline set by your professor, and create sub deadlines along the way.
8. Are you studying reasonably efficiently? If you find you have put in a lot of time on some material and still received a poor grade, consider reviewing your methods with your professor to see what you were doing wrong (Did you miss some major concept?). Ten minutes spent getting help on a troublesome topic from the professor may produce the same results as a couple hours on your own battling with it.
 9. The 16-week schedule will cause courses to move at a faster pace than high school courses did. A couple of days doing nothing may put you a lot farther behind than you think they will.

Additional Tips for Setting Up a Schedule

- The best time to review for a lecture course is right after the class meets.
- The best time to review for a participation course (class discussion, seminar) is right before the class meets.
- In general, study periods for one course should not be longer than two hours at a time.
- If possible, a quick exercise break or high-protein snack might be helpful to reduce your fatigue after prolonged study periods.
- Study periods for one course should be spaced out over the entire week, not concentrated on just one or two days.
- When memorizing and learning details are required, study periods should be short and frequent.
- Study periods can be longer when learning general concepts and material where your mind can make connections with other concepts in a meaningful way.
- Vary the order of the types of subjects studied.
- The most effective time for memorizing specific details and facts is often right before you go to bed.

Incorporate these tips into a flexible study schedule, tape it to your mirror or on your desk or bathroom door. Review it every day in the morning.

6. How to Read the Textbook

You cannot study well without effective use of the textbook. Most textbooks are well-written and worthy of your careful reading. You should read the textbook several times in different ways to fully appreciate what is covered there.

- **Read before lecture** to see what is covered in the book and what you need to pay special attention to during the lecture. Read with questions in your mind: Which problem are we solving? What is the main theorem? How is it proved? What is the main formula? How is it derived? What are the main examples? How are they solved? If you don't understand the answers to these questions, then pay special attention during lecture.
- **Read after lecture** to form a complete understanding of the material covered in the lecture. Did the professor cover your questions? Are there parts of the lecture you do not understand but you can study from the textbook?
- **Read the theorems and proofs and classic examples** several times to gain a thorough understanding. What are the conditions of the theorem? What does the theorem give us? Where can the theorem be applied? How are the examples related to homework problems?
- **Read before tests** to have a complete review.
- **Read, think and ask questions.** Keep a balance of the three.

Tips for effective reading:

- Look over chapter title(s).
- Formulate questions.
- Look at pictures, graphs, figures, etc., and reading captions.
- Notice underlined or italicized words or formulas.
- Read summary paragraphs or conclusions.
- Look at study questions at ends of chapters.
- Learn new reading techniques such as speed-reading, phrase-reading, survey-reading.
- Write down key terms, phrases, and formulas.
- Go back and underline or highlight key sections and words.
- Answer study questions; do sample problems.
- Get together with others in your class and ask each other questions on the reading.
- Make a simple outline of material read.
- Restate in your own words the essential definitions, ideas, formulas and facts just read.
- Use multiple senses (hearing, seeing, speaking, writing, acting) that help in remembering.
- Reviewing and rereading increases comprehension and achievement.
- Periodic review will keep things fresh.

7. How to Attend Lectures and Take Notes

- You need to go to the lectures and take notes.
- The lecture is the main way the professors pass their knowledge to you. This is a common mistake many students make: they go to the lectures, sit there passively, and copy down what is on the board without knowing what is going on. There is no active learning.
- **The right way:** You go to lectures prepared, i.e., you know what is to be covered and what you do not understand from the preview and you make sure to get your questions answered during or after the lecture. During the lecture, follow the professor, concentrate on the ideas, background and significance of the material covered, special techniques, etc. Pay special attention to things not covered in the textbook and things you do not understand from your own reading. Take notes that you can understand. You do not have to copy down theorems or examples if they are in the book, thereby saving time for you to follow the professor. After the lecture, review your notes with the textbook, fill in details you did not have time to write down during the lecture. Your notes will be full of your own personal learning and understanding.
- **Anticipation skills**
Learn quickly the "style" of each of your professors.
Be aware of what will be presented in the next lecture.
- **Attending skills**
Sit toward the center of the classroom close to the front.
Listen with a purpose and with certain expectations in mind.
Be an active not a passive listener; get involved.
Make an effort to remember, "What are the important things covered today?"
Learn to filter out "noise." Don't be distracted by other conversations.
- **Note-Writing skills**
Use abbreviations whenever possible.
Date all the notes and number all pages.
Leave blank space on each page of notes for information missed.
Develop a system to give extra emphasis to key ideas, concepts, definitions: underline, use different-colored ink, use asterisks, draw arrows, etc.
Don't be overly concerned with neatness and style.
Give equal importance to all aspects of the lecture.
Spoken words are just as important as what is written on the board.
Listen carefully at the end of each class session before you wrap up.
- **Organizing and Reviewing Notes**
This step is important to make your notes more complete and meaningful. Your notes should be a complete record of course material you learned as well as your learning experience. At the end of the course, you should put a table of contents at the cover that will aid in retention and make future review and study easier

8. Homework and problem-solving

When doing homework, you are actively using the knowledge you learned to solve problems. Reading textbook and attending lectures are somewhat "passive." You get a much better understanding after doing some problems.

In some sense, material is learned by doing many, many problems, especially the harder problems. A fatal mistake many students make is, after arriving at the solution once, they assume they have mastered the material. This is not enough practice to commit the material to long-term memory, so when the material is presented on the exam, students are unable to recognize the solution because they had not practiced enough.

It is extremely important that you do enough problems after you have learned the material, i.e., after your reading, lecture and review. Getting the answers right is not your goal (we already know the answer). It is the path of how you get the answers that is important. Only after you used the theorems, formulas many times, can you have a solid mastery of them and now you can say that you really "got it".

The methods: The most important secret to being a good problem solver is simply paying attention to the techniques, methods, or "tricks" found from examples, proofs and some of the homework problems. You should study each method thoroughly, keep a list of them, and know when and where to apply them.

The problems: Normally, each chapter has several typical problems. A problem becomes "typical" either because of its relation to a theorem, a formula, an application, or because of the solution method. You should be able to recognize the problems, make a thorough study of them, know their possible variations and keep a list of them.

More vs. less, forest vs. tree: You should do some well-selected problems very carefully to get the depth, to know all the details. After that, you should do more problems but less carefully to get general ideas and to become "wide." You can even just read the problems and do them in your mind without writing the solutions down.

One vs. several: It is very beneficial to try to use one method to solve as many problems as you can, or to try to use several methods to solve one problem.

Getting something out of each problem: You should always try to get something out of each problem you solved. After you have done your homework problems, you should think about them again briefly to see what you have learned and what methods are worthy of keeping. This step is important for you to retain what you learned. Without this step, most of the effort you made doing the homework will simply be wasted.

Summarize the material for each chapter: Once you have practiced and mastered the material in the chapter, you will have confidence that you have learned the chapter's material. Now is the time to summarize. For example, calculus problems can be classified as follows:

- a. *Drills. Direct application of theorems and formulas;*
- b. *Typical examples;*
- c. *Proofs;*
- d. *Applications;*
- e. *Projects.*

9. Improve Your Memory

You may think you are a strong student. But if you cannot keep and retrieve what you have learned, it doesn't work. We will try to explain how memory works and how you can improve your memory.

- Sensory Register (SR) catches information for you to judge if you should attend to it further.
- Short-Term Memory (STM) is a working memory that holds information for only 20 seconds or so.
- Long-Term Memory (LTM) may permanently store everything you have ever learned.
- Rehearsal can serve to hold information in STM for immediate use or can help to move information to long-term memory.
- Attention is a focusing process that enables you to select the appropriate stimuli for further mental activity.
- Recognition relates to your ability to notice the sensory stimuli presented and to relate them to information previously stored.
- Well-organized material and information that is meaningful, which "connects" with prior learning, will be learned more quickly, encoded in LTM, and retained for future retrieval.
- Rehearsal, repetition, and practice are essential for encoding material into short-term and long-term memory. Studying is just another term to describe Rehearsal, Repetition, and Practice.
- Visual Memory Procedures. Try to form a mental image of what you are trying to learn: see it, hear it in your mind in addition to saying it out loud. Verbal encoding procedures such as category clustering and concept mapping may be helpful when trying to learn lots of formulas, facts, or other such information. Key-Word Method involves recoding, relating, and retrieving.
- Your note taking style and methods should be related to your memory capabilities; they should complement each other. Even if you have a good memory, you still should take good notes because your memory can fade but written notes are permanent.

10. Summarize: Harvest Your Fruit

What you have learned needs to be digested, organized and memorized for future use. Doing summaries will serve that purpose.

- When to summarize? Normally you should do a summary for each chapter. When a course is finished, you should do an overall summary.
- What to summarize? In general, your summary should include:
 - Major topics covered such as major theorems, problems solved. Make a list of them.
 - Major methods employed, techniques used in developing the theories and solving problems.
 - Typical examples considered, important homework, quiz problems. Those problems have high chance to appear in the coming test.
 - Applications.
- Re-think and digest. With all the items on the table, re-think the interconnections, meanings, significance, and possible variations.
- What format? You should choose a format suitable for you to memorize. Normally a diagram is better than plain text. Use arrows, colors, anything to mark the importance and connections.

11. Test-Taking Skills

Review before tests

- Begin your test preparation activities as far in advance as you can.
- Go over your texts, notes, and homework. Make sure you understand and remember every part.
- Then try to summarize the material into one or a few pages. Study your summary until you become very familiar with it.
- Learn to anticipate what is going to be on the exam. You should consult with your professor.
- Practice. You want to be able to do a certain type of problem on a test and do it reasonably quickly as there is only so much time. If it takes you 15 minutes to do a derivative that took everyone else only 4 minutes, then you will probably not have enough time for other problems on the test.

You should break your studying into small units and practice, practice and practice. It is best that you try to simulate a test by doing some old tests under time pressure and with the same conditions as the real test (such as no books).

Study with others if you can. As both a learner and a teacher in study group, you can increase your comprehension of important material.

General Test-Taking Strategies

- View a test as a challenge or opportunity to perform, not as a punishment.
- Review extensively before you go to the test.
- Get to the class early enough to get seated, settled and relaxed-but not so early that you get caught up in the last-minute study panic.
- Look over the entire examination before answering any questions, read all the directions and budget your time.
- Read the test questions carefully. Highlight the important words or phrases.
- Answer the easy questions first.
- Review your answers after finishing your exam. Normally you will be able to correct one or two mistakes. This will make your score much better. Remember it is the score that matters, not how early you turn in your test.

Suggestions for Problems-Solving Tests

- Spend time connecting concepts with pictures, symbols, formulas, and diagrams.
- Solve sample problems in your text and/or problem sets given on homework assignments.
- Work practice problems until you are confident that you understand how the formula or principle works in all possible cases.

Managing your anxiety

- Try not to exaggerate the importance or significance of the test.
- Avoid negative thoughts since they will increase your anxiety.
- Take 30-60 seconds out, sit back and relax.
- Try some relaxation techniques such as tense-relax your bicep and breathe deeply.

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