

STEM ACADEMIC SUCCESS STRATEGIES

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OVERVIEW

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THE BASICS

- Its all about perspective, maintaining a positive attitude
- Be ready to grow and learn
- Learning is an adventure and can be fun rather than hard labor and painful
- Success requires COMMITMENT and SACRAFICE
- You all can do it – no matter what your circumstances
- Your attitude determines how you experience your situation – change your thinking, change your life
- Change is inevitable and adaptation is a valuable skill
- Your education and growth must be a commitment

MINDSET AND PERSPECTIVE

- Reframe from an “I’m not good” , or an “I cant mentality”
 - Embracing the rigor
 - Find the enjoyment of the experience
- Growth mindset - **Individuals with a growth mindset have an expectation that their abilities can grow and improve over time**
- A growth mindset allows you to the see challenges as opportunities
- Take responsibility for your learning (*you're not in high school anymore*)
 - Instructor as facilitator and a resource, not responsible for your learning
 - Be willing to research topics on your own, participate in learning experiences outside the classroom, and seek knowledge in your discipline – don't just rely on lecture and the textbook

STEM DEMANDS SMART LEARNING TECHNIQUES

- Building block dependent and foundation reliant
- Take each class seriously; Fundamental concepts imperative to future successes
- Course content builds on previous courses, most of your courses have pre-requisites
- Study groups/partners imperative for academic survival
- Tutoring should be utilized regularly in weekly schedule
- Simply takes more time, resources, and effort

IN CLASS TECHNIQUES: BE ALERT & INVOLVED

- In order to get the most out of class, you need to remain alert and involved
- The more involved you are, the easier it will be for you to pay attention
- Participate in class discussions or activities
- Be rested: if you get sufficient sleep, you will have a better time paying attention in class
- Eat before class
- Avoid distractions – personal concerns, texting, social media, talking to peers, music



IN CLASS TECHNIQUES:

BE PREPARED

- Review course syllabus regularly
- Stay organized with a notebook, class calendar
- Be ready to take notes
- Stay organized for your reading: know what the reading assignments are and stay on top of them.
- Be prepared with any needed supplies.
 - This does not just mean a pen/pencil and paper, but anything that would be helpful for class.

IN CLASS TECHNIQUES: BE CONTENT READY

- Feel Confident with the material. This does not mean you have to have mastered the current material, but that you are familiar enough to feel comfortable with it
- The second part of being content-ready is to be prepared for the new material that you are about to learn. This means that you know what topic and terms are coming up
 - Use the syllabus to be aware of content that is coming up
 - Do the assigned readings
 - Try completing practice problems

IN CLASS TECHNIQUES: TAKE EFFECTIVE NOTES

- Identify your note taking strategy
- Write in your own words
- Write what makes sense
- Do not sacrifice listening for writing
- Indicate important topics/terms
- Notes can be messy- you can fix them later
- Include drawings and make them large enough to annotate

OUTSIDE OF CLASS TECHNIQUES



- Study regularly
- Study with peers
- Study in an appropriate environment
- Review notes regularly
- Complete the homework and readings
- Use supplemental materials
- Use tutoring
- Use office hours
- Surround yourself with other students who are dedicated and working hard
- Take a break!

STUDY TIME FORMULA FOR STEM COURSES

Units Enrolled in	Work hours should not exceed	Study Time Allocation	Total Hours per Week Commitment
6	40	18	64
9	30	27	66
12	20	36	68
15	10	45	70
18+	0	54	72

STEM Course: 3 hours per unit
None STEM course: 2 hours per unit

Do NOT exceed a total of 70-75 hours per week

TIME MANAGEMENT STRATEGIES

- Weekly schedule (more on next slide)
 - hour-by-hour schedule for the week
 - Included class time
 - Work time
 - Study time
- Monthly calendar
 - Important deadlines, appointments, timelines, long range plans, social events, academic milestones/assignments steps
- Daily To-Do list
 - Priorities today, short term steps, ranking
- Practice makes effective



WEEKLY SCHEDULE

- Determine fixed activities and variable activities
- Activities include: work, sleep, eating, study time, class time, grooming, family, commuting, cooking, exercise, social, TV/electronics, errands, housekeeping, others?
- Utilize study time formula and review/preview time
- Account for each hour of the day
- Assess and plan workload; adjust if needed
- Schedule in extracurricular/free/reward time
- When the unexpected happens, trade time, don't steal it
- Be realistic & schedule difficult tasks at prime time for you
- Build in breaks
- Develop your schedule and stick to it

Hour	Mon	Tue	Wed	Thurs	Fri	Sat	Sun
12:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
1:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
2:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
3:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
4:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
5:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
6:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
7:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
8:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
9:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
10:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
11:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
12:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
1:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
2:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
3:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
4:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
5:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
6:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
7:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
8:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
9:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
10:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
11:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10
12:00	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10	Work 10

LA units - STEM courses ... hours of study per unit

STEM STUDENT WEEKLY SCHEDULE

	MON	TUES	WED	THURS	FRI	SAT	SUN
6AM							
6:30	Wake up	Wake up	Wake up	Wake up		Wake up	
7:00	get ready	get ready	get ready	get ready		get ready	
7:30							
8:00	Calc 1	Calc 1	Calc 1	Calc 1			
8:30	8-9:05am			→			
9:00	Study Hours Calc 1	Study	Calc 1	Study Hours	Study Hours	WORK	WORK
9:30							
10:00							
10:30							
11:00							
11:30							
12PM		CS 111		CS 111			
12:30	PHYSICS	2-2:05 pm	PHYSICS	12-2:05pm			
1:00	12:45-2:05pm	↓	12:45-2:05pm	↓			
1:30	↓	↓	↓	↓	Study Hours		
2:00							
2:30							
3:00	Study Hours PHYSICS	Study Hours	Study Hours PHYSICS	Study Hours CS	Study Hours	Study Hours Engr.	Study Hours Engr.
3:30							
4:00	Engineering	CS		Study Hours CS			
4:30	↓						
5:00	12:45-2:05pm						
5:30					WORK		
6:00							
6:30	Study Engr.	Study CS	Study CS	Study Hours			
7:00							
7:30							
8:00							Study Hours
8:30							
9:00	Study Hour	Study Hour	Study Hour				
9:30							
10:00							
10:30	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep
11:00	↓	↓	↓	↓	↓	↓	↓
11:30							
12AM							

12 units STEM courses ... 3 hours of study per unit.

- MATH 181 - 4 units
 - CS 111 - 4 units
 - PHYS 110 - 3 units
 - ENGR 100 - 1 unit
- Total - 12 units
Study time req. 36 hrs p/wk

STUDY TIPS

- Make a goal to work for a reasonable amount of time at once.
 - How long does it take you to get started?
- Pick a good study environment, distraction reduced
- Take breaks at appropriate intervals
- Focus on one subject at a time
- Spend time studying with others AND by yourself
- Be realistic!



TEST PREPARATION

- Begin to study early
- Know what material will be covered on the exam
- Connect with our instructor, ask questions
- Study with a classmate or study group
- Complete practice test or practice problems
- Develop a study guide
- Get plenty of rest the night before
- Read the direction and read each question in its entirety
- Take your time and review your work
- Once you receive your grade, review your exam and feedback



MAINTAINING THE GRADES

- Aim for A's and B's
- Grades are important but learning and understanding is critical
- Ask for help (study groups, office hours, questions in class, tutoring)
- Be intentional with your time
- Make school a priority
- Implement the techniques we have gone over today



USE YOUR RESOURCES

- Connect with your instructors and ask questions
- Tutoring
- On campus study center
- Library
- Health and wellness center
- DSPS
- Financial aid
- Academic counselor

TAKE CARE OF YOURSELF

- Practice self-care
- Reward yourself, build in time in your weekly schedule for YOU
- Get enough sleep
- Eat healthy foods and drink plenty of water
- Surround yourself with positive and supportive individuals
- Enjoy the journey



REFERENCE

Guidebook for Studying and Learning in STEM

National Science Foundation, 2010

- <https://olemiss.edu/programs/biobootcamp/GuidebookSTEM%20Learning%20Student.pdf>