



Welcome to SUNY Upstate Medical University! This guide is a collection of suggestions and strategies to help you succeed in this new academic environment. Understanding the ways you learn best and how your learning styles can be accommodated in different settings can help with your adjustment. Inside you will find information on types of learning, study and testing strategies, time management skills, and other tools to help you excel.

SUNY Upstate Medical University
CSTEP/Academic Support Services

Ms. Nakeia Chambers

Ms. Stacia Daum

0217 Weiskotten Hall

AcademicSupport@upstate.edu

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Contents

Time Management	3
Set Goals	3
Tracking Your Time	4
Your Daily Planner	4
Time Management 101	6
Stop Procrastinating	7
Learning and Study Strategies	11
Strategy Basics	11
Learning Styles	12
Learning Modalities	12
Cognitive Styles	14
Myers-Briggs Type Indicator	15
Strategic Learning	16
Study Strategies for Science and Medical Learning	18
Stress Management	23
Reducing Test Anxiety	29
Three Things You Need to Succeed	29
Signs and Symptoms	29
Causes and Cures	30
Tips for Multiple Choice	34



Time Management

1. Set Goals
2. Tracking Your Time
3. Your Daily Planner
4. Time Management 101
5. Stop Procrastination

1. Set Goals

Organize by time frame

- Immediate
- Short-term
- Long-term

Are you actively working on these goals or putting them off? What tasks do you need to do to accomplish these things? What do you need to change to do these things?

Once you have set your goals, break them into manageable pieces. It is easier to handle one small step at a time to avoid procrastination.

Consider for instance the goal of obtaining your degree. This goal can be broken down into four sub-goals. Each sub-goal is the successful completion of one year of your program. These sub-goals can be further broken down into semesters and individual units within each year. The units can be broken down into subjects and exams. Each subject can be further subdivided into weeks and days, and each day can be thought of in terms of the hours and minutes you'll spend in your classes and studying.

Thinking of your goals in this way helps to reinforce the idea that there is a connected path linking what actions you take today and the successful completion of your goals. Seeing these connections can help you monitor your own progress and detect whether you are on track or not. Take some time now to think through the goals you've set and to break them down into their smaller constituent parts.

Be aware: Don't make the mistake of setting unrealistic goals or having so many that it is impossible to reach them. We soon become discouraged when we realize we have neither the time nor the energy to accomplish all of our goals. Recognizing our physical, mental and emotional limits is an important component to realistic goal setting.

Now that you have your goals in mind, the next step is walking the road toward achieving them. That begins with time. Let's explore how to become aware of the time you have available to you.

#2: Tracking Your Time

This will help you manage your time well because you will see where your time actually gets spent. One helpful way of determining your actual usage of time is to track your time. The process here is like making a schedule, but it works in reverse. Instead of writing things in that you are planning to do, time logging is a process of writing down the things that you have already done. Doing this is sort of a get-to-know-yourself exercise because this procedure will highlight many of your habits that you might selectively ignore currently. For instance, some people find that every time they plan to do math homework they end up watching television. Instead of studying for that Anatomy exam, they play Internet poker. Other people just can't seem to follow their schedule until the week before finals.

Take a moment to do this – it will truly help you open your eyes and take control of your time.

1. Time tracking is fairly straightforward. At the end of every hour jot yourself a quick note about how you actually spent your time for that hour – just a sentence or so. If how you spent your time doesn't match an already planned activity, simply enter a comment as to what you really did during that time. This way you will be able to review patterns that emerge in your use of time and make adjustments to improve your productivity.
2. Some people find it helpful to modify the planning page to facilitate tracking time. The modifications are easy enough: make two columns on your paper for each day of the week. In one column, write down the plan you are trying to follow; in the second column, make notes on what you actually did with your time. The side-by-side comparison is very telling and an excellent way to figure out where you're not using time in the way you intend.

However you choose to understand the differences between your expected use of time and your actual use of time, your focus should be on trying to detect and adjust patterns in your own real use of time that spell trouble for you reaching your goals.

#3: Your Daily Planner

When you are organized, you will achieve your goals in a timely manner. You need to organize your tasks so you know what needs to be accomplished and

when they need to be accomplished. No student should be without a daily planner.

Planners can be found in many places and in many different formats. Most students find that a daily, week-at-a-glance planner works best as it is easier to see information for a whole week and gives plenty of room to track what needs to be done that week. Check your campus bookstore or local discount store for a variety to choose from. You can even make your own with the help of Microsoft Word or Excel.

Your planner should include your schedule for classes, study time, meetings, exercise time, and any other time necessary to achieve your goals. Keep the planner with you during class and note all assignments along with the due dates of those assignments. Check them off as you complete them so you know where you are at all times with your projects. Refer to your planner often – multiple times a day. Make this a regular part of your routine. When you get up in the morning, look at your planner to see what needs to be done for that day.

The planner can be used as a time-bound memory aid, tracking major deadlines and exam dates, appointments, important anniversaries, birthdays, holidays, vacations and so on. But, you can get more out of your planner if you use it to record interim deadlines and forecast upcoming busy periods as final deadlines approach. A properly completed planner will indicate upcoming busy periods, show whether there is room in the plan for new tasks, and help you assess whether you are on target to achieve your goals.

Let's say that you had an upcoming exam. Start by entering the date of the exam. Next, think of the tasks that comprise the goal of doing well in the exam, think about how long each step of the task should take, and enter a series of interim deadlines for each step between the start of your preparation for the exam and the exam date itself. Use these interim deadlines as milestones to indicate the progress of your study.

You might begin by entering your first activity, "complete readings and review lecture notes," in the activities column. Once you have entered your activity it is important to assign it a time estimate. This block of time reflects an important principle in time estimating; when estimating time you might want to add time to the amount of time you think it will take you to complete the task to adjust for difficulties and interruptions. Refine your estimates on the basis of your experience with similar tasks.

Using the time estimates for the activities on your objectives list as guides, find a block of time of appropriate duration in your schedule. Then write in

the activities one at a time in priority order until you have either scheduled all of your activities or you have run out of time spaces.

A good idea here, if it seems you'll run out of time spaces, is to start scheduling the most important activities first. For instance, consider the following activity: "Complete readings and review notes." This activity might take 3 hours and could be placed almost anywhere in the week where you have time and where you'll likely be able to work.

You might schedule three one-hour blocks, two 90-minute blocks or one three-hour block, depending on your preferences. The key here is to associate the specific task to specific times, avoiding making a schedule where the tasks are too closely scheduled or where important activities are assigned to unrealistic work times.

Construct a plan for each week, following the rhythm of your courses that meet weekly. To help make planning a routine activity, pick a regular day each week to schedule. Even with unexpected occurrences that can impact your schedule you assist yourself in making decisions that are governed by your desire to reach your goals.

Without using a schedule you may be governed by your moment-to-moment moods which may lead you to make time decisions that take you away from your goals. Once your week is planned you will experience clarity of focus, your tendency to be distracted will be reduced and you will be certain of your reasons for doing the things you had planned. Committing yourself to a plan you've made represents a renewal of your motivation for the goals and tends to increase your time on task.

#4: Time Management 101

The time you spend on task has a relationship with the quality of work you end up producing. However, this shouldn't mean that you completely forgo time for yourself. It is important to have some personal time. You'll need to take some time for yourself each week.

Allow for unanticipated interruptions in your schedule. This means leaving some empty spaces during the day or in some way being flexible enough to handle interruptions. If the unexpected does not happen, time is available to do something we were saving until the next day.

Schedule time to study early in the day so you can allow for unexpected interruptions. By staying ahead of the game and keeping up with studying,

the stress levels will be lower because you won't have that unfinished work hanging over your head and in your mind constantly.

Some days may feel overwhelming when we look at our schedule. If this is the case, it is helpful to concentrate on one thing at a time and avoid looking at the whole day. We will be amazed how quickly the tasks of the day will be completed.

Inevitably, you will need to make adjustments to your plans and your time management habits. As you encounter time troubles, keep in mind that some are predictable, some are not; some are controllable, some are not. For those that are not controllable, keep your cool and get back on track as soon as possible. For time troubles that you can control, and particularly those that occur predictably, deal with them directly and forcefully so that they don't prevent you from achieving your goals.

Time management requires self-management. It takes time but after a short period of self-management, time-management becomes an everyday habit.

- Pay attention to how your time is spent.
- Do not procrastinate on chores to be done. Do not leave assignments and projects until the last minute.
- Schedule enough time in the day for doing things you enjoy and for eating and sleeping. Getting enough sleep is beneficial to those with an active schedule.
- Learn to delegate things that do not need your attention.
- Use your time wisely. If you take the bus, plan to catch up on your reading while traveling.

Possibly one of the best time management strategies is staying one day ahead. I'm sure this statement is met by some collective groans, but I promise that staying exactly one day ahead of your classes will make your life much easier.

#5: Stop Procrastination

Procrastination is a schedule buster. It's easy to put things off until later, especially when you dread the task. But this is a real problem. If you put off your assignments or studying for tests, you are only hurting yourself.

Procrastinating leads to stress and anxiety, not to mention poor performance. You CAN stop procrastination from affecting your schoolwork.

It can be difficult to start working. Most of the time, however, not starting seems to be related to fear of poor results or negative evaluations than it is to the actual difficulty of the work. Aim to subdivide tasks into small steps and convince yourself that to get started all you need is 10 full minutes working on a task. Often, the 10 minutes will elapse and you'll be right into the swing of things, prepared to continue on productively.

Sometimes you just don't feel motivated to do your schoolwork. It might help to realize that for many people motivation isn't a prerequisite to action...it is a result of it! Try working for a short time and see if you can "get into it." If your motivation problem seems more substantial, it might help to realize that when you aren't motivated to do school work, you aren't actually out of motivation...you're just motivated to do something else.

Make a schedule. Allocate specific times to complete tasks using daily planners. Your planner should always be handy and you should refer to it often. Once you make your schedule, follow it. Work with a roommate or friend to motivate each other. Remember always that once the work is done, you will have more time for yourself, so stick with that schedule.

Sometimes, you may feel overwhelmed with large projects. This is a normal reaction. When you feel like this, it's easier to put it off because you don't know exactly where to start and have a difficult time envisioning the completed task. Divide these major assignments into smaller parts and work on one part at a time. Then put them together into the whole project and feel the satisfaction of a job well done!

Some people procrastinate because they have too much to do. You might have every intention of doing things in a timely manner, but time can move swiftly. There are only 24 hours in a day. Thoughtfully examine your obligations and responsibilities. Make sure your schedule is realistic and you aren't involved in too many activities at one time. If you spread yourself too thinly, none of your projects will get the attention they deserve. Remember that you're not alone. Some studies report that up to 40% of college students experience procrastination as a real problem. Many students tend to mass their practice. That is, do most of the work in marathon sessions near academic deadlines and fail to make appropriate use of various study aids and supports at appropriate times. Doing this only leads to more stress in your already stressful life. Why add to it?

I'd suggest breaking big jobs down into manageable tasks and working on "getting started," perhaps by tricking yourself by saying "I'll just do five minutes" and then finding out you don't mind working longer than five minutes. This is called the "five minute plan."

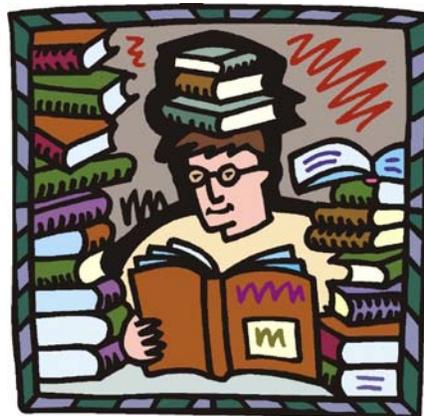
The key is to learn the habit of getting started on a task early, i.e. the procrastinator needs to learn to initiate well in advance studying and preparing for papers and exams. Practice starting studying several times every day. As with exercising, getting in control of starting and making it a routine are the secrets.

Other valuable suggestions include:

- Recognize self-defeating problems such as; fear and anxiety, difficulty concentrating, poor time management, indecisiveness and perfectionism.
- Keep your goals in mind and identify your strengths and weaknesses, values and priorities.
- Compare your actions with the values you feel you have. Are your values consistent with your actions?
- Discipline yourself to use time wisely: Set priorities.
- Study in small blocks instead of long time periods. For example, you will accomplish more if you study/work in 60 minute blocks and take frequent 10 minute breaks in between, than if you study/work for 2-3 hours straight, with no breaks. Reward yourself after you complete a task.
- Motivate yourself to study: Dwell on success, not on failure. Try to study in small groups. Break large assignments into small tasks. Keep a reminder schedule and checklist.
- Set realistic goals.
- Modify your environment: Eliminate or minimize noise/ distraction. Ensure adequate lighting. Have necessary equipment at hand. Don't waste time going back and forth to get things. Don't get too comfortable when studying. A desk and straight-backed chair is usually best (a bed is no place to study). Be neat! Take a few minutes to straighten your desk. This can help to reduce daydreaming.
- Decide you've had enough, and it's time for change.
- Think about the activities that you use to procrastinate (email, TV, etc.) and set clear time limits on them.
- Set clear goals for each day (e.g., start CHEM problem set, do POL reading, go to friend's recital) and stick to them. Then when you are done, you are free to do whatever you like.
- Break large projects into smaller pieces.

- Remember that procrastination is usually followed by serious academic stress.
- Recall how awful it is to stay up all night to write a paper. That can help you get started on the next one.
- Know that overcoming procrastination is sometimes easier if you talk out strategies for change with someone else.

Balancing classes, studying, working, and fun can lead to a great deal of stress for the average student. It's normal to feel stressed with so much going on.



Learning and Study Strategies

Strategy Basics

Become acquainted with *your* learning style.

Identify your learning habits and adjust as needed.

If it works, keep doing it.

Approach each course individually.

Use study groups for review.

Use test grades to build learning skill.

Explanation

(See Learning Styles, next pages)

Understand yourself as a learner, and recognize that your style of learning may not fit every situation appropriately. Learn to *monitor* your study strategies for every course and adjust when necessary. Communicate your environmental needs, such as quiet, background music/noise, group or individual study space.

Learning strategies that *worked* in undergraduate coursework can be retained. Be alert to problems such as too much to learn, not enough time, unexpectedly low grades on tests. These signal that your old methods may not be working now. If it isn't working, don't just do more of the same thing. Seek assistance in developing strategies that will work for you now.

Strategies for learning course material should be geared toward the particular course content and expected mode of assessment (multiple choice, short answer, essay, factual content, case study, clinical performance).

Reviewing material in a group can be very useful because it builds on the approaches and understanding developed by different students. The initial approach to understanding new material is best undertaken individually.

Tests and the grades they generate can be considered tools for adjusting your study strategies. You can review incorrect answers to discover where understanding lapsed.

Practice, practice, practice.

Active and purposeful study geared toward particular test type, along with adequate practice, can reduce performance anxiety.

Learning Styles

A basic part of understanding the learning process is to think critically about the *way* you learn. When you understand your preferred learning styles, you can bring a greater sense of control and flexibility to the demands of each course. The learning styles we will cover include learning modalities, cognitive styles, and personality-type styles.

Learning Modalities

- Auditory
- Kinesthetic
- Linguistic/Verbal
- Visual

Auditory Learner characteristics:

- Remember what they hear
- Talk while they write
- Remember names, forget faces
- May be a sophisticated speaker
- Distracted by noise

Auditory Learners learn best by:

- Talking aloud
- Listening to a lecture
- Discussing in small or large groups

Study Tips for **Auditory Learners**:

- Tape class lectures and class notes
- Read explanations out loud
- Explain the material you are trying to learn to a study partner
- Verbally review material and practice verbal repetition
- Use audio CDs to reinforce textbook material
- Make up songs to go along with subject matter
- To learn a sequence of steps, write them out in sentence form, then read them aloud
- Use mnemonics

Kinesthetic Learner characteristics:

- Remembers what was done, not seen or talked about
- Not avid readers
- Studies for short periods interspersed with moving around
- Loves games
- Impulsive

Kinesthetic Learners learn best by:

- Imitation and practice
- Touches things to get a sense of them
- Hands on experience

Study Tips for **Kinesthetic Learners**:

- Hold books in your hand while reading (as opposed to lying on a table).
- Sit near the front of the classroom and take notes. This will help you keep focused.
- Spend extra time in any labs offered.
- Use a computer to reinforce learning by sense of touch.
- Make models to demonstrate main concepts.
- Make flashcards for each step in a procedure. Put the cards in order until the sequence becomes automatic.
- Write lists repeatedly.
- Record class lectures. Listen to them while walking or exercising.
- Use hands on experience when possible.

Linguistic/Verbal Learner characteristics:

- Easy to express yourself
- Enjoy reading and writing
- Easy to learn new vocabulary words

Linguistic/Verbal Learners learn best by:

- Information that is presented in a written language format
- Word-based formats

Study Tips for **Linguistic/Verbal Learners**:

- Copy key information from notes and lectures on the computer. Print out and review often.
- Use techniques that involve speaking and writing
- Use mnemonics
- Make flashcards for key words and concepts
- When information is presented in a diagram or illustration, write it out in sentences and phrases. When a problem involves a sequence of steps, write out in detail how to do each step.

Visual Learner characteristics:

- Good spatial sense and sense of direction
- Love drawing and doodling, especially with colors
- Easily visualize objects, plans and outcomes

Visual Learners learn best by:

- Taking notes and making lists
- Reading information
- Seeing a demonstration
- Charts, maps, timelines, diagrams

Study Tips for **Visual Learners**:

- Write out everything for frequent and quick visual review
- Use color coding when learning new concepts
- Use outlines of reading assignments which cover key points and guide your reading
- Use notes and flash cards for a review of terminology
- Use graphic organizers and diagrams
- Use mapping techniques
- Highlight and underline key information
- Retype notes- use different fonts, bold print and underline important concepts and facts

Cognitive Styles

An additional way of identifying learning preferences is the dichotomy of cognitive styles known as *field dependent* and *field independent*. These cognitive styles describe the way people process information. Students who are *field independent* rely on internal cues for the processing of information, analyzing things into parts; these students easily work independently. *Field dependent* students rely more heavily on external stimuli in a task; they learn best with a group, and may have difficulty separating individual parts from the whole.

Self knowledge will help to identify learning and training needs and therefore find compatible learning situations. As a *field dependent* student you may find study groups bridge gaps between instructor distance and your preference for interactive learning. Look for well articulated course objectives, requirements, and class discussions. As a *field independent* student, you can more easily structure your time independently, and may appreciate designing your own assignments and assessments. Independent study sessions are usually preferred.

It is also important to recognize that each course director has their own learning style and therefore teaching style. They will often present material based on their own preferred style. The subsequent kind of syllabus and listing of course objectives, tests and other assignments, timelines for course work completion, kinds of class discussions, desire to arrange tutoring and review sessions, *all* reflect that style preference. As you become familiar with their styles, develop the most comfortable and effective balance necessary for your academic success.

Myers Briggs Type Indicator (MBTI)

It is also helpful to look at learning styles in relation to personality-based preferences. Based on the theories of Carl Jung and developed by Katharine Briggs and Isabel Briggs Myers, the MBTI identifies one's preferences for ways of taking in and possessing information. Personality, who you are and how you relate to others impacts learning style because basic preferences for relating to the world are manifest in preferences for learning about the world. Attending to your natural preferences can greatly facilitate understanding, memory, retention and retrieval.

The dichotomous scales:

<i>Attitudes:</i>	Extroversion (E)	Introversion (I)
<i>Perceiving Function:</i>	Sensing (S)	Intuition (N)
<i>Judging Function:</i>	Thinking (T)	Feeling (F)
<i>Lifestyle:</i>	Judging (J)	Perceiving (P)

The *type* emerging from the Indicator is characterized with a main preference in each of the four function categories, using the designated letters, such as ENFP. The following descriptions may offer some clues about your learning preferences, insight into how individuals learn.

<u>Preference</u>	<u>Defining Characteristic</u>	<u>Learning Style</u>
Extroversion	Find energy in people, prefer interaction with others.	Learn by explaining to others. Learn well in groups.
Introversion	Find energy in inner world of ideas, concepts and abstractions.	Learn by developing connections & relationships between concepts.
Sensing	Detail oriented, looks for facts, trusts facts.	Prefer organized, linear, instructional

		lectures and handouts. Look for advance organizers.
Intuition	Look for patterns and relationships among facts, trust intuition.	Prefer to focus on integrating framework, the “big picture.”
Thinking	Decisions based on impersonal analysis, logic, principle. Value fairness, look for objective criteria.	Prefer clear, concise course topics & action oriented objectives.
Feeling	Decisions based on personal values, potential. Value harmony, look for consensus, good at persuasion and facilitation.	Prefer group work, instructors can provide guidelines to facilitate group process.
Judging	Decisive, self-regulated. Quick to action.	Prefer to limit input and make decisions.
Perceiving	Curious, adaptable, spontaneous.	Prefer to gather more data, wait to draw conclusions.

For more information on the MBTI and finding your type, visit the following websites:

<http://www.myersbriggs.org/>

<http://www.humanmetrics.com/cgi-win/JTypes2.asp>

Strategic Learning

Steps to Strategic Learning:

1. Set realistic learning goals. These goals serve as the driving force to generate and maintain the motivation, thoughts, and behaviors necessary to succeed. Set and use long-term occupational goals (you want to be a doctor) and short-term learning goals (you want to understand this new material).
2. Types of knowledge needed to be a strategic learner:

- Know yourself as a learner – learning preferences, talents, best time of day to study, ability to match study skills to learning task – this knowledge helps you set *realistic yet challenging* learning goals.
 - Knowing the nature and requirements of different types of educational tasks.
 - Knowing a variety of study skills and learning strategies and how to use them.
 - Knowing the contexts in which what is learned can be used now or in the future.
3. Use a *variety* of learning strategies:
- Manage your study environment
 - Coordinate study and learning activities
 - Keep your motivation for learning clear
 - Generate positive behaviors towards learning
 - Make new information meaningful to you
 - Organize and integrate new information with existing knowledge, or recognize existing knowledge to fit the new understanding and information.
 - Place new information in a present or future context: How will it be used?

Strategic Reading for Understanding Text:

Survey, Question, Read, Recall, Review

- Survey – the text chapter by reading the headings, sub-headings and boldface print; then based on this survey of the text...
- Develop Questions – write out questions remaining concerning the material
- Read the Text – trying to answer the questions generated earlier
- Recall the materials read with the book closed
- Review the material with the book open

Strategies for comprehension and retention:

Understand strategy:

- On first pass: mark spots you do not understand
- On second pass: focus on marked areas you still don't understand, then,
 - Identify why you don't understand (words, sentences, paragraphs)
 - Break the problem down into parts, look at the surrounding text for clues
 - Check other resources

Recall strategies:

After the initial reading:

- Paraphrase and use imagery. Periodically rephrase the new material and try to form mental pictures of the concepts.
- Network – transform the material into concept maps or “networks”
 - Organize important concepts and represent their interrelationships
 - Examples of categories of links:
 - Hierarchies (type)
 - Chains (lines of reasoning)
 - Clusters (characteristics, definitions)
- Identify key concepts, develop systematic definitions and elaborations of concepts (the interrelationship between pairs of concepts)

Expand strategies:

To expand on your knowledge, answer these questions:

- If you could talk to the author, what questions would you ask? What criticisms would you raise?
- How can the material be applied?
- How could you make the material more understandable and interesting to other students?

Review strategies:

- Look at the effectiveness of your studying
- Identify errors and determine underlying causes so that you can modify study methods

Study Strategies for Science and Medical Learning

Surveying Techniques

Surveying is a skill that can be applied to a wide range of learning opportunities. Surveying a block of subject material (an instructor's handout, a section of a course syllabus, a chapter in a textbook, a patient's chart) is carried out by skimming the material to be studied. Read major topics and subheading and the first sentence of paragraphs. Look quickly at charts and diagrams and read the captions. Textbooks usually have a summary at the end of each chapter that will provide an overview. Surveying carries out the following important functions:

- Overcomes student inertia. Surveying is an excellent way to start to study.

- Provides advance organizers. Advance organizers serve as topics or categories around which facts and details may be organized and subsequently learned. Advance organizers have been shown to be very important in helping students learn, remember, and interrelate material they have studied.
- Builds a foundation: A preview of the material to be studied and learned forms a broad framework of prior knowledge upon which new knowledge and understanding can be built.

Organizational Techniques

Information can be organized in many different ways. Understanding the pattern of organization of information is an important guide to learning the information. Common patterns of organization are given below.

Sequencing

Information may be sequenced by:

- Events in time; example = events in a normal menstrual cycle.
- Stages leading to an end point; example = stages of a disease.
- Position in space or location; example = structures arranged in sequence from the dorsal surface to the ventral surface of the chest cavity.
- Importance; example = from most to least important symptoms of a disease process.

Listing

A common pattern of organization when items of information are all related to a common topic.

Definition

Provides meaning and identity to general classifications and gives distinguishing characteristics.

Classification

Organizes according to categories or characteristics.

Cause and Effect

Organization pattern present when events are causally related.

Compare and contrast

Organizes by comparing similarities and/or contrasting differences.

Concept Mapping Technique

People learn new information best by integrating the new information into an existing knowledge base. Concept mapping utilizes this knowledge about learning by providing a technique by which interrelationships can be mapped or charted. It taps into a learner's cognitive structure and externalizes what the learner already knows while depicting relevant concepts and relationships the learner is currently learning. A meaningful map will integrate the new knowledge with the previous knowledge.

Highlighting and Attaching Questions

Many students use highlighting or underlining techniques to emphasize information that they believe to be important. A process for increasing the efficacy of highlighting as a study skill/learning tactic is to attach questions to the highlighted text material. When a passage of text is highlighted, ask what question does the highlighted text answer, and write that question in the margin of your notes or textbook. Connect the question to the highlighted text and double check the question-answer relationship. What, why, when, where, which, how, and who questions tend to interrelate information and make a handy hook on which to hang information. The technique is a memory directed tactic, and is particularly useful in preparing for multiple choice examinations.

Imaging Techniques

Imaging skills are perhaps one of the more important skills/learning tactics for medical school. Imaging skills will involve the right hemisphere in the learning process. The right hemisphere tends to process separate elements into a holistic view of the information being learned. If you depend only on words and language for learning information, you are neglecting one of the most powerful ways of learning. By learning to convert written and/or spoken language into images you enter into "whole brain learning". The skill is really the reverse of seeing something and then describing what you see in descriptive language. In imaging, the more senses you can employ, the more effective the image will be for remembering information. Clinicians use the same skill when they palpate an abdomen. Many will shut their eyes and try to visualize what they are palpating with their fingers. This is an example of the first medical imaging machine.

Reinforcement Techniques

These are study skills designed to facilitate learning and to store the learned material in long term memory banks. Frequent repetition is an example of a reinforcement technique. Other examples are using new information to solve

problems or to answer questions, and the "see one, do one, teach one" technique used to teach clinical skills. In the basic sciences frequent repetition and using the information to solve problems or to answer questions are the most effective techniques. A sequence of reinforcement might look like this:

- The evening before a class survey the subject material to be covered the next day. Skim the text or syllabus. Major topics, subheadings, and the first sentence of paragraphs might be read. Charts and graphs are quickly scanned and the captions are read. Major topics and concepts are quickly listed in the notebook used for lecture notes. The skimming and major topics list should be done in 30 minutes. The list will form "advance organizers" that will serve as categories or concepts around which other information can be learned and organized. Also take about 15 minutes to look back over the work that you did after the preceding class session.
- Attend to the lecture next day by adding information as subtopics under the list of advance organizers. The structure of each of the major concepts will begin to form as you carry out this task. Do not try to write down every thing. Most faculty present a syllabus, handout, or reading assignment that will contain the details needed to understand the topic under discussion. Take 3-4 minutes to read through your notes immediately after the lecture.
- That evening read your notes again and either begin to work out the content of the instructor's learning objectives or write out three or four questions that you will answer during that evenings study period. Again, move quickly, using the objectives or questions to guide your study. Return to step 1 the evening prior to the next scheduled class in each subject.
- The weekend will play an important role in this reinforcement scheme. Study time during the weekend might be used to go back over the weeks work, tie up loose ends, and to organize the weeks work so that it can be easily reviewed prior to an examination.

Taking Notes from Lectures

It is very helpful to "skim" the material to be covered before the lecture, and to provide a list of advance organizers so that you can relate what the lecturer says to what you already know. Active listening is an important skill that will help you get maximum learning gain from a lecture. To listen actively, listen for the signals the lecturer uses to stress important information. There are seven common signals used by most lecturers to signal important information:

- Introduction of a topic: For example "next, I am going to discuss..."
- Words that stress importance: For example "It is important to know that ...", "You should remember that ...", "The next exam will cover ...".
- Definitions: "The term adductor means..." and "Atrophy is a process that ...".
- Identification of a list or series of steps: "The stages in the process of wound healing are ...", "Damage to the ulnar nerve will cause the following list of problems...".
- Writing on the blackboard, speaking slowly and louder, body language.
- Showing a graphic or drawing on the blackboard.
- Summarizing or restating important points.

The second portion of taking notes concerns organization of the subject material in some sort of descending order of detail. The list of advance organizers that you prepared by previewing the subject matter to be covered in class could form the major headings in an outline, or the first step in the development of a "concept map". The outline would develop the subject material from more general to specific details. A concept map will interconnect the elements in the outline and demonstrate visually how they are related.

Group Study or Peer Teaching

One of the most powerful ways to learn is to teach other students about a subject. One of the most efficient ways is to organize a committed group of three or four students that will study, teach, and learn together. Preparation and presentation of subject material is a reinforcement exercise that increases the learning of each "student teacher". Group discussion afterwards moves the learning from rote memorization into a conceptual understanding of the subject.



Stress Management

Stress is a common and natural condition of our mortal existence. It arises through our daily efforts to achieve goals, relate with others, and adjust to the demands of living in an ever-changing world.

We often view stress as a negative element in our lives and seek to reduce or eliminate it. We forget that there can be a great deal of growth from learning how to deal with stressful situations. Our aim shouldn't be to completely avoid stress, which would be impossible, but to learn how to recognize our typical response to stress and then try to adjust our lives in accordance with it.

Each of us functions best at a particular stress level. When stress increases beyond that level, the effectiveness of our performance begins to drop. When we pass our peak of effectiveness we usually experience symptoms like forgetfulness, dulled senses, poor concentration, headaches, digestive upsets, restlessness, irritability and anxiety. The occurrence of these symptoms can alert us to take steps to reduce our stress so our effectiveness can remain at a high level.

Some people have a "race horse" life-style and seem to thrive on intense activity while others prefer a "turtle" life-style and function best when their activity level is not intense. Trying to adopt a "turtle" life-style when we really prefer a "race horse" life-style, or vice-a-versa, can be stressful.

We need to trust ourselves as the authority on what is best for us. We should avoid comparing ourselves with others who seem to function with a higher degree of stress in their lives than we do. For example, we should get the number of hours of sleep we need even though our roommates may function on fewer hours.

Here are several ideas that will help with stress reduction:

First, and foremost, is getting enough rest. The basic health guideline for sleep is 7-8 hours per night. Some student health surveys indicate that most college students sleep less than 6 hours and many less than 4 hours per night. And, you know you can't "pay it back." If you average 4-6 hours during the week, you can't sleep 12 on Saturday and pay it back. In fact, sleeping more than 8 hours can make you feel more tired.

Another stress management health tip is to eat regularly. Many students skip breakfast, or maybe go all day without eating. When your body is deprived of regular energy, it makes up for it by lowering your metabolism, or

energy level. In other words, skipping meals does not help you lose weight or stay awake. In fact, it has the reverse affect.

The "quality" of food is also important. Snack foods (chips, candy, fast foods, etc.) aren't necessarily the most healthy. High salt foods can cause excess water retention and eventually lead to high blood pressure. High sugar foods can cause low blood sugar, or hypoglycemia; which is associated with dizziness, tiredness, and fatigue. Well-balanced meals and nutritious snacks, such as fruit, popcorn, and bagels are recommended.

Regular exercise is a necessary part of your stress ease program. Sports, games, and daily physical activity are essential in helping you stay focused and sharp. Daily exercise breaks during finals week are a must, even if you're just taking a walk around campus to get away from the study area for a few minutes.

Avoid or moderate all substance use. Alcohol and caffeine are the most widely used and abused substances by students. Alcohol use certainly does not contribute to your ability to study and retain information.

Caffeine is widely used, especially around exam time. A pot of coffee and an "all-nighter" is still a fact of life. But excess amounts of caffeine can lead to nervousness and forgetfulness. These are not traits that you would normally like to possess during an exam.

Remember to take time for yourself. Play a video game, watch a movie, talk with friends. If you're feeling overwhelmed and totally stressed out, sometimes all you need is time away to relax and re-group.

"Attitude is everything." What does that mean? The way you think about things can make all the difference in how you react to events. Have you ever noticed how the exact same situation can stress one person out, while it might not affect another person at all? This difference can usually be explained by the way that each individual thinks about the situation. Changing the way you think (a.k.a. cognitive restructuring) can help you manage stressors in your life. Here's how.

Each time something happens in our lives, the information about that event enters our minds. We then interpret it; we form beliefs about what the event means, why it happened or how it is going to affect us. While we can't always control the events that happen, we can control what we think about the event, which in turn shape our feelings about them.

Self-talk is an ongoing internal dialogue we each have. Oftentimes this conversation is overly critical, irrational and destructive. To reduce stress, instead of being your own worst critic, treat yourself with a gentle touch. Talk to yourself like you would a child who you care about very much.

There are also a number of **relaxation techniques** that can help you manage stress and also improve your concentration, productivity and overall well being.

To Get Started:

- Find a quiet, relaxing place, where you will be alone for 10-20 minutes to do these exercises. The techniques work best if there are no distractions.
- Practice once or twice a day.
- Stick with the technique that works best for you. Not every technique will work for every person.
- Keep trying. Don't worry if you don't notice a major change immediately. You may need to practice for a few weeks before you begin to feel the benefits.
- Try one or more of the techniques described below.

Progressive Muscle Relaxation

This technique can help you relax the major muscle groups in your body. And, it's easy to do.

1. Wear loose, comfortable clothing. Sit in a favorite chair or lie down
2. Begin with your facial muscles. Frown hard for 5-10 seconds and then relax all your muscles.
3. Work other facial muscles by scrunching your face up or knitting your eyebrows for 5-10 seconds. Release. You should feel a noticeable difference between the tense and relaxed muscles.
4. Move on to your jaw. Then, move on to other muscle groups – shoulders, arms, chest, legs, etc. – until you've tensed and relaxed individual muscle groups throughout your whole body.

Meditation

This is the process of focusing on a single word or object to clear your mind. As a result, you feel calm and refreshed.

1. Wear loose, comfortable clothing. Sit or lie in a relaxing position.
2. Close your eyes and concentrate on a calming thought, word or object.
3. You may find that other thoughts pop into your mind. Don't worry, this is normal. Try not to dwell on them. Just keep focusing on your image or sound.

4. If you're having trouble, try repeating a word or sound over and over. (Some people find it helpful to play soothing music while meditating.)
5. Gradually, you'll begin to feel more and more relaxed.

Visualization

This technique uses your imagination, a great resource when it comes to reducing stress.

1. Sit or lie down in a comfortable position.
2. Imagine a pleasant, peaceful scene, such as a lush forest or a sandy beach. Picture yourself in this setting.
3. Focus on the scene for a set amount of time (any amount of time you are comfortable with), then gradually return to the present.

Deep Breathing

One of the easiest ways to relieve tension is deep breathing.

1. Lie on your back with a pillow under your head. Bend your knees (or put a pillow under them) to relax your stomach.
2. Put one hand on your stomach, just below your rib cage.
3. Slowly breathe in through your nose. Your stomach should feel like it's rising.
4. Exhale slowly through your mouth, emptying your lungs completely and letting your stomach fall.
5. Repeat several times until you feel calm and relaxed. Practice daily.

Once you are able to do this easily, you can practice this technique almost anywhere, at any time.

A major source of stress is people's efforts to control events or other people over whom they have little or no power. When confronted with a stressful situation, ask yourself: is this my problem? If it isn't, leave it alone. If it is, can you resolve it now? Once the problem is settled, leave it alone. Don't agonize over the decision, and try to accept situations you cannot change.

There are many circumstances in life beyond your control, starting with the weather and including in particular the behavior of others. Consider the fact that we live in an imperfect world. Know your limits. If a problem is beyond your control and cannot be changed at the moment, don't fight the situation. Learn to accept what is, for now, until such time when you can change things.

The mantra to keep in mind is three little words – Let It Go. If you can change something, then change it. If you can't, Let It Go. Once you put this into practice, you'll be surprised at how much stress is lifted from your

shoulders. When we dwell on situations we cannot change, that's when stress is emphasized. So if you can't do anything about it, Let It Go!

Be mindful that excessive stress can lead to depression. Warning signs include:

- Sadness, anxiety, or "empty" feelings
- Decreased energy, fatigue, being "slowed down"
- Loss of interest or pleasure in usual activities
- Sleep disturbances (insomnia, oversleeping, or waking much earlier than usual)
- Appetite and weight changes (either loss or gain)
Feelings of hopelessness, guilt, and worthlessness
- Thoughts of death or suicide, or suicide attempts
- Difficulty concentrating, making decisions, or remembering
- Irritability or excessive crying
- Chronic aches and pains not explained by another physical condition

If you find yourself experiencing any of the symptoms listed above for a prolonged period of time – seek help! Most campuses have resources available such as counseling to help stressed-out and depressed college students cope. Don't let yourself believe that "it's just the blues". Sometimes feeling down can spiral out of control. There are many medications and solutions available to treat depression and make the sun shine again!

It is easy to fall into a "rut" of seeing only the negative when you are stressed. Some people have spent years "turning gold into garbage - the Midas touch in reverse."

When someone says "That's a nice outfit" the "garbage collector" questions whether that person "really means it." Your thoughts can become like a pair of very dark glasses, allowing little light or joy into your life. What would happen if each day for the next three days, you committed yourself to actively collecting (noticing) five "pieces of gold" from your environment?

Pieces of gold are positive or enjoyable moments or interactions. These may seem like small events but as these "pieces of gold" accumulate they can often provide a big lift to energy and spirits and help you begin to see things in a new, more balanced way – on the road to a less stressful life!

Each day find twenty minutes of 'alone time' to relax. Take a walk, write in a journal or meditate. Don't sweat the small stuff...always ask yourself if the issue at hand is worth getting upset about. If it isn't affecting your goal achievement, it may not be worth fretting over.

Humor and positive thinking are important tools in stress management. Most importantly, communicate! Talking to a person who you trust be they a friend, roommate, family member, professor, significant other or co-worker about issues of concern is helpful. We all need someone to listen.

A huge part of taking control of your stress is to tackle it before it happens. Good study habits are important for effective time management. You may have been studying your whole academic life, but in college, things are different. Effective studying leads to an overall positive experience in your classes.



Reducing Test Anxiety

The Three Things You Need to Succeed:

- Preparation
- Organization
- Practice

Preparation

Your preparation for the test should include learning what the test covers and studying areas you don't know very well. It should also include using strategies for reducing test anxiety as part of your studying.

Organization

Staying organized includes creating a clear, targeted study plan for the weeks leading up to the test and sticking to that study plan.

Practice

The more you are accustomed to sitting for a period of time, answering test questions, and pacing yourself, the more comfortable you will feel when you actually sit down to take the test.

Test anxiety isn't something you can take care of the night before the test with a good night's sleep or with a nutritious breakfast on the morning of the test (though that can help). It's something you need to incorporate into the earliest part of your study plan, so that the techniques for dealing with test anxiety have become second nature to you by the time you actually take the test.

How do you know whether you have test anxiety?

Signs of test anxiety in your head

- Mental blank-outs
- Racing thoughts
- Difficulty concentrating
- Negative thoughts about past performance, consequences of failure, how everyone else is doing
- Knowing the answers after the test, but not while taking it

Signs of test anxiety in your body

- Nausea
- Cramps
- Faintness
- Sweating
- Headache
- Dry mouth

- Increased breathing rate
- Fast heartbeat
- Tense muscles

A little anxiety isn't bad – it can actually be helpful to be “up” when preparing for and taking a test – but if you are showing some of these symptoms, your level of stress can hurt your preparation and performance.

How can you cope with test anxiety?

Causes and Cures:

Cause #1: You are unfamiliar with the test.

Cure: Learn about the test.

It sounds simple enough, but a lot of people who have test anxiety deal with it by avoidance. They hope that if they avoid confronting the thing that is worrying them, it will go away. Of course it doesn't, and the first thing you can do to deal with your anxiety is to make sure you know the basic facts about the test.

- How many questions are on the test
- Question format
- How much time you have to take the test
- How your answers are scored
- What topics are covered on the test
- What some of the questions look like

Cause #2: You feel you haven't mastered the subject being tested.

Cure: Make an organized study schedule and stick to it.

Create a study plan that outlines what you're going to work on, where you're going to find helpful resources, and when you're going to undertake each step. As you review the topics and improve your mastery of them, you should use the various resources that are available to you: textbooks and notes, other students, and your professors. **Make sure the study schedule sets out manageable tasks for you to accomplish within a reasonable period of time.**

When you have accomplished each study task you have planned, cross it off your schedule so you experience a sense of accomplishment.

Cause #3: You have negative thoughts.

Cure: Counter them with positive thoughts and actions.

Negative thoughts can throw off your study schedule, and they can also distract you or make you freeze up during the test. Do you ever find yourself troubled with thoughts like these?

- I always do poorly on tests.
- I'm going to flunk this test.
- If I don't pass this test, I'm a failure.
- Everyone else is so much smarter than I am.

The best time to deal with negative thoughts is now, before the test. Take out a piece of paper and write your negative thoughts in a column. Then, for each one, write a positive thought that argues against it. Some examples:

<u>Negative Thought</u>	→	<u>Positive Thought</u>
I always do poorly on tests	→	I have a better study plan for this test than ever before.
If I don't pass this test, I'm a failure.	→	I'm going to pass, but if I don't, I'll bounce back.
The test is going to have have trick questions.	→	The test is designed to let me show what I know, and I know all of the formats.

Save this list and add to it whenever necessary. Whenever you find those negative thoughts coming back, remind yourself of all the positive things you have going for you.

Perfectionism

One particular kind of negative thinking that affects people is perfectionism. Do you find yourself procrastinating when you should be studying? It may be because you've set an unrealistic goal for yourself. It may be that you are waiting until the last minute to study so that you can give yourself an excuse for not doing well. Some examples:

<u>Perfectionist Thought</u>	→	<u>Realistic Thought</u>
There's an impossible amount of things to learn for this test!	→	I don't need to know the answer to every question; I just need to pass.
My knowledge of one of the topics is really shaky.	→	I don't need to know everything about every topic. Also, if I start now, I can learn more about the topics in which I know I'm weak.

Cause #4: Your body shows signs of anxiety.

Cure: Take care of your body, and your mind will benefit.

If you start to see physical signs of test anxiety, you may need to take better care of your body.

- Eat well and exercise. Be especially careful that you won't disrupt your regular eating and exercise schedule to study for the test. Continuing your activities as usual will help you maintain your emotional and physical well-being.
- Studies have shown that lack of sleep can contribute to memory loss and lack of concentration, so get plenty of sleep throughout your studying schedule, and especially the night before the test. Lack of sleep could catch up with you at just the wrong time – when you are taking the test – so always be sure to get enough sleep.
- Continue to socialize with friends and family, and take study breaks regularly. Your emotional health is as important as your physical health for minimizing anxiety, so make sure you take the time for some social interaction.
- Surround yourself with positive people who support your studying. Try to avoid friends and acquaintances with negative attitudes, especially negative attitudes about the test itself.

Cause #5: Tension reinforces itself and builds up.

Cure: Practice tension-release exercises.

When you are feeling anxiety, the tense feelings in the body can build up. You need to learn how to break the cycle of anxiety by teaching your body how to release tension. Like most of the other tips, this is not something to work on the night before the test. Practice the following techniques for several weeks or months:

- When you start feeling anxious, take a couple long, deep breaths and exhale slowly. While you do this, it may help you to close your eyes and imagine a peaceful setting.
- When you feel your body tensing up, focus on a particular group of muscles (such as the shoulders), and first contract them for about 10 seconds and then let them relax. Concentrate on the difference in the feelings and repeat the exercise, trying to get the muscles to relax more each time.

When you've become proficient in these techniques through practice, you'll be able to use them during the test whenever you feel anxiety creeping up on

you. They take only a few seconds to do and can make the test session a lot less stressful.

Cause #6: You allow the test environment to get on your nerves.

Cure: Tune out distractions.

The instructor will try to make the environment conducive for taking a test. However, the reality is that not all aspects of the environment can be controlled. Another test taker may have a cough or the sniffles, or the room may be crowded, or the temperature may be warmer or cooler than you like. Dress in comfortable clothing and in layers so you are ready for either warm or cool rooms.

You can try to minimize the distractions you might encounter.

- Try to avoid arriving too early or too late.
- After you arrive, choose a seat away from doors, aisles, and other high-traffic areas.
- Sit by yourself and don't chat with others. Nervousness and anxiety can be contagious.

You should also arrive with a ready-to-use strategy for dealing with any distractions that may come up. One strategy is mentally repeating a word or phrase (such as "Remain calm") as a tool for focusing your mind. Whatever strategy you use, try to use it while you're studying for the test. Not only will it help you feel better, but it will also be second nature by the time you arrive to take the test.



Tips for Multiple Choice Exams

Look Over the Test and Pace Yourself

When you first get the exam, don't just plunge into answering test items. Instead, thumb through the pages and get the lay of the land. How many questions are there? How many different sections? Are some questions worth more points than others? Once you've looked through the entire test, try to estimate what pace you should maintain in order to finish approximately 10 minutes before the period is over. That way, you'll have a little time at the end to check for careless mistakes like skipped questions or misread items. Some of the worst problems occur when students enter a time warp and forget to check the clock, or when they spend too much time on one or two difficult items. To prevent this from happening, one trick you can use is to scribble the desired "finish time" time for each section right on the test booklet. That way, you'll be prompted to check the clock after completing each part of the exam.

Take Short Breaks

Try taking a few breaks during the exam by stopping for a moment, shutting your eyes, and taking some deep breaths. Periodically clearing your head in this way can help you stay fresh during the exam session. Remember, you get no points for being the first person to finish the exam, so don't feel like you have to race through all the items -- even two or three 30-second breaks can be very helpful.

Don't Skip Around

Skipping around the exam can waste valuable time, because at some point you will have to spend time searching for the skipped questions and re-reading them. A better approach is to answer each question in order. If you are truly baffled by a question, mark the answer you believe to be right, place a question mark next to the question, and come back to it later if you have time. Try to keep these flagged questions to a bare minimum (fewer than 10% of all items).

Don't Be Afraid to Change Your First Answer

Even though first answers are often correct, you shouldn't be afraid to change your original answer if, upon reflection, it seems wrong to you. Dozens of studies over the past 70 years have found that students who change dubious answers usually improve their test scores. For example, a May, 2005, study of 1,561 introductory psychology midterm exams found that when students

changed their answers, they went from wrong to right 51% of the time, right to wrong 25% of the time, and wrong to a different wrong answer 23% of the time (Journal of Personality and Social Psychology, Vol. 88, 725-735).

What To Do If More Than One Answer Seems Correct

If you're utterly stumped by a question, here are some strategies to help you narrow the field and select the correct answer:

1. Ask yourself whether the answer you're considering completely addresses the question. If the test answer is only partly true or is true only under certain narrow conditions, then it's probably not the right answer. If you have to make a significant assumption in order for the answer to be true, ask yourself whether this assumption is obvious enough that the instructor would expect everyone to make it. If not, you can eliminate that answer.
2. If you think an item is a trick question, think again. Very few instructors would ever write a question intended to be deceptive. If you suspect that a question is a trick item, make sure you're not reading too much into the question, and try to avoid imagining detailed scenarios in which the answer *could* be true. In most cases, "trick questions" are only tricky because they're not taken at face value.
3. If, after your very best effort, you cannot choose between two alternatives, try vividly imagining each one as the correct answer. If you are like most people, you will often "feel" that one of the answers is wrong. Trust this feeling -- research suggests that feelings are frequently accessible even when recall is poor (e.g., we can still know how we feel about a person even if we can't remember the person's name). Although this tip is not infallible, many students find it useful.

More Strategies for Difficult Questions

Eliminate options you know to be incorrect

Give each option of a question the "true-false test:"

- This may reduce your selection to the best answer

Question options that grammatically don't fit with the stem

Question options that are totally unfamiliar to you

Question options that contain negative or absolute words.

- Try substituting a qualified term for the absolute one, like *frequently* for *always*; or *typical* for *every* to see if you can eliminate it

"All of the above"

- If you know two of three options seem correct, "all of the above" is a strong possibility

Number answers

- Toss out the high and low and consider the middle range numbers

"Look alike options"

- Probably one is correct; choose the best but eliminate choices that mean basically the same thing, and thus cancel each other out

Double negatives:

- Create the equivalent positive statement and consider

Echo options

- If two options are opposite each other, chances are one of them is correct

Favor options that contain qualifiers

- The result is longer, more inclusive items that better fill the role of the answer

If two alternatives seem correct, compare them for differences, then refer to the stem to find your best answer



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