College Success Using the Science of Learning: 101 Tips for Becoming a STAR Student

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Preface

This document is meant as a primer for graduating high school students, as well as first-year college students, as they prepare for and encounter the reality of college-level courses.

The last few decades have seen an explosion of knowledge in the science of how learning works, particularly through the use of rigorous experiments from cognitive psychology. We know to a great extent how learning works from a brain point of view, but most of the publications in this area focus on the general theory rather than classroom experiences. A few books have been written about how faculty members should turn these principles of learning into practice, but there is nothing aimed at students. This document is meant to bridge that gap, and provide advice on college success rooted in the brain science about learning. Section One lays out how learning and memory work from a brain point of view, and Section Two unpacks how those principles should be practically applied in your approach to learning. More specifically, this document will provide best practices for reading, note-taking, studying, and completing assignments—all from the rationale of examining what the brain needs to truly learn and remember concepts and facts.

Students should exercise judgment about the advice offered within these pages. Those needing initial advice about success might do well to follow verbatim the best practices laid within these pages. More advanced students might think about ways their own circumstances might argue for more customization. Everyone can use these strategies to work smarter, not harder, regardless of skill level and prior experience.

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Section One: Learning and Memory

Chapter One – Memory

1. **The acronym "STAR" captures the main elements of the effort needed to store long term memories: spacing, tackling, attention, and retrieval**. We'll go through each of these individually in the coming pages, but it's important to remember that together, they form the basis of our recommendations for effective practices when taking notes and studying for tests—the heart of your academic endeavors.
2. **Spacing: you remember FAR more when you study material spaced out over several days**. Bunching up all your studying the night before a test might actually work for the test the next day, but the knowledge won't be stored for times when you will need it later—like a comprehensive final exam. It works far better to spread out studying over several days, letting your brain sleep in between sessions.
3. **Tackling: everything from taking notes in lecture to studying for a test requires EFFORT in the form of sustained levels of high concentration**. Your brain must be active, organizing concepts, relating new information to familiar contexts, and making connections both forward and backward in the semester's content. You (hopefully) already know that simply being in a lecture hall and hearing material does not mean that you'll remember it. There is no such thing as osmosis for learning, as if simply being exposed to knowledge will mean you can retrieve it later. It takes discrete mental effort to store and later retrieve any memory, including facts, figures, definitions, and formulas.
4. **Attention: because memory formation is extremely difficult when attention is split, multitasking must be avoided at all costs**. Scientists agree that "multitasking" does not even truly exist. What students do in boring classes is better labeled "task switching," since the brain can only pay attention to one thing at a time. Experimental results are quite conclusive that students who task-switch perform worse than those who remain focused on just one task. Therefore, it's important to avoid distractions and temptations during lecture time.
5. **Retrieval: practicing matters—a lot**. Since neural pathways in the brain, the building blocks of memory, are strengthened by repeated use, retrieval becomes easier the more that material is practiced. The reverse is also true: without practice, attempts to retrieve the memory (such as during a test) are much more likely to fail.
6. **The STAR elements should be employed together.** Particularly when studying, retrieval practice should take place without distractions, with purposeful concentration that highlights forging connections and contexts, and intentionally mixing together practice of older concepts with newer ones. The same goes for note-taking during class, when purposeful brain activity should be at its highest levels.

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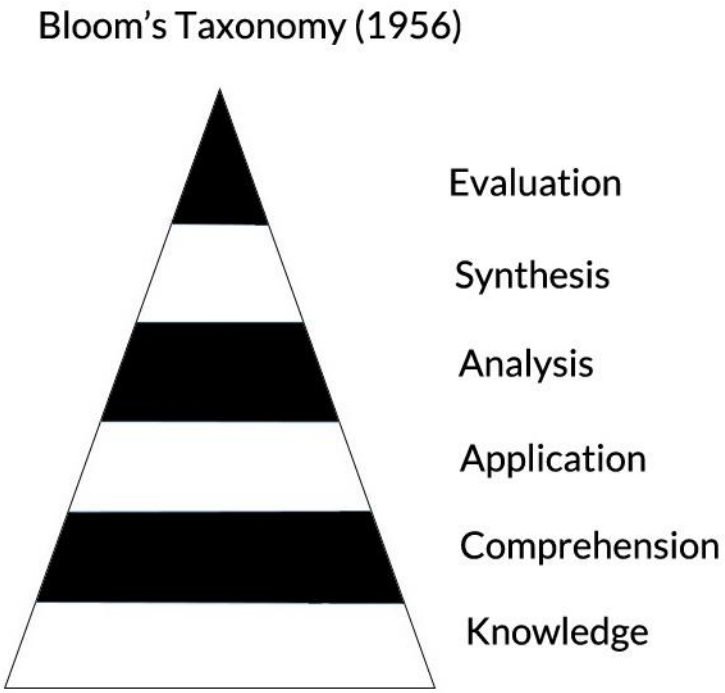
Chapter Two – Beyond Memory

7. **Forget whatever you've heard about learning styles**. Despite what you may have been told in school earlier, it turns out that no one is truly a "visual learner" or an "auditory learner." You may have preferences (such as studying alone vs. in groups, in quiet vs. with music, etc.), but these surface preferences conceal the deeper truth about learning. Using rigorous experimental testing, scientists have proven over the past few decades that the way we humans learn is more alike than different, and the core principles of STAR for memory apply to everyone equally, regardless of learning preferences.
8. **Feed and pursue your interests motivated by higher purposes**. Some students want to help others, for instance, while others want to find climate and pollution solutions. Connection-making and learning are naturally deep and strong when inherent interest is high, so keep your heart in mind when selecting a major. Choosing a major you love will literally make learning easier from a brain point of view.
9. **Don't give up, even when your grades are discouraging**. Research shows that resilience in the face of adversity, sometimes called simply grit, is an important marker of success. Put another way: failing the first time only defines you if you allow it by giving up. It's your adaptability when trying alternate methods that will drive your ultimate learning.
10. **Tackle college with a "growth" mindset**. Neither intelligence nor performance is fixed, and any failures can be overcome by determination and practice. Failures, in fact, should be perceived as normal, natural, and expected. These are challenges that spur you to the next level of learning and performance.
11. **Approach college work knowing that you can handle it**. Remember, you would not have been admitted if the college didn't think you could succeed! Believing in your ability to perform a task is more than a feel-good platitude; it has the weight of science. Those who lack self-efficacy face physiological barriers to learning—the brain actively makes it harder to learn if you believe the task to be too difficult. Fortunately, the reverse is true as well. It gets easier when you believe you can do it.
12. **Seize opportunities to engage in reflection**. When reflecting, you should think about the context for course concepts and connections between those concepts. Do you have any gaps in prior knowledge that need to be filled before you can be successful? Do you see how the separate parts integrate into a cohesive whole, or how the larger system works? Can you apply something you learned in one context to a problem in another context? Reflection is a key tool to move beyond comprehension to true wisdom.
13. **Cultivate ways to ponder your own processes of learning and thinking**. Research shows that this kind of metacognition is beneficial beyond just self-awareness, and leads to actual gains in test performance. When you become aware of your own

thought processes and habits, you end up leveraging them more successfully to maximize learning.

14. **It helps to identify which task in "Bloom's Taxonomy" faculty are asking you to master at any given moment**. This schema for education dictates many faculty actions. They are asking students to do one of these actions at any given moment: knowledge, comprehension, application, analysis, synthesis, or evaluation. These items are arranged in a hierarchy, with evaluation on top. In-class activities are often "application" or below, while larger projects are often "analysis" and above. Knowing what they want you to master makes it easier to accomplish the task.



15. **Recognize that faculty in certain disciplines are trying to move you away from assuming the world consists of "right" and "wrong" answers**. In fact, some faculty are impatient with students who seek only "the right answer." Many faculty are looking for students to embrace complexity rather than right/wrong answers, and to still be able to isolate a winning solution, as long as they have defensible justifications.
16. **Always think in terms of "messy" problems**. Your faculty members may (or may not) provide you with intricate, involved, and messy problems to work on, but even if they do not, you should dream up your own. Messy problems are ones that resist simple solutions, often requiring expertise in more than one discipline to address adequately. You should train your mind to think in terms of messy problems,

endlessly hypothesizing and discarding possible solutions, as these types of problems most accurately reflect what awaits graduates in the workplace.

17. **Seek out experiential learning opportunities**. Certain types of learning have been demonstrated to be highly effective for students, such as service learning, doing research with a faculty member while an undergraduate student, and working in an internship. When possible, you should seek out these "high impact practices," especially when an entire course is built around them.

Section Two: Applications

Chapter Three – Reading

18. **Always buy the book!** Don't trust online and word of mouth reviews that suggest the book isn't necessary. You will be massively short-changing yourself if you do not have the required textbooks. Even burdensome costs should not override this principle. Skipping the textbooks is "penny wise and dollar foolish," since you are saving a smaller amount of money but wasting the larger tuition cost by squandering an opportunity. The textbooks provide skills and knowledge, exactly what you are here in college to gain. Electronic versions are also fine.
19. **Write in your books**. College is an investment; don't be shortsighted by thinking only of the resale value of your used book and shortchange your education in the process. The notes you make in the margins (or digitally, if it's an e-book) can be critical to prompting effective discussions or even just internal discoveries during the class time. Use the margins to express surprise or disagreement, compare to other passages, and especially to ask questions you don't know the answer to.
20. **Highlighting may not be very useful for learning**. Several key studies have demonstrated that highlighting as a reading strategy is largely ineffective, and may even be counter-productive if it generates a false sense of security that you've seemingly mastered the material. The main problem with highlighting is that it perpetuates momentary mastery, but does nothing for long-term memory. When you're away from the book is when you're going to need the information. If you do highlight your readings, remember to be selective, because highlighting everything would look visually the same as highlighting nothing, and also remember to take notes beyond the highlighting that will be more useful for long-term memory. Highlights already on a page, such as in this document, flag your attention and are fine. But adding your own highlights is less effective than taking reading notes.
21. **Read for complete understanding**. Rather than considering the text as an introduction and the lecture as the content, consider the reading to be the moment when content is delivered. You should continue to read this thoroughly even in classes when the professor covers the same material in subsequent class sessions.

22. **Avoid reading when tired**. Simply passing your eyes over every word but not understanding them does not count as reading. You need active engagement with the material, and it should not be unusual at all to mentally engage in dialogue with the text. Since sleep is important for memory (more on this later), you should sleep when tired and return to reading when fresh. For this reason, procrastinating about reading assignments will get you into trouble!
23. **Make reading a highly engaged activity, with constant mental questioning and note-taking**. The emphasis must be on active thinking and mental processing. One famous strategy is SQ3R (survey, question, read, recite, review), but this is only one option among many. The larger point is that the most effective kind of reading might not be simply to start at the beginning and read it only once.

Chapter Four – Note-Taking

24. **Always take notes, even in classes that don't seem to demand it**. There is a well-known phenomenon called the "illusion of mastery" that occurs when students hear an expert explain advanced concepts. During the expert's explanation, students have no questions and thus may not take notes, but many struggle to recreate the skill, logic, or knowledge once away from the expert. Resist the temptation to assume it will be equally obvious later, and record notes during the lecture.
25. **Balance note-taking and careful listening**. Because the brain can't truly do two things at one time, any time you spend writing notes will mean reduced attention to the continuing lecture. But notes are important not only for later studying; they also help with starting the process of storing memories. The mere act of taking notes on things that you see, hear, and think creates associations in the brain, and since memories are associative, the taking of notes will improve recall over just listening even if the notes are not looked at later (but they should be looked at!)
26. **Take notes for studying, not for comprehensiveness**. Instead of taking notes that try to capture EVERYTHING, aim to take notes which can encourage later recall. That might mean a focus on concepts and definitions, or perhaps formulas. Faculty seldom pack all relevant information into the lectures; the reading covers many important ideas as well. Your job is to record the connections, context, and connotations that are not obvious in the reading. Of course, you need to have done the reading ahead of time!
27. **Take notes FAR beyond what's displayed on screen**. Simply capturing the displayed words accurately will often not be enough to jar your memory about the crucial steps, relationships, and concepts discussed while these words were displayed. Take notes that capture the lecture and discussion as well as the slide content.
28. **Capture deeper and long-range context in addition to the close details provided by the instructor when taking notes, even when the instructor does not address the**

context. The problem facing instructors is that they have "expert blind spots": because they know the material so well, they don't remember to explain connections and relationships that appear almost too obvious to them. Your task is to place each new piece of information or concept into the proper context so that you see (especially days later) how it fits into the bigger picture. Notes on these kinds of relationships are extra valuable as study aids, precisely because they don't show up in the notes on screen.

29. **If presentation slides are made available before lecture, it's acceptable, but NOT sufficient, to print them out**. It might be wiser in some cases to resist printing the slides, the better to approach note-taking as a highly active process during class. If you do print the slides, be certain to augment them HEAVILY with additional detail that captures the lecture and discussions. Far too many students simply print out the notes and do little else, but such an approach will be almost completely ineffective.
30. **Take notes with enough detail that you would literally be able to provide a similar lecture to a classmate or roommate**. While we learned earlier not to record everything, you do need to record a significant amount of details. The more details (and context) you record in your notes, the better you'll be able to study from them. More detailed notes also help memory formation even before studying begins. If the class moves too fast to take detailed notes on the spot, take fragmentary notes as needed, but flesh those out with fuller details immediately after the class, before the short-term memory fades. You may also want to develop your own shorthand and abbreviations.
31. **Don't take photos of the screen as a replacement for notes**. As described above, the value of note-taking is not in the NOTES, it is in the TAKING. Because memory formation requires effort, a photo alone does no good. Taking a photo during class for later note-taking might be acceptable—provided there really is a follow up later to take curated notes from the photo. But remember the value of the classroom experience is often a combination of notes on screen and words spoken by the instructor.
32. **Do not buy notes as a replacement for your own**. If you miss a class, one approach could be to borrow notes from a classmate and then make your own sets of notes (NOT duplicates, but ones of your own devising, using your own words, and especially leveraging your own active thinking about the content). Always keep in mind that notes taken by others might well be less comprehensive than notes you would have taken yourself.
33. **Keyword-style notes offer the best format for note-taking**. The fabled Cornell method for notes involves using only the right-hand side of the paper for outline-style notes that capture the professor's lecture, leaving the left side free for later inscribing of keywords that both capture the outlined notes holistically, and serve as flash-card style prompts to encourage full recall. The summary at the bottom serves a similar purpose.
34. **Experiment with mind map note-taking**. Notes that highlight relationships and interrelationships, often with bubbles and arrows, provide visual context to notes

that is more valuable during test-taking than simple lists of facts and information. As a bonus, the visual map is usually more clearly recalled and sketched during tests than outline-only notes.

35. **Draw diagrams, schematics, tables, charts, and other visually rich concepts in addition to word-based notes, even when the instructor's presentation is only word-based**. The diagrams aid with visual recall later, because you'll be able to visualize the notes and thus have a useful memory link to the content as well. Plus, visual notes increase the chance of memory retrieval simply for being a different modality than the verbal or word-based original delivery. You are basically doubling the neural pathways that lead to the same information, and doubling the chance you'll be able to reconstruct the memory.
36. **Handwritten notes promote memory retention over notes recorded on laptops**. The temptation students face is to use laptops to record information verbatim, as if during dictation. While this may capture more information than handwritten notes, it involves less active mental processing, synthesis, and integration, and thus often does very little to begin memory formation. If you do use a laptop, be extra conscious to limit the amount of notes you take to mimic what you would record in handwritten notes, keeping synthesis and context foremost in mind. For most students, it's better to avoid the laptop entirely for note-taking.
37. **Do not attempt to multitask or task-switch during class**. Not only is this rude to the instructor and nearby students, such activity seriously inhibits your ability to form memories during class. Why waste this time and opportunity? Even people who firmly believe they are "expert multitaskers" have been shown by rigorous studies to perform worse than students paying strict attention. These experiments show there are really no exceptions.
38. **Always sit as close as you can to the front of the room**. For one thing, sitting close will aid with your ability to hear the instructor and see the projected or handwritten materials better. Equally important is the lack of distractions from your fellow students at the front of class. Our brains are hard-wired to notice novelty in the environment, so anyone using a phone or laptop will naturally draw attention away from the lecture.
39. **Touch up your notes within 24 hours**. One benefit is that you can add details and connections, while the memory is still fresh, that you didn't have time to record during the lecture. It's also hugely important to remind yourself of as much detail as possible, since repetition helps drive memory. Best of all would be to finish this next-day review by challenging yourself to retrieve the notes in detail simply from memory, or from single word prompts within your notes.

Chapter Five – Studying

40. **Review your notes from EVERY class at some point during EVERY day**. To take full advantage of the spacing effect, you'll want to dedicate at least 10-20 minutes per day for each class, obviously dedicating more time to the subjects with more (or more difficult) things to memorize. Remember that this effort is separate from time spent reading!
41. **When memorizing, master a small set of items initially before adding additional terms**. It does little good to tackle a long memorization list all at once, as you will overwhelm your abilities. The concept of cognitive load (how much your brain can process at one time) dictates that it is best to start small (perhaps as few as seven items) and then add a few each time you quiz yourself on the set.
42. **Vary the kind of retrieval practice you perform**. If you only ever study with flash cards where you challenge yourself to name the concept that matches the longer definition, you will struggle if asked on the test to write out a full definition of a term that, by itself, seems very familiar. Your brain will only remember what you make it practice, so use flash cards and similar programs/apps in both directions. Some apps also challenge you to write down the answer as a fill in the blank, which provides even more effective practice.
43. **Treat every study session like you are preparing for a cumulative final exam**. Retrieval of memories becomes easier with repetition, and if you take mastery of the material seriously throughout the term, final exams are much less stressful or difficult. The best approach to take is to learn the material as if you had to teach it. One strategy is to mentally elaborate on the notes beyond what's written. Remember to address both surface memorization tasks and deep conceptual issues.
44. **Review multiple subjects at the same time, such that you're constantly switching between them**. Mixing practice even between subjects has been shown to increase performance. It may seem counter-intuitive, but experiments with flash cards (or the digital equivalent) show that the biggest gains in long term memory come from practice that mixes up various classes in one study session. Your ultimate goal is to prove you can solve problems and offer definitions without need of expert help, such as the textbook or professor.
45. **Examine the context until you truly comprehend why these facts or skills are relevant for you**. Your brain is hard-wired to forget material it thinks you don't need, such as the color of your bath towel six years and four months ago, or where you parked your car in each day of the past month. Simply put, your brain will remember only those things it considers relevant to itself, so if you want to remember something, you have to actually believe it's important and relevant. Chase context and relevance until you find it. Otherwise, the physiology of the brain and its use of neural pathways will actually work against your ability to remember.
46. **Convince yourself that you like every subject you are studying**. Since the structures of the brain used to store short-term memories are associated with emotions, it's absolutely true that hating a subject literally makes it harder for your brain to learn it (and vice versa: liking it makes it easier to learn). If this doesn't come naturally to you, try finding the positives where you can, and build upon them. You might try to think

of a future situation where you might apply the concept or skill, for instance, to alter your feelings about the subject matter.

47. **Do not re-read the textbook as a form of studying**. Experiments have shown very low benefits to re-reading entire chapters before a test. Assuming the text was read once originally, any time allotted for re-reading would be better spent using existing notes to challenge yourself to retrieve as much as possible.
48. **Study with a partner or group when possible, during which time you should actively quiz and challenge each other**. Because memories are associative, you'll double your chances of recall when your brain encounters the material in more than one modality. Explaining concepts and definitions to others in a group serves the dual purpose of helping the speaker (enhanced chance for recall) and the listeners (alternate explanations for the content).
49. **When studying alone, choose an environment that maximizes your ability to focus**. The chair you choose should be comfortable enough that you can remain here for a significant time during study, but not so comfortable that you become tempted to nap. Depending on the task, it may be better to study without any music, but for some tasks, music without words can aid in the focus. Music with lyrics might distract you from your focus, which is not optimal.
50. **Create a study plan that includes breaks, and stick to it**. Like a muscle, the brain will tire over time, and needs breaks. If you're looking for a starting point suggestion, try twenty-minute study blocks, interrupted by breaks that alternate between five and fifteen minutes. You can customize the allotment, of course, so long as you keep the focus on the study, not the breaks. Resist the temptation to multitask during a study block, and remain focused on the task at hand for optimal results.
51. **Review notes right before bed**. There is a demonstrated jump in performance if study notes are reviewed minutes before sleeping, as this aids with the transference to long-term memory. The cause is a process called the recency effect; your brain has the best chance of storing into long-term memory those things actively contemplated just before sleep.

Chapter Six – Test Prep and Test-Taking

52. **Quiz yourself as frequently as possible**. Studies have shown that the very best type of test preparation is practice testing. More than anything else, practice testing increases grade performance on actual tests. If the instructor doesn't make practice tests available, it's a great idea to make one yourself, from scratch, and then take your own test.
53. **Do extra homework**. Because homework problems function like practice testing, you should complete extra homework problems beyond the required ones, especially in

classes that are difficult for you. While the temptation may be strong to stop after the required problems are finished, and doubly so if the instructor does not collect or grade the required ones, you should also do not only the minimum, but indeed every homework problem you can, unless you are absolutely convinced that you have mastered these concepts and will benefit more from study in other areas.

54. **Seek alternative explanations online for concepts that remain difficult for you as the test approaches**. If the textbook and your lecture notes are not sufficient to help you understand a concept, turn to online resources to find an alternate explanation. Often, the fact that the online tutorial may explain a concept from a different angle or direction proves to be very helpful.
55. **Sleep well the night before a test**. Studies are quite clear on comparing students who sacrificed sleep in favor of continued extended review versus those who opted instead for a full night of sleep. All other considerations being equal, those with full sleep easily out-performed those who studied more. A tired brain simply cannot operate at peak performance.
56. **Review notes to load concepts, terms, or formulas into working memory on the day of the test**. While cramming is far less effective for long term memory than regular study spaced out across several days, there is a short-term boost in memory if you review just before a test. Remember, however, that this should not be the only study done for that entire chapter, or all of it will be lost within 24 hours, and the final exam—not to mention the rest of your career!—will be in serious jeopardy.
57. **Counter test anxiety if it manifests**. Crippling anxiety about tests is very real for some students, but you need not accept its presence with resignation. Often, the anxiety stems from a belief that you cannot master this material, and as such is fundamentally a self-efficacy problem. Use your extensive study, homework solving, and test-preparation to assure yourself that you can, in fact, perform this work. Other calming techniques such as focused breathing or meditation may help as well.
58. **Scan the test when you first receive it with an eye toward creating a strategy of what to work on first**. Some tests have sections that are worth far more points than others, and it's not uncommon for these more important sections to come last on the test. It may be wise to complete this part of the test first, especially if the remaining portions can be done quickly if time runs short. Or you may consider a strategy that apportions time in a certain way. The point is to scan the entire assessment first and formulate a strategy to give you the best chance to earn maximum points.
59. **If you must guess, guess wisely**. The correct answers to multiple-choice questions can sometimes be deduced from available clues, even if you don't have the underlying knowledge. If three of the available choices use a parallel structure but one is not like the others, this may indicate the one to choose (though not always). A process of elimination will be useful if you know some of the related knowledge, or if you know for sure what is not a correct answer. Absolute terms may provide hints to the correct answer. Any phrasing that uses words such as "always" and "never" might be approached with suspicion.

60. **Tests that require longer written answers of a paragraph or more will always benefit from a plan, even if minimal**. Pause to reflect at least one minute, and maybe much longer, to think about various ways to address the writing prompt fully. A brief outline is a must, and some kind of topic sentence is ideal, though you need not overthink having a fully original thesis.
61. **Use leftover time to double-check your work instead of turning in the test immediately**. For some reason, students seem inclined to hand in the test as quickly as they can, but this momentary burst of relief is often not worth the cost to the grade. Take the time to perform a double-check of your work, especially in disciplines where there may be more than one way to find a solution. In instances where you remain uncertain, do not automatically dismiss your first instinct, particularly if you are prone to overthinking.

Chapter Seven – Writing Essays

62. **Start essays early!** As experienced graders of student work who have been exposed to hundreds of other examples, faculty are expert at detecting work done at the last minute. Various elements such as spelling, syntax, and rudimentary or incorrect concepts weaken such assignments. Since these projects are often weighted heavily in the overall grade, it's important to give them the attention they deserve.
63. **Understand (or seek) the rationale for this writing assignment**. If you don't know the skill that this assignment is designed to measure, it's easy for misalignment (and negative grade ramifications) to creep in. By contrast, if you do know it, it will be much easier to ensure you're hitting the necessary marks to get a good grade. If the instructor doesn't automatically provide the purpose, ask for it, or fill in the blanks yourself.
64. **Analyze the grading criteria**. If it's not present, ask the instructor how the grade is determined. You'll want a clear understanding about how to focus your energies before you start writing, as well as a chance during the revision process to perform a frank double-check on whether you're likely to earn a high score in each category.
65. **Isolate your target audience clearly**. Often the writing prompt will include this information, but if it does not, seek clarification from the instructor. Knowing who the target audience is will help you calibrate the level of explanation correctly. Without this information, you run the risk of over-explaining things that are understood, or alternately assuming too much is previously understood when in fact your job is to unpack those concepts.
66. **Finalize your main idea BEFORE writing or even creating an outline**. It's inefficient, and sometimes even dangerous, to compose your essay before you know what your main argument will be. In some disciplines the main idea needs to be an original

thesis. Since instructors sometimes have very specific expectations about what the thesis should look like, clarify whatever questions are not addressed by the writing prompt. If possible, try to run your thesis statement by your instructor for approval prior to completing the first draft. This will give you an opportunity to ensure that you are on the right track early and, if not, to revise.

67. **Create an outline of your paper before writing it**. A bulleted or numbered-list format is fine, but the major ideas should be written with the thesis specifically in mind. Each numbered item represents a paragraph-length argument, and all of them together should sufficiently support and advance the thesis. Sub-bullets can help you organize the various pieces of evidence you plan to use.
68. **Develop a brainstorming method that allows you to add incremental items over time**. Note-taking apps are ideal homes for outlines because you have easy access to them at odd times. You should ruminate about your argument and pieces of evidence whenever you have down time across several days. As ideas come to you while riding the bus or waiting for other classes, hurry to record them in your outline. Over time, this will make your essay even stronger once you finally sit down to write it—another great reason to start early.
69. **View a template or sample appropriate to this discipline**. A great final step before you start writing is to study a sample essay similar to this assignment, as this can help calibrate the tone, audience, and analysis properly before you begin your own composition.
70. **Try "freewriting" if starting out with a blank page is daunting**. Many students encounter writer's block at the beginning of a project; a great way to counteract that is simply to start writing the middle parts of your argument without worrying about syntax, spelling, or grammar. The idea is to start the creative juices flowing as a warm-up, and then clear the page to start composing real sentences. As noted earlier, this composition phase needs to happen early—NOT the night before it is due. You need time to evaluate your draft in the cold light of day, partly to ensure that it makes equal sense when approaching it with fresh eyes.
71. **Make sure you are sufficiently informed about your topic BEFORE you start writing**. Often, writers who struggle with writer's block need to do more research. Once you understand your topic and a few scholarly perspectives surrounding it, it should be easier to add your own ideas to the discussion or synthesize the ideas of others. Also, you will not generally want to write a paper from your own perspective and then sprinkle in evidence as an afterthought. It is ideal to first understand the major arguments pertaining to your topic and then identify your own perspective as it is situated within this scholarly conversation.
72. **Try writing the introduction and conclusion last**. This enables them to parallel each other in scope and promise, and you will have the best chance to fully capture the arguments contained in the paragraphs between. Plus, they are easier to write after the body paragraphs are drafted. However, it is generally ideal to start with a working thesis statement, so you at least know the scope of your paper's claim. Remember to be flexible, as this thesis might (and likely will) evolve as you write.

73. **Evaluate the introduction and conclusion side by side**. Does the conclusion live up to the promise of the introduction? If not, be open to large-scale adjustments to both. Does the introduction adequately set up and define concepts you will incorporate into your thesis? Does it start generally enough (but not TOO generally)? Does the conclusion properly situate your findings in a wider context?
74. **Find a peer editor for ideas and arguments**. You're looking for someone to help with the conceptual elements of the essay at this point, not fixing grammar or spelling. That makes a classmate arguably a better choice than other friends you may have. At this point in the revision process, you need to stay highly willing to discard entire sub-arguments and paragraphs. Keep in mind that the ultimate goal is a strong and cohesive argument, not finishing early.
75. **Re-write individual sentences throughout the body of the essay, even though you think you don't need to**. The work of writing, author Stephen King once claimed, is actually re-writing. Modern software makes it easy to think of the work being done and now needing only minor tweaks, but that kind of activity is editing, not re-writing.
76. **Create a reverse outline as a final double-check**. After the essay is fully written and has undergone significant re-writing, the final versions of the paragraphs may have shifted significantly from the original intent. For an argument to be fully convincing, its constituent parts need to meet certain tests. Do these sub arguments provide sufficient exploration of the issues to make the case? Are there any missing components which normally would be necessary to complete the argument? Reducing your body paragraphs to one sentence summaries can help you identify if the component paragraphs offer all necessary and sufficient sub-arguments for the main argument to be proven.
77. **Find a peer editor for proofreading**. For surface-level problems like spelling, punctuation, and readability, it helps to have someone other than you read the essay with a pen in hand. As a last resort, proofread your own paragraphs in backwards order, a trick that will help you focus on sentence mechanics without becoming distracted by the argument.
78. **Read your work out loud**. In most cases, reading your paper out loud will allow you to catch grammatical errors and enhance your style. While our eyes will often "fix" errors for us as we read quickly, reading out loud forces us to slow down and catch problems we would otherwise miss.

Chapter Eight – Online Classes

79. **Explore the navigation of each course until you fully understand it**. Every instructor assembles online courses differently, and you want to ensure you know where to find

assignments, due dates, content, and grades. Do not assume that every instructor will use the same logic in what to click and when, or how to access each module!

80. **Early in the semester, map out due dates for major assignments and create a plan to complete them**. Add not only due dates, but also milestones toward completion (outline, first draft, etc.) to your personal calendar system. Be sure to block out time on the calendar for working on these milestones, as well as the self-imposed due dates themselves.
81. **Log in daily and check on every course**. Instructors might send emails or attachments that need immediate attention, of course, but your daily check-in should go deeper than that. Studies show that engaging in the content every day, or as close to daily as you can, improves learning and grades. Reviewing the content at regular intervals allows for steady progress, and also the deepest kind of learning.
82. **Study offline the same way you would for a face-to-face course**. It's easy to approach an online course by just working through the given tasks, but this is not ideal. You should view the online tasks as equivalent to the time spent going to lecture (and maybe also doing the required reading) for a face-to-face class. Employ the same study habits of spaced retrieval practice while offline to truly learn the material. You might also want to engage with classmates online or in person to review and discuss course content. Time on task alone, especially if it's mentally passive, will not lead to learning.
83. **When posting to discussion boards, always seek to add substantive value so that you are advancing the conversation**. Posted replies that are fundamentally some version of agreeing with a previous poster neither help you understand the material better nor often lead to full credit for the assignment. In general, aim to give discussion board posts as much thought as you would a spoken comment in a face-to-face class.
84. **Avoid the temptation to cheat, even when you think you won't get caught**. For one thing, you should know that instructors have powerful tools within the online software to detect cheating on tests—sometimes it's a proctoring software that will use your own webcam to monitor you, and other times it's the course itself recording as you switch browsers while taking the test. It is harder to get away with cheating online than you might think. But even more importantly, cheating truly means cheating yourself. By not learning the material, you are exposing yourself to risk in your later career, and simultaneously short-changing yourself on the very material you are paying all that tuition for!

Chapter Nine – Wellness and Time Management

85. **Insist on more sleep than you think is the minimum**. Getting enough sleep to avoid feeling tired is a common starting point, but it's insufficient. Deep sleep is the only

time your brain encodes long-term memories out of the supply of short-term memories, so without sufficient deep sleep, your brain literally has a harder time learning the material and concepts you're being asked to master. Most students need a minimum of 7-8 hours of sleep per night, but some may need more than eight.

86. **Eat properly to keep your brain functioning at peak levels**. Because the brain is an organ that needs the right levels of water, nutrients, and electrolytes, proper nutrition isn't just about avoiding weight gain (or unnatural weight loss, for that matter). It's also important for optimal brain function. Without proper nutrition, your brain will be literally unable to learn the academic material you're given.
87. **Develop a calendar system and use it consistently**. Whether you choose a paper system or an app, your first step should be to block off your classes. Then, schedule individual events with real dates rather than assuming every week will be the same. Schedule study time into your calendar the same way you would a class, and treat that time as non-negotiable. You will want to dedicate at least three hours per week (and possibly as many as six) for each class. Obviously, classes with heavier reading or memorization loads will take more time. It's better to budget conservatively and end up with too much time allotted to study than the reverse.
88. **Schedule time for entertainment on the calendar as well—this is part of effective time management**. In fact, it's a necessity for a fully healthy brain. Trying to work all the time truly will lead to burnout. As you schedule fun activities, remember to not allow them to overshadow your academic duties.
89. **Because life intervenes, you do want some time to be fully unscheduled on your calendar**. If you try to schedule every last hour, you're likely to create other problems when chores or other necessary life events occur. If no other duties pop up, treat this found time as additional time for entertainment (which you can do because you already responsibly allotted all the necessary time to academics previously).
90. **Keep balance a primary focus**. A rigorous approach to calendaring will help with the balance you are striving for, but your mental attitude about balance must go beyond this. Certainly balance is a relevant concept to overeating, alcohol use, or unhealthy habits like smoking. But discipline is also needed to ensure that fun does not take over, and eclipse your academic reasons for being at college. Hint: video games are a particular problem for some students.
91. **Exercise is a key component of proper health**. The benefits go far beyond weight control; exercise invigorates the mind and provides absolutely measurable benefits to academics and brain function. Put simply, your brain will function at its maximum potential when paired with a healthy body that is exercised regularly.
92. **Make mental health a priority**. This broad topic extends in many directions. You'll want friends so you can socialize, as there is ample evidence that a college experience without socialization can be so lonely that some students in that situation drop out. Develop practices to minimize stress, which could include yoga or meditation. Most importantly, consult a professional if you start to feel overwhelmed or hopeless. Mental health is the bedrock of fruitful academic exploration, and if you feel things are off, don't hesitate to seek help on campus.

Chapter Ten – Faculty Expectations: What Faculty Want You to Know

93. **Use professional titles and a respectful tone in all interactions with faculty**. Of course it is disrespectful to use first names, even when they do so with you, but you should also avoid using Mr., Mrs., or Ms. unless explicitly told to do so. It's better to assume that every instructor has a Ph.D. and thus refer to them as Dr. as your default. If they wish to be called anything else, they will let you know.
94. **Actually read through the syllabus**. While this may seem like drudgery, the syllabus is usually painstakingly built by the instructor to answer the kinds of questions students ask mid-semester. It's off-putting to faculty when students ask questions that are easily answered by checking the syllabus, so always look there before asking.
95. **Finish the assigned readings before each class period**. Instructors design class time, lectures, and activities with the assumption that you've done the reading. If you haven't, you'll only be able to realize a fraction of the learning and depth intended, even if it sometimes deceptively looks like the class time taught you everything you need to know. Even in those cases where the lecture appears to be addressing the same topics as the reading, you will be in a much stronger learning position if the lecture serves as reinforcement and clarification, rather than introduction to the content.
96. **Assume you should spend two hours on reading, studying, and homework for every hour spent in class**. The 2:1 ratio (which some instructors know as a 3:1 ratio, which was more common several years ago) means that a 3-credit class should result in six hours per week spent outside of class. That time must include study, memorization, note-review, and self-quizzing. If your reading and/or homework load is so heavy that you already spend six hours without study, you'll simply need to dedicate more time to that class. The study time is truly THE key component to actually learning material, and should never be skipped.
97. **Complete the assigned homework even if it's never collected**. The instructor designed the learning environment with specific practice in mind, and if you skip the homework because you figured out over time that it's never collected and/or graded, you are robbing YOURSELF of the ideal learning environment. Instructors do not lightly assign work just to keep students busy; the homework tasks are specifically chosen to practice key skills. If you find that you would like to review these assignments with instructors, make an appointment to visit their office hours.
98. **Be present, attentive, and active in class**. This sounds like an obvious statement, but in almost every class, there are nevertheless students who feel that attendance, staying awake, and paying attention without multitasking are optional. All of these activities irk instructors to various degrees, and as you know by now, all of them also hinder your ability to learn.

99. **Avoid asking for extra credit**. Instructors design courses with great care and seeking additional points can come across like a critique of their course design. Many of them feel that proper effort and study will yield the appropriate grade, and that extra credit requests constitute a breach of fairness principles. This is especially true when student (in)action such as late submission or absenteeism is followed by a request for extra credit. Anyway, the GPA is much less important in college than it was in high school.
100. **Seek faculty feedback if anything confuses you**. First, instructors understand that concepts explained in class may seem intuitive at the moment, but might be difficult to replicate as homework, away from the instructor or peers (a phenomenon called the illusion of mastery, since it seems easy enough when the expert explains it). Second, faculty are grateful for the feedback whenever concepts are confusing to students. If you're confused, odds are good that others are as well, and instructors often lack a good way of ascertaining when students truly understand. Please do speak up, in person or by email, when you don't fully understand a topic.
101. **Use the faculty member's office hours**. The concept is foreign to recent high school students, but the basic idea is that the instructor will be present in his/her office at the time listed on the syllabus, ready to answer any student questions or concerns. They may be occupied with a task when you first drop by (so that they are continuing to use their time productively), but they are happy to stop that activity once you come by. You aren't "bothering" them—faculty do this job primarily because they enjoy helping students learn, and one-on-one encounters during office hours are the kind of individual mentoring they highly value.

About the Author

Kevin Yee has been the Director of the Faculty Center for Teaching and Learning at the University of Central Florida since 2022. Prior to joining UCF, he was director of the teaching center at the University of South Florida for ten years, and also worked as a faculty developer at the University of Central Florida the previous eight years before that. He has also held instructor and visiting appointments at Duke University, the University of Iowa, and Pomona College. He earned his Ph.D. in German Literature from the University of California-Irvine.

While at USF, Dr. Yee had also served as Assistant Dean in Undergraduate Studies, during which time he supervised the offices of Academic Success Center (Writing Studio, Tutoring, and the SMART Lab), Office of Community Engagement and Partnerships, Orientation, the first-year seminar Academic Foundations, New Student Connections, and Parent and Family Programs.