

Study Skills Resources

STUDY SKILLS RESOURCES

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This open educational resource (OER) was developed by Central New Mexico Community College (CNM) instructors to support the FYEX 1110 First Year Experience course at CNM. Students completing the FYEX 1110 Study Skills Application Activity will be asked to use this OER to learn about study skills strategies. The OER includes instructions and examples to assist students in developing reading skills, writing skills, and math skills as well as strategies to assist in organizing study materials and studying and preparing for tests.

FYEX 1110 students will be asked to practice these proven study strategies in the courses they are taking. They should read through the five chapters of the OER, and ultimately, they should select six study skills strategies that are most appropriate for the course(s) they are taking. Students should keep detailed logs of when and how they apply the strategies, as well as notes about the results they receive from these strategies. At the end of the project, students will be asked to write a final reflection paper about the process of developing their study skills and to provide some examples of the study materials they create.

Quick Links

Students can use these links to quickly access the five chapters of the OER:

[Chapter 1: Reading Strategies](#)

[Chapter 2: Writing Strategies](#)

[Chapter 3: Creating and Using Study Materials](#)

[Chapter 4: Studying and Preparing for Tests](#)

[Chapter 5: Math Strategies](#)

Questions?

If students have questions about the strategies that are described in this OER, they should contact their instructor for assistance.

INTRODUCTION

Reading is essential in college courses. You may not associate reading with writing a college essay or taking an exam. After all, reading seems like a passive activity, something you might do at a café or sitting in an easy chair. But while you can read solely for entertainment, soaking in the plot of a good novel, reading also drives the act of writing itself, from the earliest stages onward. Reading can—and will—make you a better writer, and actively reading can have positive effects on your testing-taking skills.

First, you have to learn how to read in a whole new way, because college-level work requires you to read actively, a skill much different from the kind of reading you have practiced since elementary school. Active reading implies not only attention paid to the text, but also consideration and response. Active readers explore what they read; they approach the text as though they have entered an unknown territory with the intention of drawing a map. Indeed, the difference between passive reading and active reading is like the difference between watching a nature documentary and hiking through the wilderness. The film, although entertaining, doesn't

require much exertion from viewers. By contrast, hikers have to navigate the trail: they must look out for hazards, read trail signs, and make informed decisions if they hope to make it back home.

The following strategies will assist you in becoming an active reader. These strategies are recommended in all college courses, especially those that require reading of textbook chapters or scholarly articles as well as courses that may ask you to refer to texts in your writing assignments. Select the title of each section below to learn more about these strategies.

1.1 CREATE A READING SCHEDULE

Having a schedule you follow for reading is critical to success in college. Reading when you ‘feel’ like it is a recipe for disaster. While people may read novels and stories for personal enjoyment, very few people ever ‘feel’ like reading for college—there’s always something preferable to do. So having a reading schedule and keeping to it is one of the best ways to keep on course. A reading schedule needs to include several times a week you plan to read the textbook chapters, articles, and other sources that your instructor(s) assigns.

If you choose this study strategy for your Study Skills project, you will need to create a personal reading schedule that reflects the times and days you have available for reading. You should develop a reading schedule that includes the courses you are taking. Your reading schedule might look like this:

Course	Monday	Tuesday	Wednesday	Thursday	Friday
FYEX 1110	3:00-3:30 Read for 30 minutes		3:00-3:30 Read for 30 minutes		3:00-3:30 Read for 30 minutes
IRW 0980		3:00-3:45 Read for 45 minutes		3:00-3:45 Read for 45 minutes	
MATH 0980	4:00-4:30 Read for 30 minutes		4:00-4:30 Read for 30 minutes		4:00-4:30 Read for 30 minutes
PSYC 1105		4:30-5:00 Read for 30 minutes	5:00-5:30 Read for 30 minutes	4:30-5:00 Read for 30 minutes	

If you choose this strategy for your Study Skills project, keep in mind that you may need to adjust your reading schedule throughout the term. Save your reading schedule so that you can submit it as evidence with your project.

Be sure to use your study logs to reflect on what you do during your reading times and how well you are able to keep to your schedule. There will be times when you stick to your schedule and times when you don't. Be honest about your efforts to keep to a reading schedule. It will take a lot of self-discipline and sacrifice to stick to your schedule, but the results will be worth it.

1.2 CREATE A LIST OF QUESTIONS AND ANSWERS

Simply reading your textbook or ebook prior to your class meeting rarely provides the depth of processing necessary for the later recall of the information. One technique that helps in the reading process to retain the information and content is to approach your reading with a positive attitude and engage in strategic reading.

Prior to beginning to read your material, carefully review the table of contents for that chapter and then look through the chapter noting the section headings. As you come across each heading write down a couple of questions you have about that section. For example, Chapter 2 of our class textbook is titled: "Accepting Personal Responsibility." One question you might write down is, "What does it mean to accept personal responsibility?" The next section of the chapter is "Adopting a Creator Mindset." Here your question might be, "What is a Creator Mindset," and "Why is a Creator

Mindset important when accepting personal responsibility?” The creating of questions helps you become a more active learner/reader by getting you to think about what you are reading rather than just reading the words.

While many textbooks often begin each section with a set of focus questions, it is much better for your learning if you write down questions you have in addition to the focus questions provided.

Once you have created your list of questions, the next step is to read and find the answer to the questions. As you read the chapter, look for and underline the information that will help you answer the questions. Then, at the end of each section stop reading and write down under each question the answer based upon the information you identified. If you finish your reading assignment and still have unanswered questions on your list, go back and reread the section the question is from, carefully reading to find the answer. If you still cannot find the answer make sure to ask your instructor for an answer during the next class session.

If you choose this strategy for your Study Skills project, you will need to create a set of questions based on the readings you are doing each week for each of your classes. Then write down the answers to the questions you created. The questions you wrote down along with the answers to the questions will be submitted at the end of this project along with your study logs.

1.3 ANNOTATE YOUR TEXT

Many students read without pausing to consider ideas,

concepts, or connections. Slowing down the reading process and annotating will allow you to:

- Consider what is read.
- Remember key information.
- React to the text.
- Identify the author's use of techniques.
- Recognize misunderstandings.
- Make connections to other ideas or concepts.
- Judge the importance of the content.

Annotation is an essential skill in many college courses. Annotating text allows you to become more actively involved in your reading and consequently impacts your understanding of the material. Through the annotation process, you can deepen your understanding, move beyond literal comprehension to analysis and evaluation, and unlock the deeper meaning of the text. Purposeful annotations encourage you to move beyond a basic understanding of the text, allowing you to process what you are reading as you are reading, which improves comprehension. The use of annotations strengthens ownership of the information as the text shifts from a lecture to a conversation between you and the author (Fisher & Frey, 2014).

However, annotations should not be random or based on what you find interesting. You should have a purpose for annotating and a reason to return to your annotations. Your annotations should help you to summarize a text, locate important pieces of information, and ultimately prepare for discussions, quizzes, or

writing assignments. Annotating while reading allows you to reference previous work and have a clear jumping-off point for future work.

You can develop a strong annotation process by using the following skills:

Marking the Text

Marking the text helps you make meaning of surface-level information. These annotating marks may include symbols such as circling key or unknown words, placing a box around a definition or key examples, or underlining a key phrase or sentence. There is no one particular coding system; instead, you should focus on vocabulary, and the who, what, when, where, and why of the text.

Marginal Notes

Marginal notes may begin with a symbol such as an asterisk but should be followed with a comment in the margin (Porter-O'Donnell, 2004). These notes provide you with documentation of your thinking after the reading process is complete. Without these written notes, you may forget why you made the asterisk, and consequently, it is of little value to you during discussions or when writing.

An additional consideration is moving beyond the use of a highlighter. Often students highlight so much of the page that there is more text in color than not. In addition, once the highlighting has been done, it cannot be removed even if the student no longer determines the text to be useful for their purpose. Annotating with a pencil allows you to erase when needed and to fluidly move from simply making a mark to writing a comment.

Review the following annotations in which a student uses highlighting and marginal notes.

GRADES IN HIGH SCHOOL	<i>challenging</i>	GRADES IN COLLEGE
* Grades are given for most assigned work.		* Grades may not be provided for all assigned work.
* Consistently good homework grades may raise your overall grade when test grades are low. <i>Homework grades help overall grade</i>		* Grades on tests and major papers usually provide 1 of the course grade. <i>Tests + major paper grades is overall grade</i>
* Extra credit projects are often available to help you raise your grade. <i>Extra credit helps</i>		* Extra credit projects cannot , generally speaking, be to raise a grade in a college course. <i>Do not find a point really help</i>
* Initial test grades , especially when they are low, may not have an adverse effect on your final grade. <i>test grade not affect much of overall grade</i>		* Watch out for your first tests : These are usually "wa calls" to let you know what is expected—but they also account for a substantial part of your course grade. <i>sub grades affect overall grade</i> You may be shocked when you get your grades.
* You may graduate as long as you have passed all required courses with a grade of D or higher. <i>pass w/ D or higher</i>		* You may graduate only if your average in classes in the departmental standard—typically a 2.0 or C. <i>pass w/ C</i>
* Guiding principle: effort counts. Courses are usually structured to reward a "good-faith effort."		* Guiding principle: Results count. Though "good-faith effort" is important in regard to the professor's willingness to help you achieve good results, it will not substitute for results in the grading process.

Annotations created by FYEX Student Yasmin Urbina

Alternative Methods of Annotation

While it is ideal to annotate directly onto a text, it is not always feasible to do so, such as when using a rented textbook. Several strategies can be employed for overcoming these obstacles:

Sticky Arrows and Post-it Notes

If you cannot write directly on the text, you can place sticky arrows on the page where you would write a symbol and then record your comment on a post-it note. The post-it note can either be placed directly on the text below the arrow or can be placed in a journal.

Interactive Journal

When using an interactive journal, you should use a sheet of paper and create two columns: Information and

Interpretation. The information column includes the surface level information such as a quote, phrase, or word with a page number. The interpretation column is used for the comments, including reactions, questions, or interpretations of the section of the text.

Information	Interpretation
Describe the surface-level information. Include a quote, phrase, or word with a page number.	Write your own comments about the text, including reactions, questions, or interpretations.

If you choose this study strategy for your Study Skills project, you will need to annotate the textbook chapters, articles, and other texts that your instructor(s) assigns. Save your annotations so that you can submit them (or pictures of them) as evidence with your project.

Watch the following video to learn more about annotation:



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=20#oembed-1>

1.4 DEVELOP AN OUTLINE WHILE READING

Many students find that creating a formal outline helps them to identify the most important topics when reading a text. You can create a formal outline by using Roman numerals for each new topic. Then, move down a line, indent a few spaces to the right, and use a capital letter for concepts related to the previous topic. Next, move to the following line, indent a few more spaces over, and use an Arabic numeral to add details to support the concept. You can continue to add to a formal outline by following these rules.

The following sample formal outline shows this basic pattern:

- I. Dogs (*main topic—usually general*)
 - A. German Shepherd (*concept related to the main topic*)
 - 1. Protection (*supporting info about the concept*)
 - 2. Assertive
 - 3. Loyal
 - B. Weimaraner (*concept related to the main topic*)
 - 1. Family-friendly (*supporting info about the concept*)
 - 2. Active
 - 3. Healthy

You don't absolutely have to use formal numerals and letters, but you have to then be careful to indent so you can tell when you move from a higher level topic to the related concepts and then to the supporting information. Select [Nathan Perez's Outline](#) to view an example of an outline using bullet points. If you select this strategy for your Study Skills project, develop an outline each time

you read a chapter, article, or text for your course(s). Save your outlines so that you can submit them as evidence with your project.

1.5 LOOK UP DEFINITIONS OF KEY VOCABULARY

As you read, you will no doubt come across words you do not know. Do not simply continue reading. Two strong skills are looking up words in a dictionary (online or hard copy) to ensure you have the exact meaning for your discipline and keeping a dedicated list of words you see often in your readings. You can list the words with a short definition so you have a quick reference guide to help you learn the vocabulary. Consider starting a vocabulary list in your journal. Or create a deck of index cards with new words on one side and definitions on the other. Developing an extensive vocabulary is a great success strategy.

If you select this strategy for your Study Skills project, as you come across new words you do not know the meaning of in your reading, stop and write down the word either on a sheet of paper or an index card. Then look up and write the definition of the word. It is also a success strategy to write the word in a sentence you create so you better understand the meaning of the word and how to use it properly in a sentence. You will submit lists of vocabulary words or decks of index cards along with the study logs at the end of this project.

1.6 WRITE SUMMARIES

Proficient students understand that summarizing, identifying what is most important

and restating the text (or other media) in your own words, is an important tool for college success.

After all, if you really know a subject, you will be able to summarize it. If you cannot summarize a subject, even if you have memorized all the facts about it, you cannot be absolutely sure that you have learned it. And, if you truly learn the subject, you will still be able to summarize it months or years from now.

To summarize you must read a passage closely, looking for the main ideas and supporting ideas. Then you must briefly write down those ideas in a few sentences or a paragraph in your own words.

Steps to Write a Summary

Complete the following steps to develop an effective summary:

1. Read and reread the text until you fully understand it. Take notes as you read and use your own words.
2. Identify the author's most important points, using keywords and phrases.
3. Review the original text multiple times, ensuring you don't miss any critical points.
4. Write the summary from your notes and keep the summary much shorter than the original text.
5. Check your summary against the original to make sure that you have not changed the meaning of the original text.
6. Review, revise, and edit your summary.
7. Include the original source in the references for a

written document.

Summary Writing Format

Then, ensure that you format your summary as follows:

- When writing a summary, remember that it should be in the form of a paragraph.
- A summary begins with an introductory sentence that states the text's title, the author(s), and the main point of the text as you see it.
- A summary is written in your own words.
- A summary contains only the ideas of the original text. Do not insert any of your own opinions, interpretations, or comments into a summary.
- Identify in order the significant sub-claims the author uses to defend the main point.
- If it is necessary, copy word-for-word a passage from the text that you think must be stated in the author's original words. Cite this passage by first signaling the work and the author. Then put "quotation marks" around the passage you chose, and put the page number or the number of the paragraph where the passage can be found immediately after the passage. However, when possible avoid citing the author's direct words because it is best to write the ideas in your own way.
- Write a last sentence that "wraps" up your summary; often a simple rephrasing of the main point.

Example Summary Writing Format

In the essay, “Santa Ana,” author Joan Didion describes *[state the main idea of the text in your own words.]* According to Didion, *[state the first main point in your own words.]* Didion also writes *[state the second main point in your own words.]* Finally, she explains *[state the third main point in your own words.]* Overall, Didion encourages readers to *[write a last sentence that “wraps” up your summary, often a simple rephrasing of the main point].*

One advantage to writing effective summaries is that you don’t have to go back and reread the entire chapter when you’re preparing for a quiz, writing a paper, or reviewing with a study partner. Instead, you can review your notes and the summary.

For more descriptive and in-depth discussions on how to summarize, view these short videos.



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If you select this strategy for your Study Skills project, develop summaries each time you read a chapter, article, or website for your course(s). Save your summaries so that you can submit them as evidence with your project.

LICENSES AND ATTRIBUTION

The introduction was adapted from Brogan Sullivan, Writing Commons, licensed under a Creative Commons Attribution License 4.0, available at <https://writingcommons.org/article/active-reading/>.

Section 1.1 was adapted from OpenStax *College Success*, licensed under a Creative Commons Attribution License 4.0. Access for free at <https://openstax.org/books/college-success/pages/1-introduction>.

Section 1.3 was adapted from “Purposeful Annotations for Text Dependent Analysis (TDA)” by the Pennsylvania Department of Education, licensed under a Creative Commons Attribution License 4.0.

Section 1.4 was adapted from “Why Take Notes” by the University of Minnesota and OpenStax *College Success* accessed for free at <https://openstax.org/books/college-success/pages/1-introduction>, both sources licensed under a Creative Commons Attribution License 4.0.

Section 1.6 was adapted from “How to Write a Summary” from English Composition I: Rhetorical-

methods Based by Lumen licensed under a Creative Commons Attribution License 4.0, available at <https://courses.lumenlearning.com/englishcomp1v2xmaster/chapter/how-to-write-a-summary/>.

INTRODUCTION

Next to reading, effective writing is probably the second most important skill students need to be successful in college. In fact, in almost every college course, you will be required to do some writing. You will write compositions, term papers, journal entries, research papers, and lab reports. Additionally, you will have tests, exams, and quizzes that contain essay and short-answer questions. Thus, becoming an effective writer will increase your ability to earn good grades in college.

The main goal of writing is to communicate—whether that is in writing an essay, reporting the results of an experiment, or responding to questions on a test. In each case, it is important to write clearly so the reader understands the information you are conveying, the point you are making, or just for the pure enjoyment of reading.

The strategies listed in this section will assist you in becoming a more effective writer. Practice these strategies in all your writing assignments. They can be used to help improve your writing skills for most all types of writing assignments you will encounter in college. Select the title of each section below to learn more about these strategies.

2.1 USE PREWRITING TECHNIQUES

Many students see prewriting as a waste of time and jump right into drafting a writing assignment. However, when you skip over the first steps of writing and move straight to drafting, the process of writing may take much more time.

Proficient writers know prewriting is important because it allows you to generate ideas to frame your thinking and provide a broad range of content. Spending time planning your writing will ensure that the best of your ideas come together in a cohesive way. This will also make the drafting and revising process easier and result in a higher-quality finished piece.

Here are three prewriting techniques you may find helpful:

Technique 1: Brainstorming

Brainstorming is a technique of listing as many ideas as possible about your writing topic. The greatest rule of brainstorming is to keep the process as broad and open as possible. Review the video below to learn more about brainstorming.



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When working on group assignments or problem-

solving, you might explore the brainstorming techniques described in the following video.

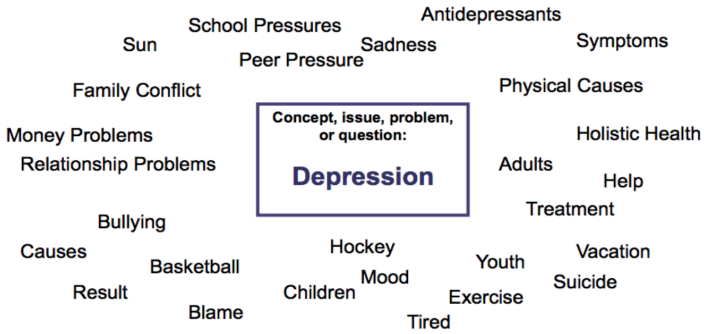


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There are some tips to keep in mind while brainstorming:

1. Do not censor. No criticism, judgment, or analysis of ideas should occur while brainstorming.
2. Quirky or off-the-wall ideas can be helpful. They may trigger other ideas that may end up being useful and more practical.
3. Do not concern yourself with organizing ideas. Focusing and organizing ideas will come later.
4. Give yourself time. Even if there is a lull or break in generating new ideas, give the process time. Sometimes the brain needs time to “percolate.”

Here is an example of some ideas generated around the topic of depression:



Technique 2: Mind Mapping

Mind mapping (or concept mapping) is similar to brainstorming, but it is much more visual. It allows you to create connections between ideas. It can be a useful step after brainstorming, or it may match your style better if brainstorming seems too random.

Select this link titled [Yasmin's Mind Maps](#) to view mind maps created by a former FYEX student. Then watch the following video to learn more about mind maps.



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Technique 3: Freewriting

Freewriting is a process of simply writing. When writers freewrite, they write whatever comes to mind without

worrying about spelling or grammar. Freewriting helps you get started and can expand your thinking. Watch the following video to learn more about freewriting.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=24#oembed-4>

If you choose this strategy for your Study Skills project, use a prewriting technique (brainstorming, mapping, or freewriting) for every writing assignment you are assigned in your course(s). You can type your ideas or handwrite them. Spend at least 15 minutes for each prewriting session, and try to write as much as you can. Save the ideas you develop through prewriting so that you can submit them as evidence with your project.

2.2 DEFINE YOUR THESIS

Your thesis is the engine of your writing assignment. It is the central point around which you gather, analyze, and present the relevant support and reasoning that makes up the body of your writing assignment. It is the center, the focal point. The thesis answers the question, “What is this paper all about?”

A strong thesis does not just state your topic but your perspective or feeling on the topic as well. It does so in a single, focused sentence (or two sentences, at most). It clearly tells readers what the essay describes, explains,

or argues, and it engages readers in your big idea(s) and perspective.

In an academic essay, thesis statements are usually found at the end of the introduction paragraph. Seasoned authors may play with this structure, but it is often better to learn the form before deviating from it.

If you select this strategy for your Study Skills project, use one of the following methods to define your thesis whenever you begin a writing assignment for your course(s).

Method 1: Topic and Angle

The thesis sentence is the key to most academic writing. The thesis should typically include two elements: the topic and the angle.

1. Topic: What you're writing about
2. Angle: What your main idea is about that topic

When defining your thesis, the goal is to include both the topic and the angle in one- to two-sentence thesis statement. By doing this, you will demonstrate to your instructor that you can offer your own insights, analyses, and ideas—not only that you understand the concepts you're studying, but also that you have thought about those concepts in your own way, agreed or disagreed, or developed your own unique ideas as a result of your analysis.

Here are some examples of how students have listed their topics and angles to assist them in developing a thesis:

Example Thesis #1

Topic: Regular exercise regime

Angle: Leads to multiple benefits

Thesis: A regular exercise regime leads to multiple benefits, both physical and emotional.

Example Thesis #2

Topic: Television viewing

Angle: Challenging because shows shifted, similar programming, and commercials

Thesis: The economics of television have made the viewing experience challenging for many viewers because shows are not offered regularly, similar programming occurs at the same time, and commercials are rampant.

Method 2: Thesis Template

When you are provided a specific question in a prompt (the assignment's instructions), you may find it helpful to use a template to define your thesis. This template (shown below) asks you to identify the topic and question(s) that your instructor has included in the writing prompt, or instructions for the assignment.

Below, the student has been asked to write about *the role of municipal governments in promoting pro-environment behaviors*, and the instructor has posed the questions:

“Which is better for promoting pro-environment behaviors: incentives or fines? Why?” in the writing prompt.

The student uses the topic and the questions to create an answer, which becomes the student’s thesis.

<p>Step 1: Topic What is the assignment about?</p> <p>Example topic: <i>The role of municipal governments in promoting pro-environment behaviors.</i></p>	<p>Step 2: Question What is the question you are supposed to answer? (Is there more than one question?)</p> <p>Example question: <i>Which is better for promoting pro-environment behaviors: incentives or fines? Why?</i></p>	<p>Step 3: Answer (Thesis) Answer the question to form a thesis statement.</p> <p>Example thesis statement: <i>Municipal governments can best promote pro-environment behaviors by providing incentives such as tax deductions and rebates; these positive approaches appeal to the public and make them feel good about helping the environment.</i></p>
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When you are asked to develop a writing assignment and your instructor has allowed you to select your own topic, you might use the following template. Begin by writing the area or issue that interests you in the first column. Then, identify a problem, controversy, or uncertainty about your topic and place this in the second column. Next, develop a question based on the problem, controversy, or uncertainty, and place this question in the third column. Finally, Develop an answer to your question. Ensure that your answer includes the topic and your perspective on the problem, controversy, or uncertainty. Readers should be able to imagine what your assignment will describe by reading your thesis.

<p>Step 1: Topic What area or issue are you interested in?</p> <p>Example topic: Using laptops to study in college</p>	<p>Step 2: Problem Within your topic, where is there a controversy or uncertainty? What bothers you or seems strange?</p> <p>Example problem: It is unclear whether using laptops helps or hinders academic success in college.</p>	<p>Step 3: Question What is a question you might ask about this problem?</p> <p>Example question: Are laptops an effective tool for academic success in college?</p>	<p>Step 4: Answer Answer the question you developed to form a thesis.</p> <p>Example thesis: Although laptops may appear to be a useful study tool, the risks of using laptops for studying actually outweigh the benefits.</p>
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If you select this strategy for your Study Skills project, complete one of the methods listed above to define your thesis for each writing assignment you are asked to complete in your course(s). You may type or handwrite your ideas. Save your ideas for each thesis and assignment so that you can turn in evidence with your project.

2.3 ORGANIZE YOUR IDEAS BEFORE WRITING

When you write, you need to organize your ideas in an order that makes sense. The writing you complete in all your courses exposes how analytically and critically your mind works. In some courses, the only direct contact you may have with your instructor is through the assignments you write for the course. You can make a good impression by spending time ordering your ideas.

Order refers to your choice of what to present first, second, third, and so on in your writing. The order you pick closely relates to your purpose for writing that particular assignment. For example, when telling a story, it may be important to first describe the background for the action. Or you may need to first describe a 3-D movie projector or a television studio to help readers visualize the setting and scene. You may want to group your support effectively to convince readers that your point of view on an issue is well reasoned and worthy of belief.

In longer pieces of writing, you may organize different parts in different ways so that your purpose stands out clearly and all parts of the paper work together to consistently develop your main point.

Methods of Organizing Writing

The three common methods of organizing writing

are chronological order, spatial order, and order of importance.

Chronological Order

Chronological order is mostly used in expository writing, which is a form of writing that narrates, describes, informs, or explains a process. When using chronological order, arrange the events in the order that they actually happened, or will happen if you are giving instructions. This method requires you to use words such as first, second, then, after that, later, and finally. These transition words guide you and your reader through the paper as you expand your thesis.

For example, if you are writing an essay about the history of the airline industry, you would begin with its conception and detail the essential timeline of events up until present day. You would follow the chain of events using words such as *first*, *then*, *next*, and so on.

Order of Importance

Order of importance is most appropriate in a persuasive paper as well as for essays in which you rank things, people, or events by their significance. Most essays move from the least to the most important point, and the paragraphs are arranged in an effort to build the essay's strength. Sometimes, however, it is necessary to begin with your most important supporting point, such as in an essay that contains a thesis that is highly debatable. When writing a persuasive essay, it is best to begin with the most important point because it immediately captivates your readers and compels them to continue reading.

For example, if you were supporting your thesis that

homework is detrimental to the education of high school students, you would want to present your most convincing argument first, and then move on to the less important points for your case. Some key transitional words you should use with this method of organization are *most importantly*, *almost as importantly*, *just as importantly*, and *finally*.

Spatial Order

Spatial order means that you explain or describe objects as they are arranged around you in your space, for example in a bedroom. As the writer, you create a picture for your reader, and their perspective is the viewpoint from which you describe what is around you. The view must move in an orderly, logical progression, giving the reader clear directional signals to follow from place to place.

The key to using this method is to choose a specific starting point and then guide the reader to follow your eye as it moves in an orderly trajectory from your starting point. You might use spatial transition words such as *above*, *below*, *beneath*, *beside*, *near*, *over*, and *under*.

Organize Writing in an Outline

Keep these three methods of organization in mind as you plan how to arrange the ideas you will describe in your writing assignment. One way to organize ideas is through an outline, which is a written plan that serves as a skeleton for the paragraphs you write. Later, when you draft paragraphs in the next stage of the writing process, you will add support to your assignment.

When you write, your goal is not only to complete

an assignment but also to write for a specific purpose—perhaps to inform, to explain, to persuade, or for a combination of these purposes. Your purpose for writing should always be in the back of your mind, because it will help you decide which pieces of information belong together and how you will order them. In other words, choose the order that will most effectively fit your purpose and support your main point.

Watch the following video to see examples of outlines.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=24#oembed-5>

If you choose this strategy for your Study Skills project, create an outline for every writing assignment you are assigned in your course(s). Follow one of the three methods of organization: chronological order, order of importance, or spatial order. Choose the organization method that is most appropriate for the purpose of your assignment. Use a sheet of paper or a Word document for each outline you create. Include the following in your outlines:

- Place your introduction and thesis statement (or main idea) at the beginning, under roman numeral I.
- Use roman numerals (II, III, IV, V, etc.) to identify the main supporting ideas or points that develop

the thesis statement.

- Use capital letters (A, B, C, D, etc.) to divide your main points into parts.
- Use Arabic numerals (1, 2, 3, 4, 5, etc.) if you need to subdivide any As, Bs, or Cs into smaller parts.
- End with the final Roman numeral expressing your idea for your conclusion.

Save your outlines so that you can submit them as evidence with your project.

2.4 CREATE A POST-DRAFT OUTLINE

After you have completed a draft of a writing assignment, a post-draft outline can help you during the revision process. A post-draft outline can help you quickly see where you went with your writing assignment and can help you more easily see if you need to make broad changes to the content or organization. Watch the [video about post-draft outlines by Excelsior Writing Lab](#) to learn how to create a post-draft outline.

If you choose this strategy for your Study Skills project, create a post-draft outline for every writing assignment you are assigned in your course(s). Use a sheet of paper or a Word document for each post-draft outline you create. Your outline should list your paragraphs and summarize the point you make in each paragraph. Also, include notes about changes you plan to make to your assignment after creating the post-draft outline. For instance, do you plan to separate

a paragraph with several topics into separate, focused paragraphs? Do you plan to add more support to a paragraph? Will you rearrange your ideas to create a stronger argument? Save your post-draft outlines so that you can submit them as evidence with your project.

2.5 REVISE YOUR WRITING

Writers use critical questions to find cracks and crannies, places where they need to develop or clarify their thinking. In their pursuit of clearly expressed, well-developed ideas, writers find soft spots—that is, passages that need to be developed or discarded and sections that just don't feel right—that feel mushy like cereal that has been sitting for too long in sour milk. They ruthlessly ask “So what?” and “Who cares?” and reexamine their work, because they know reconsidering a line or even a word may give birth to a new idea or to reconsideration of what has been written.

If you choose this strategy for your Study Skills project, select at least two questions from each of the sections below (purpose, evidence, organization, and style or conventions) to assist you in revising each writing assignment that you complete in your course(s). Choose the questions that seem most relevant to your writing assignment. List the questions and your answers on a sheet of paper. Use the answers you write to assist you in revising your writing assignment. Save evidence of your revision questions and answers so that you can submit them with your project.

Purpose

- What is your thesis? Have you expressed your thesis in your introduction and reinforced it in your conclusion?
- Will readers understand your reasons for writing? Have you provided the specific examples, concrete language, careful reasoning, and supporting evidence that they need in order to understand your position?
- In what ways have you fulfilled the assignment requirements in terms of purpose, length, audience, required/appropriate sources, appropriate tone, and rhetorical stance?
- What makes your thesis arguable, controversial, and/or insightful?
- How does your thesis reflect your paper's purpose?
- How have you advanced your thesis through convincing and compelling ideas?
- How does each paragraph—along with all the sentences it contains—support your main idea?
- Can you make your assignment more enjoyable to read by offering more examples?

Evidence

- How credible (trustworthy) are your sources? How can you demonstrate the source's credibility to the reader?
- In what ways can you provide supporting details

to best back up your claims (i.e., anecdotal evidence and hypothetical examples)?

- How are your sources or details relevant to your thesis and purpose?
- Can the reader distinguish between your ideas and those of your sources?
- How can you better integrate your sources and details into your argument instead of letting them speak for you?
- How much of the quote is vital to make your point?
- What might be a more appropriate approach for this sourced material (i.e., summary, paraphrase, or quotation)?
- Where is the evidence to back up your assertions?

Organization

- In what ways does your introduction engage your reader?
- How do your topic sentences relate to your thesis?
- How do your topic sentences indicate the purpose of each paragraph, and within each paragraph, how do all of your ideas pertain to the topic of the paragraph?
- Where do you use appropriate transitions to connect ideas between sentences? In what ways do you preview or signal to your reader? In other words, how might you give your reader a heads-up before you shift ideas as well as a nod toward

the ideas that have come before?

- How does your conclusion answer the “so what” question?
 - In what manner have you reiterated your ideas?
 - In what way have you provided a call to action?
 - With what have you left your reader to think about at the end of your paper?
- How can your ideas be arranged in a more logical order?
- How have you distinguished between main ideas and details?
- In what ways might you improve the flow or cohesiveness of your paper?

Style or Conventions

- How might you address the grammatical issues that occur throughout your essay? Check for issues with subject/verb agreement, pronoun reference problems, run-ons/fused sentences/comma splices, fragments, or dangling or misplaced modifiers.
- Can you identify places in your text where either punctuation is missing or where the purpose of this punctuation is unclear? How might you correct these punctuation issues?
- What is the appropriate point of view for this text based on your audience and purpose?

- You tend to use less explicit descriptions (such as clichés, qualifiers, wordy constructions, overuse of prepositional phrases, or vague constructions). How might your discussion be more precise and engaging?
- How might you revise this sentence to make it clearer, more active, more convincing, and more connected to other sentences or ideas?
- Are there places in your paper where the word choice is inappropriate for your audience? What might be more appropriate?

2.6 MEET WITH A TUTOR

Getting help from a tutor is one of the habits that every student can benefit from. Not only will you get immediate help with the academic issue but you also develop a supportive relationship that can be helpful for years to come. Some caveats—not every tutor/student relationship works out. You may need to experiment to find a person that works best for you.

As the student, you need to prepare for the tutoring session so that it is productive and useful. In math class that might mean coming with sample problems that are giving you trouble or a list of concepts you need more help with. For English classes or writing assignments, you may need to bring in a draft of your assignment as well as a list of concerns you would like addressed in the tutoring session.

Don't be surprised that tutors will often not help with an actual homework problem or with editing your writing. Their job is to help you understand the concepts well enough to do the homework yourself. Some students

arrange to do their homework in the tutoring center so that they can ask for help whenever they run into problems. What a great idea!

At CNM both in-person and online tutoring is available. You can call (505) 224-4306 or [visit the CNM ACE Tutoring website](#) to get information about the times and services available. CNM students can also access [a comprehensive list of online services](#).

If you choose this strategy for your Study Skills project, keep track of dates and times you meet with a tutor as well as the topics and assignments you work on with the tutors. You can report results from assignments, projects, and quizzes as well as how you feel about the tutoring process when using this strategy.

2.7 KEEP AN ERROR LOG

An error log is a document that lists all your mistakes (errors) in your writing and how to correct them. It is designed to help you learn from your mistakes. An error log is a great way to record, review, and remember errors you have corrected so that you can avoid these errors in the future. When you receive feedback about a mistake in your writing, whether it is in punctuation, grammar, or spelling, you create an entry in your error log that includes the error and how to correct it. You should also include your revised sentence or paragraph so that you can see how you corrected the error.

A simple method to use is a three-column technique, where the first column lists the error you made (spelling, grammatical, punctuation, etc. and highlighting/underlining the error), the second column lists the error

or explains what the error is, and the third column is a correction of the error.

Error	Explanation	Correction
<p>One of the struggles I have as a freshman college student is keeping up with all of the righting assignments.</p>	<p>I used the incorrect word. The correct word is <i>write</i>.</p>	<p>One of the struggles I have as a freshman college student is keeping up with all of the writing assignments.</p>
<p>When my instructor assigns a writing assignment.</p>	<p>I wrote a fragment, which is an incomplete sentence. This sentence was a fragment due to the word <i>when</i>. I combined the fragment with the next sentence to create one complete sentence.</p>	<p>When my instructor assigns a writing assignment, I need to get started immediately so that I do not procrastinate.</p>
<p>Another struggle I have is revising my writing so that it meets the requirements [punctuation is missing here] I need to ensure that I give myself time to revise.</p>	<p>I wrote a run-on sentence because I forgot to separate the two complete sentences. I added a period to correct this error.</p>	<p>Another struggle I have is revising my writing so that it meets the requirements. I need to ensure that I give myself time to revise.</p>
<p>I have learned that providing feedback on my classmates assignments can help me think about the changes I can make to my own writing.</p>	<p>I forgot to include an apostrophe to show possession. Since the assignments belong to my classmates, an apostrophe needs to be added after the word <i>classmates</i> to show that the assignments belong to them.</p>	<p>I have learned that providing feedback on my classmates' assignments can help me think about the changes I can make to my own writing.</p>

If you select this strategy for your Study Skills project, you will need to keep an error log for all of your writing assignments. This document will be submitted at the end of this project along with your study logs.

LICENSES AND ATTRIBUTION

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INTRODUCTION

One of the many challenges students face as they begin their college career is how to create and use study materials that ultimately lead to success in both classroom learning and high scores on assignments and exams.

Foremost in having effective study skills is to approach all your learning activities with a growth mindset. A growth mindset means you believe that intelligence is like a muscle—it gets stronger the more it’s used. The more we exercise our brains, the more neural networks are created and the “smarter” we become. We exercise our brain by engaging in studying and practicing what we are learning on a daily basis and having a positive belief about the value of what we are studying.

Working hard, using effective learning strategies, and creating and using study materials improves our ability to learn and ultimately, results in better outcomes and higher academic achievement. The strategies listed in the Creating and Using Study Materials chapter are six of the most effective strategies to use when learning new material, preparing for class activities, and/or studying for an exam.

This video provides information on how to study effectively with six essential skills.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=28#oembed-1>

Select the title of each section below to learn more about six of the most effective strategies to explore when creating and using study materials.

3.1 CREATE OUTLINES

Many students find that creating a formal outline helps them to identify the most important topics when listening to a lecture or reading a text. You can create a formal outline by using Roman numerals for each new topic. Then, move down a line, indent a few spaces to the right, and use a capital letter for concepts related to the previous topic. Next, move to the following line, indent a few more spaces over, and use an Arabic numeral to add details to support the concept. You can continue to add to a formal outline by following these rules.

The following sample formal outline shows this basic pattern:

- I. Dogs (*main topic—usually general*)
 - A. German Shepherd (*concept related to the main topic*)
 - 1. Protection (*supporting info about the concept*)
 - 2. Assertive
 - 3. Loyal
 - B. Weimaraner (*concept related to the main topic*)
 - 1. Family-friendly (*supporting info about the concept*)
 - 2. Active
 - 3. Healthy

You don't absolutely have to use formal numerals and letters, but you have to then be careful to indent so you can tell when you move from a higher level topic to the related concepts and then to the supporting information.

The main benefit of an outline is how organized it is. However, you do have to be on your toes when you are taking notes in class to ensure you keep up with the

organizational format of the outline. This can be tricky if the lecture or presentation is moving quickly or covering many diverse topics.

You would just continue on with this sort of numbering and indenting format to show the connections between main ideas, concepts, and supporting details. Whatever details you do not capture in your notetaking session, you can add after the lecture as you review your outline.

If you select this strategy for your Study Skills project, create an outline to assist you in studying for each quiz or exam that is assigned in your course(s). Use your course readings—including textbooks, articles, and websites—to assist you in creating your outlines. Identify the main ideas, concepts, and supporting details. Carefully organize your outline to identify higher-level topics, related concepts, and supporting information. Save your outlines so that you can submit them with your project.

3.2 CREATE CONCEPT MAPS

Concept mapping or *mind mapping* is a notetaking method that appeals to learners who prefer a visual representation of notes. Variations of this method abound, so you may want to look for more versions online, but the basic principles are that you are making connections between main ideas through a graphic depiction; some can get rather elaborate with colors and shapes, but a simple version may be more useful at least to begin. Main ideas can be circled or placed in a box with supporting concepts radiating off these ideas shown with a connecting line and possibly details of the support further radiating off the concepts. You can present your main ideas vertically or horizontally, but turning your

paper long-ways, or in landscape mode, may prove helpful as you add more main ideas.

Watch the following video to see examples of concept mapping or mind mapping.



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You may be interested in trying visual notetaking or adding pictures to your notes for clarity. Sometimes when you can't come up with the exact wording to explain something or you're trying to add information for complex ideas in your notes, sketching a rough image of the idea can help you remember.

According to educator Sherrill Knezel in an article entitled "The Power of Visual Notetaking," this strategy is effective because "When students use images and text in notetaking, it gives them two different ways to pull up the information, doubling their chances of recall." Don't shy away from this creative approach to notetaking just because you believe you aren't an artist; the images don't need to be perfect.

If you select this strategy for your Study Skills project, create a concept map to assist you in studying for each quiz or exam that is assigned in your course(s). Use your course readings—including textbooks, articles, and websites—to assist you in creating your concept maps. Identify the main ideas, concepts, and supporting details.

Carefully organize your concept map to identify higher-level topics, related concepts, and supporting information. Save your concept maps so that you can submit them with your project.

3.3 CREATE CORNELL STUDY SHEETS

One of the most recognizable notetaking systems is called the *Cornell Method*, a relatively simple way to take effective notes devised by Cornell University education professor Dr. Walter Pauk in the 1940s.

In this system, you take a standard sheet of paper and complete the following:

1. Write the title of the course, the topic or objective, and your name at the top of the page.
2. Draw a horizontal line across your paper about one to two inches from the bottom of the page (to create the summary area).
3. Draw a vertical line to separate the rest of the page above this bottom area, making the left side about two inches (the recall column) and leaving the biggest area to the right of your vertical line (the notes column).

Topic/Objective:		Name:	
		Class/Period:	
		Date:	
Essential Questions:			
Questions:		Notes:	
Summary:			

Figure 3.1 *The Cornell Method provides a straightforward, organized, and flexible approach*

You may want to make one page and then copy as many pages as you think you’ll need for any particular class, but one advantage of this system is that you can generate the sections quickly. Because you have divided up your page, you may end up using more paper than you would if you were writing on the entire page, but the point is not to keep your notes to as few pages as possible.

The Cornell Method provides you with a well-organized set of notes that will help you study and review

your notes as you move through the course. If you are taking notes on your computer, you can still use the Cornell Method in Word or Excel on your own or by using a template someone else created.

The beauty of the Cornell Method is its organized simplicity. Just write on one side of the page (the right-hand notes column)—this will help later when you are reviewing and revising your notes. During your notetaking session, use the notes column to record information over the main points and concepts of the lecture; try to put the ideas into your own words, which will help you not transcribe the speaker's words verbatim. Skip lines between each idea in this column. You can use bullet points or phrases to convey meaning—we do it all the time in conversation. If you know you will need to expand the notes you are taking in class but don't have time, you can put reminders directly in the notes by adding and underlining the word *expand* by the ideas you need to develop more fully.

The main advantage of the Cornell Method is that you are setting yourself up to have organized, workable notes. The neat format helps you move into study-mode without needing to re-copy less organized notes.

If you select this strategy for your Study Skills project, create Cornell Notes to assist you in studying for each quiz or exam that is assigned in your course(s). Set up your Cornell note-taking sheet as described above. Use your course readings—including textbooks, articles, and websites—to assist you in creating your Cornell notes. Identify the main ideas and concepts, and list these concepts on the left side of your note-taking sheet. Take notes on the right side of your note sheet. Finally, write a summary of the source at the bottom of the note sheet.

Save your Cornell note sheets so that you can submit them with your project.

Using this strategy will also require you to use the strategy **4.2 Use Cornell Study Sheets** in [Chapter 4: Studying and Preparing for Tests](#).

Watch the following video to learn more about the Cornell method:



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=28#oembed-3>

3.4 ANNOTATE YOUR NOTES

Annotating notes after the initial notetaking session may be one of the most valuable study skills you can master. Whether you are highlighting, underlining, or adding additional notes, you are reinforcing the material in your mind and memory.

Admit it—who can resist highlighting markers? Gone are the days when yellow was the star of the show, and you had to be very careful not to press too firmly for fear of obliterating the words you were attempting to emphasize. Students now have a veritable rainbow of highlighting options and can color-code notes and text passages to their hearts' content.

The only reason to highlight anything is to draw attention to it, so you can easily pick out that ever-so-important information later for further study or

reflection. One problem many students have is not knowing when to stop. If what you need to recall from the passage is a particularly apt and succinct definition of the term important to your discipline, highlighting the entire paragraph is less effective than highlighting just the actual term. If you don't rein in this tendency to color long passages (possibly in multiple colors) you can end up with a whole page of highlighted text. Ironically, that is no different from a page that is not highlighted at all, so you have wasted your time. Your mantra for highlighting text should be *less is more*. Always read your text selection first before you start highlighting anything. You need to know what the overall message is before you start placing emphasis by highlighting.

Another way to annotate notes after initial notetaking is underlying significant words or passages. Albeit not quite as much fun as its colorful cousin highlighting, underlining provides precision to your emphasis.

Some people think of annotations as only using a colored highlighter to mark certain words or phrases for emphasis. Actually, annotations can refer to anything you do with a text to enhance it for your particular use (either a printed text, handwritten notes, or other sorts of documents you are using to learn concepts). The annotations may include highlighting passages or vocabulary, defining those unfamiliar terms once you look them up, writing questions in the margin of a book, underlining or circling key terms, or otherwise marking a text for future reference. You can also annotate some electronic texts.

Realistically, you may end up doing all of these types of annotations at different times. We know that repetition in studying and reviewing is critical to learning, so you may

come back to the same passage and annotate it separately. These various markings can be invaluable to you as a study guide and as a way to see the evolution of your learning about a topic. If you regularly begin a reading session writing down any questions you may have about the topic of that chapter or section and also write out answers to those questions at the end of the reading selection, you will have a good start to what that chapter covered when you eventually need to study for an exam. At that point, you likely will not have time to reread the entire selection especially if it is a long reading selection, but with strong annotations in conjunction with your class notes, you won't need to do that. With experience in reading discipline-specific texts and writing essays or taking exams in that field, you will know better what sort of questions to ask in your annotations.

What you have to keep in the front of your mind while you are annotating, especially if you are going to conduct multiple annotation sessions, is to not overdo whatever method you use. Be judicious about what you annotate and how you do it on the page, which means you must be neat about it. Otherwise, you end up with a mess of either color or symbols combined with some cryptic notes that probably took you quite a long time to create, but won't be worth as much to you as a study aid as they could be. This is simply a waste of time and effort.

If you are annotating your own notes, you can make a habit of using only one side of the paper in class, so that if you need to add more notes later, you could use the other side. You can also add a blank page to your notes before beginning the next class date in your notebook so you'll end up with extra paper for annotations when you study.

If you select this strategy for your Study Skills project,

annotate your notes to assist you in studying for each quiz or exam that is assigned in your course(s). Using the notes you have taken during lectures or while reading, use a different color pen to annotate your notes. Highlight or mark key terms, add definitions for key terms, underline significant words or passages, and add additional notes to make connections between concepts or sources. Save your annotated notes so that you can submit them with your project.

3.5 CREATE FLASHCARDS

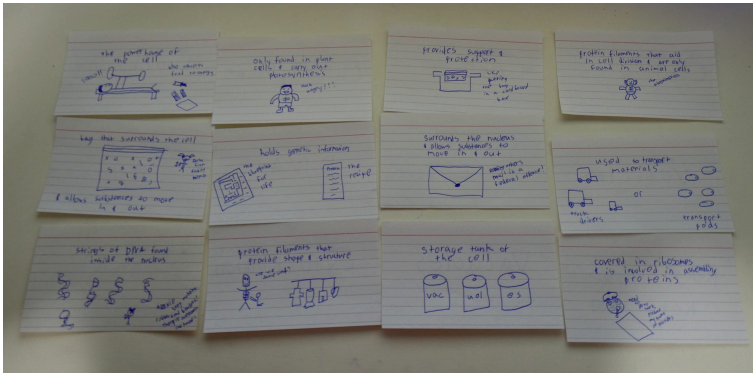
Flashcards are an easy-to-use and versatile study tool. In addition to using them to learn simple facts, you can use them to learn complex information and processes throughout your academic career.

A flashcard is a card with information on both sides. Each flashcard contains a word or question on one side and the definition or meaning of the word or answer to the question on the other. Flashcards are often used to memorize vocabulary, historical dates, formulas, or any content that can be learned via a question-and-answer format.

To maximize your effectiveness in creating flashcards, here are some basic strategies to use:


- Make your own flashcards.
- Mix pictures and words.
- Write only one question per card.
- Use mnemonics—memory aides—whenever possible.

Review the following flashcards created by an FYEX student.



Flashcards created by FYEX Student Megan Biricocchi, used by permission

For a more descriptive and in-depth video on how to create and effectively use flashcards to study and learn material, watch the following video:

 One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=28#oembed-4>

If you choose this strategy for your Study Skills project, you will need to select at least one of the classes you are taking and create flashcards for this class on a weekly basis. You will need to keep all flashcards you create.

Using this strategy will also require you to use the study strategy **4.3 Study with Flashcards**, in [Chapter 4: Studying and Preparing for Tests](#).

3.6 CREATE AUDIO RECORDINGS

Have you ever wanted a quicker, easier way to take notes? By creating audio notes you will save time and engage your brain in ways that will produce lasting learning. It's a simple concept; instead of organizing your notes on paper, you will record them using audio files.

If you select this strategy for your Study Skills project, create weekly voice notes for at least one of your courses. If you have a windows-based computer you can use Voice Recorder. Or you can use your phone (you may need to download an app). Once you have your device set up, you should talk to your device as if it is your 'study buddy.' Making the recordings is a great way to evaluate what you know (and what you don't!), and what you can explain (and what you can't!). See the accompanying video for more details:



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You'll want to organize your audio files into a folder system and name them by topic or class so you can keep track of them. For your study logs, you can reflect on how you made recordings, how you have felt about learning materials this way, and how useful the voice files have been.

If you choose this strategy, it is strongly recommended that you also choose strategy **4.4 Listen to Self-Made**

Audio Recordings, in [Chapter 4: Studying and Preparing for Tests](#). That way you will receive credit for both creating and using the audio files.

LICENSES AND ATTRIBUTION

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INTRODUCTION

Tests and exams are an important part of the college experience. Doing well on these measures in your classes is an important factor in reaching your goals and developing into a confident, competent college student. The strategies in this section are all designed to foster deep, lasting learning that won't disappear on the day of the test. Most of the strategies require that you create and work with study materials. Therefore, for purposes of the Study Skills project, some of the strategies should be paired with strategies from the Creating and Using Study Materials section. At the end of the project, you will submit samples of the study materials you have created and used over the semester.

Before you select specific strategies below, you may find it helpful to review the [Guide on Avoiding Distractions and Creating a Study Environment](#) in the appendix of this open educational resource (OER).

Select the title of each section below to learn more about strategies that will assist you in studying and preparing for tests.

4.1 MEET WITH A TUTOR

Getting help from a tutor is one of the habits that every student can benefit from. Not only will you get immediate help with the academic issue, but you also develop a supportive relationship that can be helpful for years to come. Some caveats—not every tutor/student relationship works out. You may need to experiment to find a person that works best for you. As the student, you need to prepare for the tutoring session so that it is productive and useful. In math class that might mean coming with sample problems that are giving you trouble or a list of concepts that you need more help with. Don't be surprised that tutors will often not help with an actual homework problem. Their job is to help you understand the concepts well enough to do the homework yourself. Some students arrange to do their homework in the tutoring center so that they can ask for help whenever they run into problems. What a great idea!

At CNM both in-person and online tutoring is available. You can call (505) 224-4306 or visit the [ACE Tutoring website](#) to get information about the times and services available. Students can access a [comprehensive list of online services](#).

If you choose this strategy for your Study Skills project, keep track of dates and times you meet with a tutor as well as the topics and assignments you work on with the tutors. You can report results from assignments, projects, and quizzes as well as how you feel about the tutoring process when using this strategy.

4.2 USE CORNELL STUDY SHEETS

This strategy should be used along with strategy 3.4

Create Cornell Notes in [Chapter 3: Creating and Using Study Material](#).

If you select this strategy for your Study Skills project, as soon as possible after your Cornell notetaking session, preferably within eight hours but no more than twenty-four hours, read over your notes column and fill in any details you missed in class, including the places where you indicated you wanted to expand your notes.

Then in the recall column, write any key ideas from the corresponding notes column—you can't fill this smaller recall column as if you're explaining or defining key ideas. Just add the one- or two-word main ideas; these words in the recall column serve as cues to help you remember the detailed information you recorded in the notes column.

Once you are satisfied with your notes and recall columns, summarize this page of notes in two or three sentences using the summary area at the bottom of the sheet.

This is also an excellent time to meet with another classmate or a group of students who all heard the same lecture to make sure you all understood the key points.

Now, before you move onto something else, cover the large notes column, and quiz yourself over the key ideas you recorded in the recall column. Repeat this step often as you go along, not just immediately before an exam. Using this strategy will help your memory make the connections between your notes, your textbook reading, your in-class work, and assignments to help you succeed on quizzes and exams.

Remember to save your Cornell note-taking sheets, which should include your original notes as well as any changes you have made when reviewing them. With your project, you can report results from this strategy by

describing what worked well and what you might change with your Cornell notes in the future.

4.3 STUDY WITH FLASHCARDS

Using this strategy will also require you to use the strategy **3.4 Create Flashcards** in [Chapter 3: Creating and Using Study Material](#).

Flashcards involve the mental process of active recall where one is given a prompt (the question) and then must produce or recall the answer. Active recall is far superior to learning information than simple recognition memory. Recognition memory is simply the ability to identify something as familiar or a situation that has been encountered previously. For example, when walking across campus you might recognize a student you have in one of your classes, but not remember their name. To remember their name involves the recalling of their name from memory. Another example would be that when taking a quiz or test you might recognize the word “Inner Guide” as a term that was mentioned in your course material and class lectures. Active recall would be knowing what the term means and how it fits into the course material.

Once you have created your flashcards you will need to use the cards to learn the material. Keep the following points in mind when using flashcards:

- Say answers out loud when studying
- Study your flashcards in both directions
- Use space retention, which means reviewing the cards over time

Various systems have been developed involving the concept of spaced repetition. Spaced repetition is the reviewing (studying) of material at systematic intervals rather than learning the information in a short time period, which can lead to quick forgetting.

Spaced repetition focuses on long-term retention of new information. For example, you will remember more information if you study for an exam for an hour every day for a week leading up to the exam than if you “crammed” and studied seven hours the night before an exam.

To use spaced repetition for studying with flashcards, new flashcards and more difficult flashcards are shown more frequently while older and less difficult flashcards are shown less frequently. A simple method to do this is when studying the flashcards to sort them into two piles—those that you know and those that you don’t know.

A simple system to use to study your flashcards is to view them as a stack or pile in which you store your flashcards. The stack or pile is then sorted into several piles, labeled 1, 2, and 3 (you could choose more piles as well). As you study, you then put each flashcard into the appropriate pile. If your flashcard is new you will put it in the first pile, where you repeat (practice/review) the flashcards every day. Flashcards that you know will be put into the second pile. Flashcards in the second pile are reviewed every second day. Flashcards that you know well are moved to the third pile and are reviewed every third day. Each pile has a different repetition interval, and the flashcards that you know well, get promoted to the next pile. When you cannot answer a flashcard correctly, you move it back to the first pile where the cycle starts again.

A good rule of thumb is to spend 20 to 30 minutes each day reviewing your flashcards.

When studying your flashcards make sure to say the answer out loud prior to turning the card over to check your answer. This ensures you are recalling the information (answer) rather than recognizing the information when you turn the card over.

Watch the following in-depth video on how to create and effectively use flashcards to study and learn material:



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=30#oembed-1>

If you select this strategy for your Study Skills project, you will need to keep track of the date, time, and number of flashcards in each pile at the end of each study session when you are studying your flashcards. To do this, create a chart like the example shown below. Then each time you study, fill in the information. You will submit the chart with your project.

Date	Time	Pile 1	Pile 2	Pile 3	Total # of Cards

4.4 LISTEN TO SELF-CREATED AUDIO RECORDINGS

By creating audio notes you have saved time and engaged your brain—now it’s time to use those recordings. To use the recordings you’ll need to listen to them and rerecord them where you need to add further explanation or clarify information. Where your recordings seem unclear go back to the source information, reread the text, or ask your instructor to clarify. Then rerecord or add your new understanding of the material. One great advantage of audio notes is you can listen to them virtually anywhere—in the car, on a walk, on a bus, etc. See the following video for more details:



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=30#oembed-2>

If you select this strategy for your Study Skills project, use your recording forms to reflect on how you listened to the recordings, how you feel about learning material this way, and how useful the voice files are.

If you choose this strategy, it is strongly recommended that you also choose strategy **3.6 Create Audio Recordings** in the [Creating and Using Study Material](#) chapter. That way you will receive credit for both creating and using the audio files.

4.5 TEACH WHAT YOU LEARN

If you choose this strategy, you are going to focus on teaching what you learn to someone else. You can even go through the motions of speaking to someone who's not there. That may sound a little strange, but the power of this technique is that it forces you to state things simply, and you can only do that when you understand the material. The following video gives a nice four-step process for how to do this:



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=30#oembed-3>

You'll also get introduced to Nobel Prize winning physicist Richard Feynman who was revered for his ability to explain complex ideas in simple, understandable ways. This is harder than it sounds, but the effort put in produces deep, lasting learning.

For your Study Skills recording forms, you can reflect on how you felt about teaching what you learned, how helpful it was to learning material for your class, and the results you experienced by using this strategy.

4.6 SPACE YOUR STUDY SESSIONS

Having a schedule you follow for studying is critical to success in college. Studying when you 'feel' like it is a recipe for disaster. Very few people ever 'feel' like

studying—there’s always something preferable to do. So having a study schedule and keeping to it is one of the best ways to keep on course. A study schedule needs to include several times a week you plan to read, write, study, work on homework, etc.

Watch the following video to learn about spaced repetition.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=30#oembed-4>

If you choose this strategy for your Study Skills project, you’ll need to create a personal schedule that reflects the times and days you have available for studying. You might develop a study schedule that looks like this:

Weekly Schedule

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
6:00							
6:30							
7:00							
7:30							
8:00							
8:30							
9:00							
9:30							
10:00							
10:30							
11:00							
11:30							
12:00							
12:30							

You'll use your study logs to reflect on what you do during the study times and how well you are able to keep to your schedule. There will be times when you do and times when you don't. Be honest about your efforts to keep to a study schedule. It will take a lot of self-discipline and sacrifice to stick to your schedule, but the results will be worth it.

4.7 USE INTERLEAVING

Interleaving is a studying technique that calls for students to mix up the content that is being studied. It's tempting to want to spend an entire study session on one sort of problem or subject area and then move on to different material later. However, studies show that mixing up the kind of problems or material you are studying can result in deeper, lasting learning. If you have set up a weekly study schedule you can add interleaving to it by planning to revisit material from a previous chapter or unit or including different types of problems or question sets. For example, in a one-hour study session, you might want to spend 20 minutes on science vocabulary, 20 minutes working a variety of math problems, and then 20 minutes reading for sociology. Although this may seem confusing it has the effect of 'waking up' your brain each time you switch to a new study task and this helps build long-term memory.

For your study skills recording forms, you can include copies of your interleaving plans/schedules and you can reflect on how well you were able to stick to them. You can also reflect on the interleaving process, how helpful it was to learning material for your class, and the results you experienced by using this strategy.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=30#oembed-5>

4.8 PRACTICE TESTING

One way to practice test is to create flashcards or an actual test by writing test questions. This takes time, but there are online programs such as Quizlet that make it a little easier. Textbooks and ebooks often include practice test questions you can use. You can also ask an instructor or a tutor to provide practice test materials. Practice testing is an effective study strategy because it helps you practice *retrieving* information, which is what you want to be able to do when you are taking the real test.

One of the best ways to practice test is to work with a partner. Ask that person to pose a question and then see if you can explain it to them, and *teach* them what you know. You may find you know more about the subject than you thought . . . or you may realize quickly that you need to do more studying.

For your study skills recording forms, be sure to include the details about the practice tests you created, what classes you used them for, and so on. You can also reflect on how you felt about practice testing, how helpful it was to learning material for your class, and the results you experienced by using this strategy.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=30#oembed-6>

4.9 MINDMAPPING

Mind Maps are a visual, creative way to review and visually represent information that you need to learn and retain for a class. Typically they are created from your class notes and textbook and become a visual summary of the information you may need to know for a test or exam. See the following video for more details and a demonstration of the procedure:



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=30#oembed-7>

If you choose this strategy for your Study Skills project, use your study logs to reflect on how you felt about creating mind maps, how helpful they were to learning material for your class, and the results you received on tests and exams.

4.10 REVIEW AND REVISE MISSED ITEMS ON TESTS

Creators learn from their mistakes and seldom make them twice. After taking a quiz or test and having it returned, do not just look for your score and file the document. Rather, get in the habit of carefully reviewing the test or quiz and correct the answers you missed. Go back to the textbook and/or your notes and find the section with the answer to the question. Review the information and then write down the correct answer to the question.

Reviewing your tests/exams and revising incorrect answers is an important activity in any course, but is absolutely essential in courses that build directly on previous knowledge, such as mathematics, foreign languages, and your FYEX 1110 course. Carrying forward incorrect information is a plan for future failure. Making sure you have the correct information sets you up for future success. Get in the habit of correcting mistakes on all tests and quizzes you take.

If you select this strategy for your Study Skills project, you will need to review the tests and quizzes you take and correct all missed questions. To do this, write the questions you missed on a sheet of paper, and then write the correct answer to the questions. This document will be submitted at the end of this project along with your study logs.

LICENSES AND ATTRIBUTION

Sections 4.6, 4.7, and 4.8 were adapted from OpenStax *College Success*, licensed under a Creative Commons Attribution License 4.0. Access for free

at <https://openstax.org/books/college-success/pages/1-introduction>.

INTRODUCTION

As Gail Levine from Nova Southeastern University explains, learning mathematics is different than learning most other subjects. In mathematics, special vocabulary and symbols are used, and it is important that you not only understand the concepts being presented but that you also apply these concepts. To be successful in mathematics, you need not only read, attend class, and study, but you must practice the skills as often as you can. Mathematics is not a subject you learn by watching; you must *do* mathematics to *learn* mathematics. The following strategies will assist you in doing or practicing math.

5.1 MAKE A STUDY SCHEDULE

Make a weekly schedule that includes work time, class time, other obligations, and family and recreational time. Then, mark off STUDY TIME. Make studying a regular activity in your life. Fill out a new schedule each semester or whenever there is a major change in your personal obligations. You might use a blank schedule like this. Include your classes, work schedule, and other activities. Then, add at least two or three hours of studying time per week for each course you are taking:

Circle the Day of the Week:

Monday, Tuesday, Wednesday, Thursday, Friday,
Saturday, or Sunday

Time	Write the Title of Activity
9:00 – 10:00 AM	
10:00 – 11:00 AM	
11:00 – 12:00 PM	
12:00 – 1:00 PM	
1:00 – 2:00 PM	
2:00 – 3:00 PM	
3:00 – 4:00 PM	
4:00 – 5:00 PM	
5:00 – 6:00 PM	
6:00 – 7:00 PM	
7:00 – 8:00 PM	
8:00 – 9:00 PM	

For many people, the weekends provide larger amounts of time for studying than do the weekdays. In mathematics, however, studying only on weekends is not usually effective. It is important to study math EVERY DAY, even if it is for only 30 minutes or an hour. If you must do most of your studying on one or two days of the week, break up your study periods. Study one subject for an hour, then take a break. Do some other activity for 10 to 15 minutes, then resume studying. Give a fair amount of time to all your subjects, so that none suffer from lack of studying.

If you choose this strategy for your Study Skills project, you'll need to create a personal schedule that reflects the times and days you have available for studying. A study schedule needs to include several times a week you plan to read, write, study, work on homework, etc. You'll use your study logs to reflect on what you do during the study times and how well you are able to keep to your schedule. There will be times when you do, and times when you don't. Be honest about your efforts to keep to a study schedule. It will take a lot of self-discipline and sacrifice to stick to your schedule, but the results will be worth it.

5.2 MEET WITH A TUTOR

Getting help from a tutor is one of the habits that every student can benefit from. Not only will you get immediate help with the academic issue but you also develop a supportive relationship that can be helpful for years to come. Some caveats—not every tutor/student relationship works out. You may need to experiment to find a person that works best for you. As the student, you need to prepare for the tutoring session so that it

is productive and useful. In math class that might mean coming with sample problems that are giving you trouble or a list of concepts you need more help with.

Don't be surprised that tutors will often not help with an actual homework problem. Their job is to help you understand the concepts well enough to do the homework yourself. Some students arrange to do their homework in the tutoring center so that they can ask for help whenever they run into problems. What a great idea!

At CNM both in-person and online tutoring is available. You can call (505) 224-4306 or [visit the CNM ACE Tutoring website](#) to get information about the times and services available. CNM students can also access [a comprehensive list of online services](#).

If you choose this strategy for your Study Skills project, keep track of dates and times you meet with a tutor as well as the topics and assignments you work on with the tutors. You can report results from assignments, projects and quizzes as well as how you feel about the tutoring process when using this strategy.

5.3 CREATE THREE-COLUMN NOTES

Three-column notes are a way to organize your notetaking for math courses so that you have a set of organized notes that are easy to review and study. Most college math courses have cumulative finals so having an organized set of notes is critically important at the end of the semester.

When creating three-column notes, you should use a standard sheet of paper and divide it into three columns:

1. **Problem:** Write the problem just as it appears in your assignment

2. **Procedure/Solution:** Show the steps or math procedure you took to get your answer. Draw a line or start a new table row to show where work on one problem stops and the next problem starts.
3. **Notes:** Write brief notes about the procedure and include the chapter/section/page numbers (so you can easily find them for reference).

Problem Write the problem just as it appears in ALEKS or your Textbook	Procedure/Solution Show the steps or procedure you took to get your answer. Draw a line or start a new table row to show where work on one problem stops and the next problem starts.	Notes/Corrections Write brief notes about the procedure you used and the chapter section numbers.

Watch the following video to learn how to set up and use the three-column notetaking system:



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.pub/studyskillsresources/?p=32#oembed-1>

5.4 COMPLETE HOMEWORK

Doing homework is a fundamental choice to make to be successful in a math class, but you'd be amazed at how many students don't follow through with homework assignments!

If you choose this strategy for your Study Skills project, use your study logs to record what work was assigned, how much of the work you got done, how much you didn't get done, and what your results were. Remember, your results can be both emotional (how did you feel when you completed your homework? How did you feel when you didn't?) and mental (Did you struggle with the concepts? Do you feel competent that you can tackle any of problems that are assigned? Do you have questions for your instructor or tutor?).

A note about doing homework: Do not just do the exercises at the beginning of the problem set. Usually, the exercises get harder as you move on. It is best to do some of each—from simpler to harder—at first, then go back and do the ones you skipped. Make notes to yourself as you do your homework, especially on concepts that

are not completely clear to you. You can ask about these problems during your next class meeting.

5.5 PREPARE FOR TESTS AND EXAMS

Use your notes, the textbook examples, or practice tests for this activity. As you complete homework assignments and get quiz results, collect problems that you know are challenging. Keep these problems on index cards (problem on one side, answer on the other) for later study. See below for a good process for using your cards to review.

Test preparation activity: After you finish the homework for a section, write two or three of the assigned exercises of average difficulty level from that section on a notecard, one exercise per card, with the solution on the back of the card.

Set these cards aside. When studying for a test on this material, shuffle the cards and then do the exercises again on paper in the order in which they come up. Check your solution for each exercise by looking at the back of the card. For exercises you do not complete correctly, put these cards in a separate stack and be sure to review those concepts again.

Doing this along with chapter reviews and tests will give you good practice for the test. It will also provide you with plenty of review exercises for the final exam.

If you choose this strategy for your Study Skills project, use your study logs to reflect on your efforts to create and study from your set of cards. You can report results from tests and quizzes and how you feel about your level of preparation when using this strategy.

5.6 COMPLETE TEXTBOOK EXAMPLES

In every math textbook, there are always a lot of extra problems given as examples. Your teacher may assign some of them, but for this strategy, you are going to assign yourself. Challenge yourself to do a few extra example problems each week.

Each example in the textbook is usually accompanied by a step-by-step procedure for completing it. This is a good source of feedback for you. When you begin your studying, you should re-read the sections of the textbook that were covered in class and work out each example. Cover the solution to the example, then work it out. You can refer to your notes, but try to not look at the solution. Check your solution with the textbook after you think you have completed it correctly. If you do not do it correctly, read the text once more and review your notes to try to understand why you did not get it correct.

This is a great strategy to use along with the strategy **5.5 Prepare for Tests and Exams**. If you choose this strategy for your Study Skills project, as you complete the textbook examples you can create index cards with sample problems you know are likely to appear on a test. Later you can use the cards to check your ability to retain the math you are learning and to review for tests and exams. On your study logs, be detailed about what material you are working on and your experience working examples. Sometimes you'll get the concept right away, sometimes you won't; be honest about your experience. How does it feel to "assign yourself" extra math practice problems?

5.7 PRACTICE PREVIOUSLY STUDIED CONCEPTS

Most math classes feature “cumulative” exams. That means at the end of the course you will need to still be familiar with concepts that were learned several weeks earlier. Your brain operates on a “use it or lose it” principle, so if you don’t review regularly, you are likely to forget things quickly.

Math concepts and skills are cumulative, but often a particular skill is used in a different way later in a chapter. By “recycling” back to material covered previously, you will refresh yourself on these skills. Also, by going back, you will have a chance to review vocabulary, symbols, and directions to exercises that may not be used in later sections. You should do a variety of exercises when you do this. Do not just do exercises from one section.

If you choose this strategy for your Study Skills project, each week spend some of your time reviewing material from previous weeks. This is a great strategy to combine with the **5.1 Make a Study Schedule strategy**. You can devote a part of your time each week to reviewing previous concepts. On your study logs keep track of which concepts you revisited and how doing this extra work feels. You should report your actual results on any tests or quizzes and how well you feel are understanding and retaining the math concepts.

5.8 DO QUIZ AND TEST CORRECTIONS

After a quiz or test is returned to you, do not just file it away. Take some time to review the test and work on the problems that you did incorrectly. Concepts and skills on a quiz usually re-appear on a test; items on tests often re-appear on a final exam. Learn from your mistakes. Most

instructors or tutors will gladly check your corrections if you ask them to do so.

You can use your returned test in other ways. Copy all of the problems on a test onto a clean sheet of paper and then put this paper aside. As part of your studying for a final exam, rework these tests from the beginning. You can then check yourself with the answers from the original test.

Or create index cards with the text problems and combine this strategy with the “Prepare for Tests and Exams” strategy by using the cards for future review.

If you choose this strategy for your Study Skills project, use your study logs to reflect on your process with the Quiz and Test Corrections strategy. What steps are you taking (or not taking) to review and learn from your results? How does it feel to make these corrections? How well prepared do you feel for future tests?

LICENSES AND ATTRIBUTION

Introduction and sections 5.1-5.8 were adapted by permission from “Tutoring and Test Center Mathematics Study Skills Guide: Strategies for Success in Mathematics” by Gail Levine, Nova Southeastern University.

Studying is hard work, but you can still learn some techniques to help you be a more effective learner. Two major and interrelated techniques involve avoiding distractions to the best of your ability and creating a study environment that works to help you concentrate.

Avoiding Distractions

We have always had distractions—video games, television shows, movies, music, friends—even housecleaning can distract us from doing something else we need to do, like study for an exam. That may seem extreme, but sometimes vacuuming is the preferred activity to buckling down and working through calculus problems! Cell phones, tablets, and portable computers that literally bring a world of possibilities to us anywhere have brought distraction to an entirely new level. When was the last time you were with a large group of people when you didn't see at least a few people on devices?

When you study, your biggest challenge may be to block out all the competing noise. And letting go of that connection to our friends and the larger world, even for a short amount of time, can be difficult. Perhaps the least stressful way to allow yourself a distraction-free environment is to make the study session a definite amount of time: long enough to get a significant amount

of studying accomplished but short enough to hold your attention.

You can increase that attention time with practice and focus. Pretend it is a professional appointment or meeting during which you cannot check e-mail or texts or otherwise engage with your portable devices. We have all become very attached to the ability to check in—anonously on social media or with family and friends via text, chat, and calls. If you set a specific amount of time to study without interruptions, you can convince your wandering mind that you will soon be able to return to your link to the outside world. Start small and set an alarm—a 30-minute period to review notes, then a brief break, then another 45-minute study session to quiz yourself on the material, and so on.

- When you prepare for your optimal study session, remember to do these things:
- Put your phone out of sight—in another room or at least some place where you will not see or hear it vibrate or ring. Just flipping it over is not enough.
- Turn off the television or music (more on that in the next section).
- Unless you are deliberately working with a study group, study somewhere alone if possible or at least away from others enough to not hear them talking.

Study Environment

You may not always be in the mood or inspired to study. And if you have a long deadline, maybe you can

blow off a study session on occasion, but you shouldn't get into the habit of ignoring a strong study routine. Jane Austen once wrote in a letter, "I am not at all in a humor for writing; I must write on till I am." Sometimes just starting is the hard part; go ahead and begin. Don't wait around for your study muse; start working, and she'll show up.

Sometimes you just need to plop down and study whenever and wherever you can manage—in the car waiting for someone, on the bus, at the Little League field as you cheer on your shortstop. And that's OK if this is the exception. For long-term success in studying, though, you need a better study setting that will help you get the most out of your limited study time. Whatever your space limitations, carve out a place that you can dedicate to reading, writing, note taking, and reviewing. This doesn't need to be elaborate and expensive—all you truly need is a flat surface large enough to hold either your computer or writing paper, book or notes, pens/pencils/markers, and subject-specific materials you may need (e.g., stand-alone calculators, drawing tools, and notepads). Your space should be cool or warm enough for you to be comfortable as you study. What do you have now that you consider your study space? Is it set up for your optimal success?

Wherever you study, try to make it a welcoming place you want to be in—not an uncomfortable environment that makes you want to just do the minimum you must complete and leave. You should include the basics: a good chair, a work surface, and whatever materials, books, notes, and other supplies you need for the subject you are studying. If you want to make it even more of a productive place, you can look in magazines for ideas or

search the web to see how others have set up simple areas or more elaborate arrangements. Don't let decorating your workspace be an excuse to get out of studying!

You don't need an elaborate setting, but you may want to consider including a few effective additions if you have the space:

- small bulletin board for often-used formulas
- encouraging quotes or pictures of your goal
- whiteboard for brainstorming
- sticky notes for reminders in texts and notes
- file holder for most-used documents
- bookshelf for reference books

Appendix 1 was adapted from OpenStax *College Success*, licensed under a Creative Commons Attribution License 4.0. Access for free at <https://openstax.org/books/college-success/pages/1-introduction>.