

# How to Take Notes and Study

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The manner in which you take notes will help you when working on assignments and studying. Proper note taking can help you retain material more effectively, allowing you to perform better on graded work. This guide is intended to help you take better notes, give insight on how to use them when studying, and how to use your instructor's office hours.

## 1 Taking Notes

- Take notes using pen and paper. Unless the lecture is computer-based (e.g., teaching you how to use specific software), it is best not to take notes on a computer or tablet. Multiple studies<sup>1</sup> show that writing notes by hand improves learning and helps provide a deeper understanding of the material.
  - It is also particularly difficult to take notes in math-intensive courses using a computer.
- Use a separate notebook or a separate section of a notebook for each class. Do not have notes for multiple classes mixed together. This will make it difficult to review your notes when completing assignments and studying.
- Start each class by putting the date you took the notes. This will make it easier to find notes when you return to study.
- Use section headings in your notes so that you can see when one topic starts and another ends.
- Write largely and clearly. Do not try to cram as much information onto one page as possible; this will make it difficult to understand when you revisit them.
- You do not need to write down every word your instructor says or writes on the board. If you try to write everything down, you may get lost trying to copy notes instead of listening and being engaged.
  - Use abbreviations that you will understand and define them at the top of a page.
  - Use your own words that make sense to you. This will make it easier to review your notes.
- If you have a question during the lecture, write it down in your notes. If you cannot get the question answered during the lecture, you will have it to refer to later when you can ask the question after class or by visiting office hours.
- Use multiple colors and a highlighter when taking notes.
  - When drawing graphs, use a different color for each line. This will help distinguish lines when you return to study.
  - Use a highlighter to note keywords and phrases and note when a new topic starts.

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<sup>1</sup> See [Umejima et al. \(2021\)](#), [Carter, Greenberg, and Walker \(2017\)](#), [Mueller and Oppenheimer \(2014\)](#), and [Sana, Weston, and Cepeda \(2013\)](#).

## 2 Studying and Preparing for Class

- Multiple studies<sup>2</sup> show that you will forget around 60% of what you learn in a lecture within 24 hours.
  - You should review your notes as soon as possible after class while the lecture is still fresh in your mind. You should dedicate 30 minutes to reviewing your notes, reading the corresponding textbook chapter, and practicing the work you have done in class. This is in addition to working on homework.
  - This will help you see which parts of the lecture were unclear, so you can ask your instructor.
- Rewriting your notes can be a helpful tool when studying. Think about the material discussed when doing so. If you come across concepts that you do not understand, bring those questions to office hours or the next class.
- Start your out-of-class assignments the day they are assigned. You do not need to finish it, but if you attempt a problem or two while the lecture is fresh in your mind, it will be easier to work through it. It will also help identify the difficulty level of the material, giving you ample time to speak with your instructor before the due date.
- Homework is designed to help you study for exams. After you complete the homework, practice it multiple times so that you feel comfortable with the logic. The goal is not to memorize specific steps, but to understand the process.
- Exams do not test memorization; they test how well you understand the material. On an exam, you will not regurgitate homework questions exactly; you should be able to answer problems that vary slightly with different numbers.
  - Do not wait until the night before an exam to study. You are less likely to retain the material this way. Instead, dedicate time after each lecture to reviewing your notes; that way, you learn the material as it is introduced, and studying becomes a review.
  - Try the sample problems discussed in class or in the textbook. You should have answers to both. Do this without using your book or your notes. See how much you can do. If there are problems at the end of each chapter, try these problems, first without your book or your notes. Repeat this until you are comfortable with the material without using your notes or the textbook.
  - When studying concepts, make flashcards, use Quizlet, or use [Cornell Notes](#).
- Take advantage of learning centers provided by the Institute.
  - [Writing Center](#).
  - [Math Resource Center](#).

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<sup>2</sup> See [Murre and Dros \(2015\)](#), [Cepeda et al. \(2006\)](#), and [Ebbinghaus \(1885\)](#).

- [Miller Academic Center](#).
- If there are topics or problems that you find difficult, you should visit office hours or schedule a meeting with your instructor. Do not wait until the day before an assignment is due or an exam to ask questions; ask them early to give you time to study.

### 3 Using Instructor's Office Hours

- If you have questions about the material covered in class, visiting your professor's office hours can be a great resource.
- When visiting office hours, come prepared with specific questions. Do not show up and say that you did not understand something. Make sure you are familiar with your notes and that you have looked at the textbook before visiting office hours.
  - Make sure you have all the notes from the class before asking for help. Office hours are not the place for the instructor to teach you material you may have missed. It is your responsibility to make up the material and assignments you have missed. If you have notes missing, make sure that you get them from a classmate. If you know that you are going to miss class in advance, arrange ahead to receive notes from a classmate.
- When visiting office hours, make sure to ask specific questions about material that you do not understand. Prepare for visiting office hours by writing those questions in advance.
- If you are asking questions about a homework problem, make sure that you have started the problem first, so you can ask specific questions about where you are stuck. Office hours are not the place for the instructor to solve the problem for you, but they can help you identify and navigate possible errors in the process.
- Take notes on a separate piece of paper during office hours and use them as a supplement to your class notes.