

# HOW TO TAKE NOTES

*“The horror of that moment,” the King went on, “I shall never, never forget!”*  
*“You will, though,” the Queen said, “if you don't make a memorandum of it.”*

--Lewis Carroll,

Alice's Adventures in Wonderland

Many students attribute their academic and professional success to what they learned from classroom lectures. This is not surprising, because professors and instructors are at their best when they are teaching and inspiring through lecturing. If you expect to learn from lectures, you must take notes.

## THE IMPORTANCE OF NOTES

Forgetting can be **instantaneous and complete**. Note-taking is a vital skill in college because forgetting occurs so quickly and so thoroughly. Many experiments suggest that unless you mentally rehearse the information you receive, you are unlikely to retain it in your short-term memory for more than about twenty seconds. Hermann Ebbinghaus, the German psychologist who investigated remembering and forgetting, found that almost half of what is learned is forgotten within an hour. Recently, psychologists carrying out experiments similar to Ebbinghaus' confirmed his findings.

The only sure way to overcome forgetting is by taking notes, then studying and reciting them.

## TIPS AND TACTICS

### Telegraphic Sentences

Sixty years ago, when telephones were not as numerous as they are today, important messages, both personal and business, were sent by telegraph. The sender paid by the word; so the fewer the words, the lower the cost. A four-word message such as *“Will arrive three pm”* was a lot cheaper than an eleven-word message: *“I will arrive home promptly at 3 o'clock in the afternoon.”*

When you take notes, use telegraphic sentences, leave out unnecessary words, use key words only, ignore rules of grammar, and write down a streamlined version of the lecturer's points.

### Printing Style

Modify your printing style to allow for fast and legible writing, making sure that if you need to make changes later it will be easy to do so. Remember that these notes are just for you, so don't worry about looks.

### The Two-Page System

When you need to scramble to keep up with a fast-talking lecturer, you may find this two-page system helpful. Here's the way it works: Lay your binder flat

on the desk. On the left-hand page, record main ideas only. The left-hand page is your primary page. On the right-hand page, record as many details as you have time for. Place the details opposite the main ideas that they support. After the lecture, remain in your seat for a few minutes and fill in any gaps in your notes while the lecture is still relatively fresh in your mind.

### **No Shorthand**

It is recommended that you don't take lecture notes in shorthand. Shorthand notes cannot be studied effectively while they are still in symbol form. Besides, shorthand symbols still have to be transformed into regular words. If you need a fast method to keep up with the lecturer, use the abbreviations and the symbols listed at the end of this packet.

### **No Typing**

Scribbling is a bad habit. Write legibly the first time. Don't rationalize that you'll type your notes later. Typing your notes is a waste of time, opportunity, and energy. You'll need almost a full hour to decipher and type one set of scribbled lecture notes. The hour you spend typing could have been extremely productive if you had spent it reciting notes taken during the lecture. Typing can exhaust you physically, mentally, and emotionally, leaving you unfit for the task of learning.

Contrary to what most people think, almost no learning takes place during the typing of scribbled notes. The act of deciphering and typing requires almost total concentration, leaving scant concentration for comprehending the facts and ideas being typed.

### **Signal Words and Phrases**

Most college lecturers speak about 120 words per minute. In a fifty-minute lecture, you hear up to six thousand words expressing ideas, facts, and details. To impose some recognizable order on those ideas, facts, and details, lecturers use signal words and phrases.

Signal words and phrases themselves do not express ideas, facts, and details. They do, however, convey important information of a directional and relational sort. If you, as a note-taker, know the importance and meaning of signal words and phrases, you'll be able to perceive the organization of the lecture, the direction of the lecture, and the relationship among the ideas, facts, and details. Following is a list of signal words and phrases. Being able to recognize signal words and phrases will improve your reading, writing, speaking, and listening, as well as your note-taking.

#### **Categories and**

**When you hear these words,**

#### **Examples**

**immediately think**

#### **EXAMPLE WORDS**

**to illustrate  
for example**

*“Here comes an example. The lecturer wants to make clear the point just made. I'd better write*

**for instance**

*this down; otherwise I'll forget it."*

### **TIME WORDS**

**before, after**

*"Hm-mm! A time relationship is being*

**formerly, subsequently**

*established. Let's see, what came last, and*

**prior, meanwhile**

*came in-between?"*

### **ADDITION WORDS**

**furthermore**

*"After listing everything, they always*

**in addition**

*seem to have one more thing to add.*

**moreover**

*Well I'd better get it and write it down.*

**also**

### **CAUSE AND EFFECT WORDS**

**therefore**

*"There's that cause and effect word. I'd better*

**as a result**

*quickly write down the word effect in my notes at*

**if. . .then**

*this point. Later, I'll go back and write the word*

**accordingly cause**

*to label the preceding points."*

**thus, so**

### **CONTRAST WORDS**

**on the other hand**

*"Now we're getting the other side of the*

**in contrast**

*picture, the other person's story, the research*

**conversely**

*that contradicts what has already been said."*

**pros and cons**

### **ENUMERATION WORDS**

**the four steps . . .**

*"Ten steps is a lot! I'd better number them and*

**first, second, third**

*list them in order."*

**next**

**finally**

## **EMPHASIS WORDS**

**more importantly**  
**above all**  
**remember this**

*“Sounds like a hint that this idea is something important to remember.”*

## **REPEAT WORDS**

**in other words**  
**in the vernacular**  
**it simply means**  
**that is, briefly**  
**in essence**

*“Simplifying a complex idea or simplifying a long-winded explanation. I'd better note this simplified version.”*

## **SWIVEL WORDS**

**however**  
**nevertheless**  
**yet, but**  
**still**

*“A warning that there's a little bit of doubt or 'give-back' on the point just made. I'd better note this qualifying remark.”*

## **CONCESSION WORDS**

**to be sure**  
**of course**  
**granted**  
**indeed**  
**though**

*“I see. These are similar to the swivel words. The lecturer is admitting that that the opposition has a point or two.”*

## **SUMMARY WORDS**

**in a nutshell**  
**to sum up**  
**in conclusion**

*“Great! I'll try to get this summary word or idea then I can study it thoroughly later.”*

## **TEST CLUES**

**This is important.**

*“Sounds like a potential test item. I'd better get*

**Remember this.**            *this one word for word."*

**You'll see this again.**

**Here's a pitfall.**

### **The Final Barrage**

Pay close attention to the end of the lecture. Speakers who do not pace themselves well may have to cram half of the lecture into the last five or ten minutes. Record such packed finales as rapidly as you can. After class, stay in your seat for a few extra minutes to write down as much as you can remember.

### **Instant Replay**

As soon as you leave the lecture room, while walking to your next class or in the car on your way home, mentally recall the lecture from beginning to end. Visualize the classroom and the lecturer and any blackboard work. After mentally recalling the lecture, ask yourself some questions: **"What was the lecturer getting at?"** **"What really was the central point?"** **"What did I learn?"** **"How does what I learned fit in with what I already know?"** If you discover anything you don't quite understand, no matter how small, make a note of it and ask the instructor before the next class to explain it.

### **Avoiding Ice-Cold Notes**

During your first free period after class, or that evening at the latest, read over your notes to fill in gaps and to give yourself an overview of the lecture. Review your notes while the lecture is still fresh in your mind. Ice-cold notes are frustrating and are time wasters. Days after a lecture, you do not want to be gazing at your own writing and wondering, ***"What did I mean by that?"***

### **THE CORNELL NOTE-TAKING SYSTEM**

The notes you take in class are really a hand-written textbook. In many instances, your lecture notes are more practical, meaningful, and up-to-date than a textbook. If you keep them neat, complete, and well organized, they'll serve you splendidly.

To help students organize their notes, the Cornell Note-taking System was developed over forty years ago at Cornell University. It is used in colleges not only in the United States but also in foreign countries, including China. The keystone of the system is a two-column note sheet.

Use 8½ by 11 paper to create the note sheet. Down the left side, draw a vertical line 2½ inches from the edge of the paper. End this line 2 inches above the bottom of the paper. Draw a horizontal line across the bottom of the paper, 2 inches above the paper's edge. In the narrow (2½") column on the left, you will write cue words or questions. In the wide (6") column on the right, you will write lecture notes. In the space at the bottom of the sheet, you will summarize your notes. You can use this system if you use lined notebook paper, too. You can

disregard the red vertical rule and make your own rule 2½” from the left edge of the paper. Or you can make the rule 2½” from the red rule, leaving yourself 4” for the wide note-taking column. In either case, you will have the 2½” left-hand space for important cue words and questions.

There are two Versions of the Cornell System:

- (1) the Six R Version,
- (2) the One Q/Five R Version.

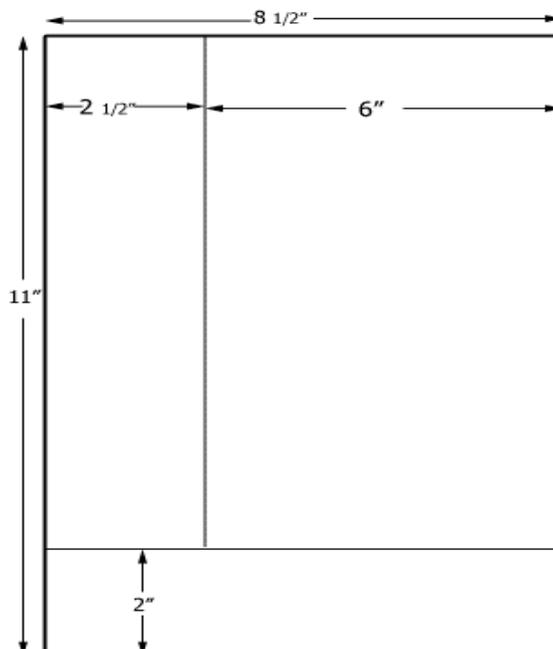
Both have six steps. The main difference between them is in step 2

### Steps in the Cornell Note-taking System

<u>Step</u>	<u>Six R Version</u>	<u>One Q/Five R</u>
1	Record	Record
2	Reduce	Question
3	Recite	Recite
4	Reflect	Reflect
5	Review	Review
6	Recapitulate	Recapitulate

Notice that step 2 in the Six R Version is **reduce**; in the One Q/Five R Version, step 2 is **question**.

When you use the Six R Version, you will write cue words in the narrow column of the note sheet. When you use the One Q/Five R Version, you will write questions in the narrow column. Which version is better? Give each one a try, and see which one works best for you.



## **STEP 1: RECORD**

In the wide column, record as many facts and ideas as you can. Use telegraphic sentences, but make sure that weeks after the lecture your notes will still make sense. Write legibly. Directly after class, or at your first opportunity, fill in any blank spaces that you left and clarify your handwriting if necessary.

## **STEP 2: (Six R Version only)**

During your first study opportunity, reread your notes and rethink the entire lecture. Then reduce each fact and idea in your notes to key words and phrases. In the narrow column of the note sheet, jot down the word or phrase that you have extracted from the fact or idea. The key words and phrases will act as memory cues. Later, when you see or hear them, you will recall the full fact or idea.

## **STEP 2: QUESTION (One Q/Five R Version only)**

During your first opportunity, reread your notes and rethink the entire lecture. Then formulate questions based on your notes. In the narrow column of the note sheet, opposite the fact or idea in your notes, write a brief question that can be answered with the information in your notes. Writing questions helps to clarify meaning, reveal relationships, establish continuity, and strengthen memory. It also sets the stage for studying for exams.

## **STEP 3: RECITE**

Reciting is saying each fact or idea in your notes out loud, in your own words, and from memory. Recitation is an extremely powerful aid to memory. Recitation makes you think, and thinking leaves a trace in your memory. Experiments show that students who recite retain 80 percent of the material; students who merely reread, retain only 20 percent when tested two weeks later. Without retention, there is no learning.

Cover up the wide column of your note sheet with a piece of blank paper, exposing only the cue words or questions in the narrow column. Read each cue word or question aloud; then recite aloud and in your own words the full facts and ideas brought to mind by the cue word or the answer to the question. After reciting, slide the blank sheet down to check your answer. If your answer is incomplete or incorrect, straighten out the information in your mind and then recite your answer aloud again. Recite until you get the answer right. Proceed through the entire lecture in this way.

Why recite aloud? The sound of your voice stimulates your thinking process. It is this thinking that leaves behind a neural trace in your memory, to which you may return later, like a filing cabinet, to retrieve a fact or idea. Reciting aloud may be the most powerful single technique known for implanting facts and ideas in your memory.

Why recite using your own words? Cognitive theorists have discovered that people do not remember verbatim what they hear or read. Rather, they remember the meaning that they gave to a fact or idea that they heard or read, and

that meaning was expressed in words that they used when they were thinking about the fact or idea.

#### **STEP 4: REFLECT**

Reflection is thinking about and applying the facts and ideas that you've learned. You reflect by asking yourself questions such as these: *“What is the significance of these facts? What principles are they based on? How can I apply them? How do they fit in with what I already know? What is beyond these facts and principles?”*

Reflection leads to advantageous learning -- learning that is done voluntarily and with enthusiasm and curiosity, learning that is propelled by a burning desire to know something. What distinguishes advantageous learning from regular learning is your mental attitude. Knowledge gained through advantageous learning will still be with you long after you have taken your final exam.

#### **STEP 5: REVIEW**

Yesterday's knowledge interferes with today's knowledge and today's knowledge interferes with yesterday's knowledge. The battle between remembering and forgetting goes on continuously. The best way to prepare for examinations is to keep reviewing and keep reciting the sets of notes that you'll be held responsible for.

Every evening, before you settle down to study, quickly review your notes. Pick up a designated set of notes and recite them. Short, fast, frequent reviews will produce far better understanding and far better remembering than long, all-day or all-night sessions can. After reciting, move immediately into your regular study routine.

#### **STEP 6: RECAPITULATE**

Writing a recapitulation, or summary, is not easy, but the rewards are great. Recapitulating is a sure-fire way to gain a deep understanding of the facts and ideas in your notes, and reviewing summaries makes studying for exams a breeze. If you take the time to summarize your notes, your understanding deepens because you have the whole picture instead of an assortment of facts.

Write your summary in the space below the horizontal line at the bottom of the note sheet. Summarize according to one of these plans:

1. Summarize the content of each note sheet.
2. Summarize the content of the entire lecture on the last note sheet for that lecture.
3. Do both 1 and 2.

The third option yields the greatest reward. When you review your notes for exams, you'll be able to see the steps you took to arrive at your final, last-page

summary.

## COMBINING TEXTBOOK AND LECTURE NOTES

The example included in this packet is ideal for lectures that mainly explain and amplify the textbook. First, in the middle column, record your notes on a previously assigned textbook chapter. Then, when you take lecture notes in the right-hand column, you can avoid repeating material you already have, while you add the lecturer's explanations, examples, and supplementary comments. When you become accustomed to the lecturer's ways, you will be able to judge how much space to leave between items in the middle column in order to keep lecture notes and textbook notes directly opposite each other. The cue words or questions that you write in the left column should pull the two sets of notes together.

## COMBINING TEXTBOOK AND LECTURE NOTE-SHEET

	9.5 cm (3.75 in)	9.5 cm (3.75 in)	2.5 cm (1.0 in)
28 cm (11 in)	Text Notes Here:  <i>Here is where you can record your "read and outline" homework assignments....</i>	Class Notes Here:  <i>Mr. Davala will often add information in class that won't be found in the text...  ...write it here.</i>	Key Words Here:  <i>Write topics out here so it'll be easier for you to find terms when you're studying.</i>
2.5 cm (1.0 in)	Summary of this page of notes: <i>Can you make any unifying conclusions about all the material on this page of notes?</i>	Chap: _____ Sec.: _____ Date: _____ Page: _____	

## ABBREVIATIONS AND SYMBOLS

You should use only the abbreviations that fit your needs and that you will remember easily. A good idea is to introduce only a few abbreviations into your note-taking at a time. Overuse may leave you with notes that are difficult to read. Here are some rules to keep in mind.

1. Symbols are especially helpful to students in engineering and mathematics. Lists of commonly used symbols are given in most textbooks and reference books.

≠ does not equal

f frequency

2. Create a family of symbols.

○ organism

⊙ individual

Ⓢ individuals

3. Leave out the periods in standard abbreviations.

cf compare

eg for example

dept department

NYC New York City

4. Use only the first syllable of a word.

pol politics

dem democracy/democrat

lib liberal

cap capitalism

5. Use the entire first syllable and only the first letter of a second syllable.

subj subject

cons conservative

tot totalitarianism

ind individual

6. Eliminate final letters. Use just enough of the beginning of a word to form an easily recognizable abbreviation.

assoc associate, associated

ach	achievement
biol	biological
info	information
intro	introduction
chem	chemistry
conc	concentration
max	maximum
rep	repetition

7. Omit vowels from the middle of words, and retain only enough consonants to provide a recognizable skeleton of the word.

bkgd	background
ppd	prepaid
prblm	problem
estmt	estimate
gvt	government

8. Use an apostrophe.

gov't	government
am't	amount
cont'd	continued
educat'l	educational

9. Form the plural of a symbol or abbreviated word by adding "s."

□s	areas
chaps	chapters
co-ops	cooperatives
<u>f</u> s	frequencies
/s	ratios

10. Use "g" to represent **ing** endings.

decr <sup>g</sup>	decreasing
ck <sup>g</sup>	checking
est <sup>g</sup>	establishing
expt <sup>g</sup>	experimenting

11. Use a dot placed over a symbol or word to indicate the word **rate**.

$\dot{\downarrow}$  vibration rate  
 $\dot{f}$  frequency rate

12. Generally, spell out short words such as **in, at, to, but, for,** and **key**. Symbols, signs, or abbreviations for short words will make the notes too dense with “shorthand.”
13. Leave out unimportant verbs.
14. Leave out the words **a** and **the**.
15. If a term, phrase, or name is initially written out in full during the lecture, substitute initials whenever the term, phrase, or name is used again.

Initial writing: Modern Massachusetts Party

Subsequently: MMP

16. Use symbols for commonly recurring connective or transitional words.

&	and
w/	with
w/o	without
vs	against
∴	therefore

<b>NOTE:</b>	If you adapt any symbols in making your notes easier for you, remember to practice and be consistent with the same symbols each time or you won't be able to read the notes after a long period of time.
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## SUMMARY

### WHY SHOULD I TAKE NOTES?

The answer is simple: because forgetting is massive and instantaneous. Forgetting wipes out information like a tornado. Note-taking provides disaster relief.

### HOW DO I BEGIN TAKING NOTES?

A good way to start is with telegraphic sentences. Students who try to write down a lecture word for word are asking for trouble. The secret is to record only the key words. This streamlined version will save you time, yet provide you with the information you need.

## **WHAT'S THE BEST WAY TO TAKE NOTES -- WITH PRINTING OR WITH CURSIVE?**

Neither. Use a modified printing style. Something that is fast and legible. Also make sure that if you need to make changes later that it will be easy to do so.

## **ARE THERE SOME TIME WASTERS IN NOTE-TAKING?**

Yes. There are three things that you should avoid:

1. never tape a lecture,
2. don't use shorthand,
3. don't recopy or type your notes.

## **HOW CAN I USE THE SPEAKER'S SIGNALS TO MY ADVANTAGE?**

Expressions such as “in contrast to” or “to sum up” act as signals and help you identify the pattern of organization the speaker is following. If you can follow the speaker's organizational pattern, you'll have little trouble fitting in the facts and ideas along the way.

## **WHAT DO YOU MEAN BY INSTANT REPLAY?**

As soon as you've left the classroom, take a moment to relive the lecture mentally from start to finish. After you've replayed the lecture in your mind, take a few moments to reflect on what the instructor has said and what it all means.

## **WHEN SHOULD I REVIEW MY NOTES?**

Right away if possible. The longer you wait, the more you'll forget. Review your notes while the lecture is still fresh in your mind.

## **WHAT IS THE CORNELL NOTE-TAKING SYSTEM?**

The Cornell System is a technique for getting the most out of your notes. The keystone of the system is its format, a 6-inch area for your lecture notes and a 2½-inch left-hand margin for cue words or questions. There are two versions of the Cornell System: the Six R Version and the One Q/Five R Version. Both have six steps. The main difference between them is in step 2.

## **WHAT IS STEP 1, RECORDING?**

Step 1, recording, simply involves taking notes. The notes go in the 6-inch column. Record as many of the lecturer's key ideas as you can. Use telegraphic sentences to get the information on paper quickly.

## **WHAT IS STEP 2?**

Step 2 in the Six R Version is reducing the key facts in your notes to cue words. Step 2 in the One Q/Five R Version is formulating some cue questions.

## **WHAT ARE CUE WORDS?**

Cue words are key words or phrases written in the 2½-inch column that act as cues to help you to recall a full fact or idea.

## **HOW DO I USE CUE QUESTIONS?**

Simply dream up a question that can be answered with the information from a full fact or idea.

## **WHAT IS INVOLVED IN STEP 3, RECITING?**

When you recite, you say each key fact or idea in your notes out loud, in your own words, and from memory. If you are using the Six R Version, your memory will be triggered by the key words in the 2½" margin. If you are using the One Q/Five R Version, a thoughtful question will focus your response. In either case, the fact that you recite out loud will reveal immediately whether your answer is correct.

## **WHAT IS THE REFLECTION STEP, STEP 4?**

Reflection involves thinking about and applying the concepts and ideas that you learn. It triggers advantageous learning --- learning that is done voluntarily and with enthusiasm. Advantageous learning has the best chance of lasting.

## **HOW OFTEN SHOULD I FOLLOW STEP 5, REVIEWING?**

As often as possible. Reviewing is really the workhorse of both methods. How much you review will determine whether you will be able to remember important information days and weeks from now. If you make an effort to do a quick review of your notes every evening before you begin studying, you'll do a good job of maintaining your hard-earned knowledge.

## **WHAT ABOUT THE SIXTH AND FINAL STEP, RECAPITULATION?**

In short, it means summarizing. If you take the time to summarize your notes, your understanding will deepen because you'll have the whole picture.

## **IS THERE MORE THAN ONE WAY TO SUMMARIZE?**

Yes. You have three choices:

1. summarize the content of each note sheet,
2. summarize the entire lecture at the bottom of the last note sheet for that lecture,
3. do both 1 and 2. The third choice is worth the extra effort.

## **CAN LECTURE AND TEXTBOOK NOTE BE COMBINED?**

Yes. Combining lecture and textbook notes is especially important if the lecturer repeats what is in the textbook. Use a three-column format: one

column for your lecture notes, another for the notes from your textbook, and the third for your cue words or questions.

### **ARE ABBREVIATIONS AND SYMBOLS A HELP IN NOTE-TAKING?**

Used sparingly, abbreviations and symbols can be a help. A few key abbreviations can save you time and space. If you use too many abbreviations and symbols, your notes will be difficult to read.

The bright-eyed cub reporter in the old movies really knew what he was doing. He scribbled down facts and ideas in a pocket pad. Although note-taking techniques have changed since then, the reason for taking notes is the same as it's always been: Note-taking helps information stick in your memory. Whether you're capturing the words of a world leader or a classroom instructor, you need to take notes quickly and efficiently.