

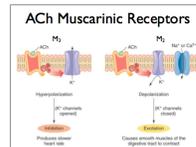


Taking Great Notes

The average college professor speaks between 100 - 125 words per minute (the Penguin Prof clocks in at the upper end of that range in case you were curious). The average note-taking student wants to get all that information down, but writes 22 words a minute and can type 33 words a minute during the lecture period. Taking good notes is one of the most important skills you will develop in college and I would like to share some of my thoughts as well as the strategies and advice from some of my top-performing students.

Slides or No Slides

OK, this is a big one. Like most professors, I do provide my students with lecture slides ahead of time and I require that my students bring them to class (either in digital or paper form). I use a fill-in-the-blank style, and many of my slides pose questions; they do NOT stand alone (this discourages students from thinking that just because they 'have' the notes they can skip class!) I have found that students provided with slides are MUCH happier - they claim that the slides give them the security of having much of the text and the figures in hand frees them from the terror of missing too much, and that makes perfect sense to me. I want my students to be thinking and listening and participating in class - not freakigng out because they are trying to copy a figure from the board.



Sympathetic	Parasympathetic
Pre-ganglionic ACh binds to <u>nicotinic</u> Receptors	Pre-ganglionic ACh binds to <u>nicotinic</u> Receptors
Post-ganglionic	Post-ganglionic ACh binds to <u>muscarinic</u> Receptors

Adrenergic Stimulation Responses

- Most post-ganglionic sympathetic nerve fibers release norepinephrine
- Effects vary

Nc1ccc(O)c(O)c1

How is that possible?

HOWEVER, in study after study (and in my own experience as well), there is a trade-off: students who are given the slides during lectures consistently under-perform compared with students taking the same class who are slide-less. The reason? Taking your own notes forces you to stay focused in a way that using instructor-provided slides does not. So what to do? Well, I choose happiness over higher exam scores... BUT I also explain to my students this reality and I tell them that if they want to be happy AND get the higher scores, the thing to do is to go home and study the lecture notes with the textbook and then re-write and re-phrase into NEW notes of their own creation.

Is the Pen Mightier than the Laptop?

Apparently, yes - although results from many studies indicate that this may be dependent on individuals as well as the field of study. In general, it seems that putting pen to paper makes more of an impression on the brain than does typing. However, this may be due to WHAT is written rather than HOW it is written. Thinking about the information — paraphrasing rather than writing everything verbatim — improves retention, according to a series of studies at Princeton University in 2014. Students who took notes by hand rather than on their laptop wrote less but performed better. Laptop users tended to merely transcribe a lecture rather than processing and reframing it in their own words and subsequently, they scored strikingly lower on conceptual tests.



For me personally, I have noticed that especially when studying foreign languages, science and math, I need to write on paper to really get material sorted in my brain; for humanities classes, I much prefer to type because often what I want to capture are difficult ideas, which require a lot more words to describe. But that's just me.

Top-performing students in my class often follow my advice: they take notes in class using my slides on their laptop or tablet, but then they re-work the material on paper with their textbooks later, however former 'A' student Umar did it all on his laptop:

"I would just plug in to the lab bench outlet and type away. When you are typing you can look at your professor and really be an active part of the class, which is really important. But I never just typed a lecture word-for-word; while I was typing I would organize material into sections with main ideas, bullet points and asterisks. I kept the slides open, but just for reference - I typed my notes in Word, freestyle."

Alexandra, another top-performing student said,

"I tried writing on paper and with my tablet and found them about the same. The thing that makes the biggest difference for me is my degree of focus. I think hard about points the professor stresses. I try to be very present in all of

my classes - that is key - focusing on what I am doing. That means considering points as I take notes and connecting new ideas with information from the her videos and previous lectures.”

Mario earned an ‘A’ in my human physiology using his phone:

“Believe it or not, my only class and study tool is my phone. I use SoundNote and record all the audio during class and I can use it to draw and type as well. I don’t access her slides in class, though I check them later, but I simply took pictures of every single things she projected or wrote on the board and inserted each image into my SoundNote file. After class, I would make flashcards with Anki and read the textbook and watch her fantastic video tutorials. As I read and watched, I would insert notes into the lecture notes I had already taken. Since I always have my phone with me and I bought the e-textbook, I had everything for class everywhere I went. Physiology was the hardest class I’ve ever had and my phone was the perfect tool for everything I needed to do.”

Note Taking Systems

There are a lot of options out there - Google these to get you started:

- Outline Method
- Mapping Method
- Charting Method
- Sentence Method
- Cornell Method

The Cornell Method is a note-taking system devised in the 1950s by Walter Pauk, an education professor at Cornell University. Pauk advocated its use in his best-selling book *How to Study in College* and a number of my students who really had no experience with effective note-taking have found it to be useful. I will include a summary of the system on the final page of this document.

The most important thing is to experiment and find what works for you - and be prepared for the harsh reality that what works in a Sociology class may not work in your Chemistry or Biology class! Always talk to your professors if you need help with note taking; the professor teaching the class you’re struggling with will be the best person to give advice for success in his / her class.

As always, I hope that was helpful! Good luck!



The Penguin Prof

The Cornell Note Taking System

Recall Column

Record Column

