

Study Tips for Geology 101

First of all, as with any college science class, there is no “easy” way to get through Geology 101. The bottom line is that, unless you are gifted at science, you will have to devote a certain amount of time to achieve success in this class. And that is one of the most critical aspects to college success, spending the time with each subject. But as with many activities such as sports, it is not just how much time you spend studying, but how you study and how efficient you are at studying. So, I have put together this list of study tips that have worked for me and many others and I want you to take a look and use them to help you achieve success in this class and throughout your college experience.

Re-read your syllabus once again, just so you are aware of what’s expected and when it’s expected during the quarter. It will take 5 minutes but save you problems during the quarter. Keep your syllabus handy throughout the quarter!

Time: study time is critical and the rule of thumb for college science classes is one hour studying each night per hour of lecture. This does **not** include the time needed to read the text chapters. If you are weak at science, you may have to devote 1.5 hours. But this should be time in which you are systematic and focused on your studying (reviewing) your notes otherwise it just doesn’t work. I recommend using the method of rewriting each days notes in the evening. You have to put in the time otherwise do not expect significant results. My method helps you utilize your time efficiently, so give it a try but be consistent.

Attendance: don’t miss class! If you are missing 3 or more days a quarter, class is obviously not your top priority. So, don’t expect high success if you are not attending everyday.

Note Taking: take excellent notes! In my opinion, this is the second most important aspect behind devoting time to your studies. Again, look at my website on note taking and use this proven method. It works but only if you do it everyday.

Stay organized! Being organized helps increase your study efficiency. If your notes are a mess and you mix your lab materials in with your lecture notes, you will likely be wasting precious study time, i.e., being inefficient. NEVER mix notes from two different classes into the same folder or notebook. Keep each class separate and be sure to organize your lab materials from your lecture materials.

Read Your Text and Lab Manual: always try and read the chapter before coming to lecture or lab. You do not need to understand the whole chapter word for word. You just need to read the material so when it is being discussed in class, you have seen the words and diagrams, and been introduced to the concepts. Some students will take several hours to read a chapter and they go over a sentence or paragraph three or more times to try and understand it. Don’t do that. Get through the chapter and read all figure and table descriptions to get a general idea. In class we will discuss concepts in detail and that is when things will begin to click.

Bring your textbook to lecture and lab everyday. I constantly refer to diagrams and tables in the text during lecture and lab. Your book is a reference tool and if left at home is useless. During lecture, follow along in your text and highlight diagrams and photos that I refer to. These are important and could very likely be on the test. In lab, use your text as a visual reference guide to the lab exercises. Your book has excellent graphics, so use them!

Study with a partner or group at least once a week. This is not a social get-together. Use your time efficiently and effectively. While studying, either on your own or with a partner, always be trying to ask questions such as “what (and how) will the instructor ask about this topic?” By studying with a partner, you get the chance to teach the other concepts you understand and vice-versa. Being able to teach a concept (to someone else) is the ultimate proof that you understand it. Think up quiz or test questions to ask one another. Review things that were discussed in class. But definitely be sure you go over all materials together so that each person is completely up on what was covered during the week.

Be aware of the class schedule (your syllabus, remember?) and your grade at all times. Don't be complacent and think that you don't have to worry because the test is 2 weeks off. Time flies by and you don't want to always be playing catch-up at the last minute. The bottom line is that in most lab science classes such as this, you can not “cram” the material into an overnighter. It doesn't work effectively. Trust me on this.

Recognize the theme (or themes) within each lecture. I structure my lectures into three parts. I start by introducing key terms and concepts. I then focus on the primary processes involved with each major subject. *For example*, with glaciers, we talk about how glaciers form and move over the surface of Earth. This ultimately relates to climate conditions and how glacial landforms are created. I try and finish each lecture on why the subject is relevant. Why it is relevant to science, why it is relevant to you. In short, glaciers are relevant because they tell us something about past climate conditions on Earth and how climate change may be occurring today. For each lecture you should be able to identify the process(s) theme and determine why the subject matter is important to study.

Focus on understanding processes. Although science is full of facts and definitions, I emphasize an understanding of processes and the interrelationships of processes. So, you may have all the definitions (which are important) but if you don't know how they work within the process, you will likely not do well on tests. *For example*, the concept of viscosity is important in understanding why different volcanoes erupt the way they do. You may know the definition of viscosity but if you don't understand how magma temperature, composition, and gas content play a role in determining the magma viscosity, you will likely not get a question on volcanic eruptions correct. So, while studying look at the big picture and see how individual concepts relate to process.

Ask questions. But try and make sure they are “good” questions. I am not trying to discourage questions, but some just don't need to be asked because you can look them up

in your book. For example, the following question could easily be found in your text: “what does the term ferromagnesian mean?” A better question might be: “what igneous rocks have the lowest ferromagnesian mineral content and why?”

Create an effective “cheat sheet” for the lecture exams. Waiting till the night before or 20 minutes before the exam to write a cheat sheet is a complete waste of time. The cheat sheet is meant to make you study and you should start working on it at least 2 days before an exam. Use lots of diagrams. Most students just write down definitions. This does NOT work effectively. A well drawn (not Xeroxed) diagram is worth a 1000 words! Think about what you are drawing and label all the components. Understand how the components are related in the diagram. You will notice that I use a lot of diagrams during the quarter. Geology is a visual subject so study the diagrams and images and understand them!

Come in for help! I can’t believe how few students come in to ask questions or get help. I have office hours to help you and answer your questions. You may be the type that doesn’t feel comfortable asking in class. No problem, jot down your question and come see me. If you don’t want to see me, find a tutor. When you study at night, write questions down so that you can remember them and then go ask the instructor the very next day. Don’t put it off because after a few days you will rationalize that your question wasn’t that important anyways. It is important and may be on the test! So come in and ask.

Tutorial website: use the textbook website. There are chapter quizzes and they range from easy to difficult. Do them. They will help you get more comfortable with the style of multiple choice questions I ask. They will make you more comfortable in a test situation. If you don’t understand why you got a question wrong, come see me!

LAB TIPS

- Do not fall into the habit of missing labs. It is very difficult to play catch-up! If you miss more than 2 labs during the quarter, you will not pass.
- Spend time reviewing the mineral and rock trays during the review session. Success at the mineral and rock test is achieved by spending time outside of lab looking at the specimens. Do not think that you can “get” this stuff by just attending lab and studying your lab notes at home.
- Study the mineral & rock specimens put out each week. These will be like the samples used on the test.
- For maps and landforms (2nd half of quarter), the study time outside of lab is critical. To be able to effectively read topographic maps, you must come to the lab and spend time looking at the maps! Sorry, there is no easy way.
- Look at the website (from Andy Buddington at SCC) “*Landforms on Topographic Maps*”. This is not a substitute for actually coming in and looking at the maps. Website - <http://www.csus.edu/indiv/s/slaymaker/Archives/Geol10L/landforms.htm>

If you follow these suggestions and tips, you will do well in this class!