

Guide to success in Geosciences

<u>Table of Contents</u>	Page
Tips for being a successful Geosciences major	3
Getting involved on campus	4
Undergraduate Research	5
Professional Licensure	6
Post-Graduation Options	7-8
Field Supplies List	9

Tips for being a successful Geosciences major

1. Go to Class!
2. Use a planner
3. Keep your G.P.A. up in order to maintain options with regard to:
 - a. Our departmental 2.5 GPA should be considered a minimum
 - b. A GPA over 3.0 will keep graduate school as an option
 - c. Gaining the interest of prospective employers
4. Join organizations. Participate in extracurricular activities. Seek leadership opportunities.

The department has many student organizations: Geosciences Society, Geosciences Leadership Organization, Tech Geophysics Society, and 2 national chapters of professional organizations: AAPG (American Association of Petroleum Geologists; SEG (Society of Exploration Geophysicists).
5. Gather information on careers. Know what is out there and how it may suit you. Attend career seminar hosted each semester. Work with the TTU Career Center to assess your strengths and skills (Career Assessments).
6. Impress your professors with hard work, curiosity, and follow-through. You will likely need a reference letter from them in the future.
7. Acquire good interviewing skills (Career TTU Center)
8. Learn how to write a resume and tailor each to the job you are applying too.
9. Network through professional meetings, short courses, and other off-campus contacts.
10. Make the most of your summer and winter breaks- seek an internship, volunteer, take online trainings available through professional societies, be a field assistant or work in a lab.
11. Be flexible. Try something. Any training is better than no training. If you do not like your choice, you can always make a change and you will still have learned something about yourself and your future career.
12. Attend departmental colloquia, round table discussions and meet & greets.

Getting Involved on Campus

Yes, it can be scary meeting new people, but getting involved will help keep you focused and help you with time management skills. Every semester there is a student organizations fair hosted in the SUB, this is a fantastic way to find a group of people with whom you connect and share the same values. Try a community service organization, student organization associated with your major, Greek life, intramurals, religious groups, or political groups. There are so many options for you to choose from.

When you find an organization you are comfortable with, try to run for office. Interviewers love when you can demonstrate leadership roles within your student organization. Being able to talk about how you resolved a conflict within your organization while you were in a leadership role is common interview question. Your campus involvement also shows your ability to prioritize and manage your time. If you are in a difficult major (like Geosciences), held a job all four years, and was in three student organizations without a doubt you had to manage your time in some efficient way in order to graduate on time. This can go a very long way when interviewing for jobs. With that being said, there is such thing as too much campus involvement. You need to learn what you can and cannot handle with your course load each semester. Balance is key in college. Keep in mind your geology courses will get harder as you progress. It is okay to step back from your student organizations and just solely focus on schoolwork if needed. Remember your priorities!

Undergraduate Research

As you take courses from the faculty begin thinking of who you would like to do research with and stay in contact after you finish their course. They are more inclined to help supervise your project if they remember who you are as a person. When thinking about which professor you would like to do research with really think about the kind of person they are. Do you enjoy the sub-discipline of geosciences in which they conduct research? Would you get along with them? Do they have a stricter or relaxed work ethic and how do you respond to this?

Yes, you have to present your poster at research day in the spring semester. This is a great experiences that future employers appreciate. Most research projects will take a full year, so don't wait until the semester you graduate in to start talking to faculty about joining them on a project. When you have a faculty member in mind talk to them during their office hours about what you are interested in and ask if they have any open research projects. It is not the end of the world if a faculty says no you can simply ask another faculty about their projects. Start asking faculty toward the end of your junior year that way they know you still have a full year left to do research with them. Faculty are more inclined to say yes to you if are being proactive about your undergraduate research.

When it comes to writing, the components for your poster try not to procrastinate. Write as you go progress throughout your research. Making an actual poster can be time-consuming, so ask faculty and other students for suggestions, take a class at the library in on a software platform used to construct posters and consult the internet for help. As for your abstract, you can check the department's website for past years research day abstracts. Have a digital copy of your poster once it is finished, so you can show your poster to possible graduate school faculty you would want to work with in the future.

Professional Licensure

In the state of Texas, environmental or engineering consulting jobs require geoscientists to be licensed but remember that the requirements for licensure vary state to state. In order to start this process in Texas one must take the ASBOG Fundamentals of Geology Exam (FG) as the first step to becoming a Geologist in Training (GIT). The other requirements to become a GIT are completion of a 4-year degree in geosciences with a minimum of 30 hours of coursework in the field and paying a fee of \$25. It is recommended that you take the FG exam in the spring of your senior year because all of the geology information is fresh in your mind. There is a very helpful study guide offered by [Reg Review Inc.](#) (\$125) that you can use to study for your Fundamentals of Geology Exam and your PG exam. The department has a copy on reserve for student use. The FG exam is given only 2 times a year (April and October) in Austin. The exam costs \$200 and you must begin the process to apply to take the exam approximately 3-4 months in advance.

Once you become a GIT, a 5-year timeline begins where you demonstrate that you are qualified to assume the responsibility of the scientific work in geosciences. If you plan to go to graduate school, 2 years of graduate school apply to the 5 year timeline. At the end of your 5-years, to become a Professional Geologist (PG) you will take a more applied exam called the ASBOG Practice of Geology Exam. Along with the exam and experience, you will need five references of moral character, academic transcripts, and other supporting documentation to become licensed. You are encouraged to look at [Texas Board of Professional Geoscientists](#) website for application process and more explanation.

Safety regulations require geoscientists to receive OSHA training called Hazardous Waste Operations and Emergency Response (HAZWOPER). This training is available at Community Colleges, online and through some engineering firms. This is a 40-hour training course required by all personnel working on environmental sites. The training is offered online and in person. A reliable online training website is on [safety unlimited](#) for \$234.

Post Graduate Options

As an undergraduate you may not plan to go onto graduate school however it is wise to approach your grades as if you plan on attending graduate school. A strong GPA impresses employers as much as it will help you get into a solid graduate program. Careers in the petroleum industry generally require a MS degree. When applying to graduate school remember you are applying to work with an individual faculty. You will need to reach out to new faculty members and inquire about their research. Be proactive and get suggestions for schools from your TA's, Professors and by attending professional meetings. It will be helpful to make a spreadsheet of schools, faculty advisors, application deadlines, and possible sources of funding. Many MS programs in Geosciences will fully-fund graduate student tuition and fees as well as providing a monthly stipend for living expenses. In fact, many will waive out-of-state tuition for qualified candidates. This is where the hard work of maintaining a solid GPA as an undergraduate will pay off.

Graduate school applications usually require a statement of intent, three or more letters of recommendation, the general Graduate Record Exam (GRE), and your undergraduate transcript (minimum GPA 3.0 generally). Applications typically open in September and close in January for admission the following fall with offers starting to roll out in February. The best people to provide letters of recommendation for you are the faculty in your geosciences courses as they can speak to your performance in the classroom, strengths and weaknesses. Be sure to make the best impression possible in you major courses.

Some graduates wish to focus more on the business side of industry and they will take a Masters of Business Administration. Tech offers a STEM MBA for students who have completed an undergraduate degree in a STEM discipline in which can be completed in one-year time. This program highlights the technical background of these students while also providing the business skills needed to be successful in management and leadership roles. Courses include accounting, business analytics, decision theory, finance, economics, information technology, law, marketing, management, statistics and strategy, along with STEM-specific electives. These applications generally requires a resume, one page essay, two letters of recommendation, and either the GRE or GMAT exam. The [Rawls School of Business](#) website has much more information on this program.

If you are interested in becoming a teacher after graduation consider getting a teaching certificate. Multiple universities offer teaching certificates that can be

completes in one to two years. Students can also receive an alternative certification through regional education service centers. Lubbock is served by Region 17 and the requirements for alternative certification can be viewed on their [website](#).

Field Supplies List

Tent (can rent from OPC)

Sleeping bag: either 0° or 25° (can rent from OPC)

Sleeping pad + very small pillow or stuff pack (something to keep you off the ground)

Good quality boots (get the ankle high kind to prevent twisting your ankle and break them in before your trip)

Padded hiking socks, wool socks for colder trips*

Rock hammer, [soft rock](#)*

Hand lens, [get one with a light](#)*

Field Book, hard back, [Write in the Rain](#)*

Field pouch, [plateau design](#)*

Field Belt (non-magnetic)

Protractors (buy 5 from GSS)

Hard lead pencils with erasers

Colored pencils (12 pack minimum) + a sharpener

[Technical writing pens](#) (0.5 point black), [variety pack with different point tips](#)*

Drafting vellum

Map board, metal or plastic

Rubber bands

Camelback (2L), Osprey is a good alternative

Water bottle(s), 1L minimum, get one that holds ice for a long time*

Hiking backpack (one that you can buckle around your waist and chest)

Good “layering-up” clothing for colder trips, rain + wind gear, gloves, and a beanie

Bandana

Brimmed hat

Lightweight long sleeve shirt

Lightweight pants – khakis fast drying (watch out yoga pants collect sharp things, shorts are ok sometimes)

Blister Band-Aids, KT tape works great*

Bug spray (don’t spend the money on 100% deet sprays, IT DOESN’T WORK plus it’ll melt plastic)

Sunscreen, cooling spray sunscreen*