A graduate education can be an important part of a career in science and many CALS students consider attending graduate school after completing their undergraduate degrees. Graduate school requires significant financial and time investments. Students interested in graduate school should think carefully about: their reasons for attending, when they will attend, their timeline for applying, the qualifications needed, and the application procedures. This handout will address reasons for attending graduate school, selecting graduate programs, and creating a timeline.

**Reasons For Attending Graduate School. What Role Does It Have In your Career?**
Investing in a graduate education is an important career decision. When considering an advanced degree students should think carefully about how additional education will help them achieve their career goals. **Graduate school is a great choice for students who are intellectually curious, excited by scientific inquiry, eager to explore a topic in great depth, and know how their advanced degree fits their career path. Attending graduate school as a means of postponing a job search is a waste of time and money.** You should have answers to the questions below before applying to graduate school. You may not have great answers to all the questions, but you should be able to address most with quality responses.

**Why do you want an advanced degree?**
For some people, the career they desire requires an advanced degree. **People who want to become university professors or want to be lead scientists for a company will need to earn a doctoral degree (Ph.D.).** For other people, a graduate degree might not be required, but does open additional career options. And for some, a graduate degree is a personal, rather than professional, aspiration. These students have a deep intrinsic interest in studying a discipline. You should reflect on your own motivations. This will help you set realistic expectations for your career following your degree and help you make decisions regarding the best programs for your needs and interests.

**What degree are you going to pursue? Why?**
Will you pursue a Master's Degree or a Ph.D.? The overall investment of time and resources varies greatly. And, the career paths open to you will depend on the degree you achieve. For example, a Master’s Degree will provide specialized training that will allow you to take on more advanced roles in industry. Master’s Degrees often include some research, but are more career focused than Ph.D. programs. A Master’s Degree will help you to move from a laboratory technician or research assistant to more advanced positions with more responsibility and higher income potential. Ph.D. programs have a large emphasis on research and students learn to conduct original research that creates new knowledge. This allows graduates of Ph.D. programs to have a great deal of independence to direct research projects and lead research teams. You should clearly understand the career implications of each option available to you.

**Is pursuing a graduate education just a way to avoid a career decision?**
Finishing an undergraduate degree creates a transition for which some people, including very talented people who are bound for success, are not ready. **Unfortunately, graduate**
school can be a way of delaying career exploration and a search for one’s first professional job. Students who are contemplating graduate school because they don’t know what else to do, should not use graduate school as a “back-up” option. They will not see any real return on their investment. There are better ways to “figure-out what to do” than attending graduate school.

Spending some time thinking about these questions will help immensely. You will not only have a clearer picture of what motivates you for a graduate degree, but you will also be in a position to select an appropriate program for your goals, develop an appropriate timeline for your career, and prepare a better application essay.

Selecting A Graduate Program?

Many options exist for graduate study. Selecting appropriate programs to apply to is vital for meeting your goals. Plan to take time and do some background research on programs. Start by making a list of programs in your interest area. For example, if you are considering a biochemistry program you could ask your advisor, your friends, the lead investigator in the lab you are working in, the graduate students in the lab you are working in, and students in your student organizations if they know of good biochemistry graduate programs. You can also see where the scientists conducting research that interests you are working by looking at the title page of your favorite research papers. A final step might be to do a Google search for “top biochemistry graduate programs”.

After you generate a list of potential schools, you can use the questions below to explore programs.

Questions related to education and training:

- Are you seeking a Master’s Degree or a Doctoral Degree? What degree do you need for your chosen career?
- Is the school / program accredited? If so, by whom?
- How is the school ranked? What kind of reputation does the school / program have?
- Who are the faculty members in the program? What research are they conducting? Are your interests a good fit for the program?
- What are the curricular requirements?
- What are the research facilities and libraries like?

Questions about outcomes of the program:

- Do graduates stay in academia or go into industry?
- What is the placement rate of graduates?
- What job titles do graduates have and what income do they earn?

Questions about the non-academic components of the school / program:

- What support services are available on the campus?
- Do you like the size of the program?
- Do you like the location of the school?
- Is the program designed for working professionals?
- What opportunities exist to be involved on campus and in the community?
- How diverse are the student body, faculty, staff, and the community?
- How long do most students take to complete their degrees?
- What does the program cost? Is financial aid, scholarships, etc. available?
- What are the admission requirements?
Creating A Timeline For The Application Process
You will need to do a significant amount of work before you apply to graduate school. You will need time to identify potential programs, contact the schools, and potentially visit the programs. All of this takes planning. Your time and effort will pay off when you are selected to a program that is a good fit for you and your career goals. Your planning should start in your junior year (or earlier) and will go through your senior year.

An approximate timeline to help you is below:

Junior Year (Or Earlier):
Identify your academic and career goals.
- Finding the right program depends on knowing what it is you want to study and the requirements of the types of jobs you plan to pursue. You do not need to be absolutely sure of your future before you begin exploring; start with what interests you most and go from there. Exploring graduate programs will help you see the differences that exist between programs and will help you refine your interests. Your career center can help you too.
- Generate a list of schools that interest you and visit their websites. Read about course offerings, the professors’ research interests, and, if you can, visit the campuses.

Prepare academically.
- Keep your grades high while completing a rigorous undergraduate curriculum. Be aware of the prerequisites for the programs that interest you and identify the exam you need to complete to be admitted. Many schools require the Graduate Records Examination (GRE).
- Admission exams can be completed throughout the year. It is important to prepare for them. Practice tests are often a useful gage to determine if you are ready for the exam.

Build professional relationships.
- Visit faculty members during their office hours. Be sure to attend the lab meetings if you are conducting undergraduate research. Try to attend a professional conference and meet others doing research that interests you. These relationships will be important when you request letters of recommendation.

Start thinking about finances
- Figure out how much graduate school will cost including: tuition, fees, books, and living expenses. Research fellowships and assistantships in your field and stay on top of all application deadlines.

Summer Before Senior Year:
Organize your application process.
- Decide which schools are your top choices. You should apply to a range of schools including some you want to attend, but may not be the strongest candidate academically, some you have a very good chance of being accepted, and a couple that you regard as back-up programs – they have the program you want, but are not as prestigious as you would like.
- Carefully research your choice of department, degree program, and potential advisor.
- Communicate with your potential advisor or advisors well in advance of the application deadline. Often, a letter of introduction, indicating your research interest and an overview of your background, is a good way to start.
Arrange to make a visit to the department so that you can meet that person, other potential faculty advisors, and graduate students. Ask the graduate students about their impression of the department and your potential advisor, and try to get more than one opinion. Remember that you will be interacting on a daily basis with your faculty advisor for at least four or five years, and after your degree, will rely on that person for advice and letters of recommendation. Base your selection upon as much information as possible.

Find out when applications will be available and when they will be due.

Study for entrance exams. The summer can be a good time to finish your exam preparation.

Find out how to request transcripts and how long it takes to obtain them.

Talk to your professional mentors about letters of recommendation. Who you ask to write letter(s) of recommendation will depend on the type of program you want to enter. For example, a professor might have a specialty in an area one of your prospective graduate schools has a strong reputation. No matter whom you choose, give them plenty of time and send them some information about your academic and professional preparation when you request a letter. You could send them your transcripts, a draft of your personal statement, and / or your resume. Send a thank-you note once your professor submits his or her letter!!

Fall Semester, Senior Year:

Apply.

- Some of your applications might be due in the late fall. Create a calendar with the application deadlines for the schools to which you are applying, the number of letters of recommendation needed for each school, the number of transcripts you will need, and any other application materials required. Your career services office can help you write a resume that is tailored to the school(s) to which you are applying. Take time writing your personal statement, it will not come together well at the last minute and you will want to have serval people read through it and give you feedback.

- Take your standardized exam; for example, the GRE or GMAT. Generally, it is best to complete your exam by the end of October.

Write Your Essay

- Draft your personal statement. If you are having trouble with structure or what to write, ask your career center, academic advisor, or the Writing Center for assistance. If you feel comfortable doing so, ask for help from one of the professors writing a letter of recommendation for you.

Identify how you will pay for school.

- Search for scholarships and financial aid. Also, check loan or fellowship options with your prospective graduate schools. Many graduate programs offer funding through research or teaching assistantships. Ask your targeted programs about these opportunities.

- Complete the FAFSA as soon as possible after January 1. To qualify for federal aid you will fill out the same form for graduate school as you did for your undergraduate degree. Keep in mind that all graduate students are considered independent for federal aid calculations.

Winter Break and Spring Semester, Senior Year:

Send the applications.

- Submit your applications (check deadlines, many applications are due before Spring Semester begins!). It is common for students to finalize their applications during winter break. Before you mail the applications, make copies of all materials in case you have to resend them. Send your applications via certified mail to verify delivery. Many schools send a receipt letter or postcard after they receive your application. If you do not get one from a
school to which you applied, follow-up with that school.

Prepare for your admissions interview.
- Practice before your interview, if possible. Your career center may have resources to help you prepare.
- Develop answers to the sample questions in the handout titled, “Questions For Graduate School Interview”

Keep your eye on your mailbox.
- In March and April, you should start receiving admission offers.
- Inform the school in writing (or via the school’s preferred method) that you have decided to attend. Also, take time to inform the schools you are not attending that you are declining the offer.
- Send thank-you notes to those who assisted in the application process such as professors and advisors. They will want to hear your quest to enter graduate school was a success!

Resources
- Grad Café - http://thegradcafe.com/
- Grad schools.com - http://www.gradschools.com/
- ScienceCareers - http://sciencecareers.sciencemag.org/