

What is Graduate School and What can I Expect?

Graduate School Can...

- Be a rewarding and empowering experience
- Allow you to gain an entirely new knowledge base
- Lead to new opportunities

Before you start the application process, educate yourself about what graduate school is, the programs in which you are interested, and the job opportunities that are available for your degree.

Reasons to Consider Graduate School

- Strong desire to pursue graduate studies
- Opportunity to pursue intellectual interests at an advanced level
- Higher degrees (Master's, PhD, MBA, etc.) yield higher salary career advancement; higher degrees provide more job options and jobs with more responsibility

Most toxicology positions require advanced degrees.

Expectations for Graduate Students

- Graduate school is different from the undergraduate college experience.
- Students focus primarily on acquiring the skills necessary to become an independent professional.
 - Some purely technical (like a laboratory method)
 - Some are intellectual (like critically analyzing a journal article)
 - Some are new ways of thinking
- In graduate school you move from being a **consumer of knowledge** to becoming a **creator of knowledge**.
- Graduate school is a full-time job.
- Most toxicology programs offer stipends and tuition support; student cost is minimal.

Applying to Graduate School

Applying to Graduate School

- Selecting a graduate program is a critical part of the application process.
- It is important that you select the institutions based on the specific programs that match your interests and the potential advisors at that institution.
- Research in advance the type of coursework, quality of faculty, and facilities at each institution to which you are considering applying.

Pathway Options

Consider your goals and explore the best advanced study options for you.

- Master's (research)
- Master's (coursework)
- Certification in a professional area (new programs are being developed)
- PhD, which is a research degree

Questions to Consider when Evaluating a Program/Institution

- What is the reputation of the school?
- How many students actually graduate and receive a degree?
- How long does it take to complete the degree?
- How many students get a job in their field after they graduate?
- Did the school have any lawsuits or mishaps?
- What is the school's philosophy?
- What type of teaching style is implemented?
- What are the research interests of professors? Is there a professor that has the same interests as me?
- Are the professors that you wanted to work with available to advise? (You should have more than one professor that you are interested in having as an advisor in case one is not available.)
- Can you see yourself working with this professor?
- What is the reputation of the faculty members? Are they well known in their field?
- Does the professor have any research grants or awards?
- How accessible are faculty members?
- What are the rules and regulations of the school, the program, and the faculty?

Questions to Consider when Evaluating a Program/Institution

- Is the program designed to help me fulfill my academic and career goals?
- Does the program relate to my research interests?
- What is the curriculum of the program? What are the degree requirements?
- How helpful is the program?
- How valuable is the program?
- What are the strengths and weaknesses of the program?
- Can I work with professors on my own independent projects?
- Is the degree accredited?
- What types of scores are received on licensing exams?
- How often are the courses in the catalog offered?
- Are the classes interesting and at a graduate level?
- How many males and females are in the program?
- What are the ethnic backgrounds of the students at the school and in the program?
- What is the age range of the students in the program?
- Are the students excited and engaged in classes?
- What types of experiences have current students faced?

Application Timeline and Preparation

Application Process Outline

- Determine a specialty/program based upon your interests and talents
- Assess and prepare all the necessary materials for the application required by the institution
 - Most schools have general applications available on the internet
 - Research applications for specific departments, key deadlines, and specific instructions for completing your application
 - Transcripts
 - GRE or other standardized test scores
 - Letters of recommendation
 - Personal statement and/or admissions essay(s)
 - Interviews

INCOMPLETE APPLICATIONS WILL NOT BE REVIEWED

Junior Year of Undergraduate Study

- Identify programs of interest: school bulletin boards, websites, graduate school directories. Find schools that fit your needs and you believe are a good fit.
- Request information of the programs identified.
- Meet with your current mentors and discuss your plans.
- Identify well in advance the prerequisites and admissions requirements for the programs you have chosen.
- Prepare/plan to take the required exams well in advance.
 - These tests require ample study/preparation.
- Volunteer for undergraduate research programs.
- Visit laboratories on campus.
- Talk to graduate students about what it is like to do research, be a graduate student, etc.
- Carry out an undergraduate research project in a lab on campus for credit.
- If eligible, consider what your University Honor's Program offers for completing an undergraduate honor's research thesis.
- Consider summer intern programs for undergraduates through various scientific societies or institutions (SOT, ASPET, University-based, industrial).

Senior Year of Undergraduate Study

Summer/September

- Take the necessary standardized tests.
- Gather graduate program brochures.

September/October

- Research sources of financial aid.
- Carefully examine each of the program applications.
- Write a draft of your statement of purpose.
- Ask a faculty member or the career/grad admissions counselor at your school to read your essays and provide feedback.
- Ask faculty for letters of recommendation

Senior Year of Undergraduate Study

November/December

- Arrange for your official transcript to be sent to each program to which you apply. Request that the Registrar hold your transcript until the fall semester grades are in.
- Finalize your essays and statement of purpose.
- Apply for fellowships and other sources of financial aid, as applicable.
- Check and record the due date for each application.

December/January

- Complete the application forms for each program. Scan the form into your computer or use a typewriter for a neat and clean application form.
- Mail your applications.
- Most schools send a postcard upon receipt of each application. Keep track of these. If you don't receive a postcard or letter, contact the admissions office by email or phone to ensure that your application has been received before the deadline.

Senior Year of Undergraduate Study

February

- Start planning for the admissions interviews. What questions will you ask? Prepare answers to common questions.
- Fill out the Federal Student Aid (FAFSA) application and any other financial aid forms.

March/April

- Visit schools to which you've been accepted.
- Discuss acceptances and rejections with a faculty member or the career/graduate admissions counselor at your school.
- Notify the program of your acceptance.
- Notify programs that you're declining.

Application Form

- Personal Statement: Essay introducing yourself, your future goals, what you've done to prepare yourself for reaching those goals. Introduce previous research or other relevant experience
- "Official" transcript: must be mailed by the undergraduate institution
- "Official" GRE scores: Must be mailed by the GRE service
- Curriculum Vitae may be a nice touch
- Personal letter to Department Chair highlighting your strengths, desire to be in their program, and other pertinent information
- If you've identified potential graduate mentors, write a letter to them stating your desire to work with them, arrange a visit
- Admission interview

Letters of Recommendation

- Who to ask? Someone who will speak positively of you and knows your strengths.
- When to ask? Start asking around September/October depending on the application deadlines. Be sure to ask early!
- You may want to provide them with additional information: transcripts, CV, research experience, record of accomplishments
- Usually, letters are sent directly by the letter-writer in a sealed envelope, signed across the seal
- Check back frequently with your letter-writers. The process usually takes about 2 weeks. Replace those who fail to respond quickly.
- Thank everyone who submits a letter for you.

Graduate School Interviews

- Know the exact location and time of your interview and plan to arrive early.
- Dress professionally, and appropriately.
- Be friendly and treat everyone you meet with courtesy and respect.
- Prepare well in advance.
 - Research the program and who will be interviewing you, what is their role?
 - What are your interviewers' areas of study and how would your proposed research fit with the department?
 - Know the correct pronunciation of your interviewers' names and address them by title unless invited to address them more informally.
- Prepare for and anticipate questions about your research.
- Prepare a list of your own questions.

Interview Questions

- Interview questions may range from broad and overarching to very specific questions about your skills and experience.
- Questions may not only address your research and academic skills, but also your commitment, working styles, decision making, and interpersonal skills.

Questions You Might Be Asked

- What are your most significant research accomplishments?
- Tell me about your experience in the laboratory. What were the questions you were trying to answer and would you use this same approach again? Would you work on this project again?
- Why do you want to come to this institution?
- Where do you see yourself in the next 5 to 10 year?
- Describe a time when you were in charge of a project.
- What motivates you?
- When you encounter problems do you ask for help or try and deal with it yourself?
- Do you learn better from books, or hands on experience?
- Tell me about a situation where your work was criticized? How did you handle it?
- How do you feel about describing your work and accomplishments in front of a group?
- If you do not understand something how persistent are you in asking for help?

Questions You Might Ask

- What are the strengths of the program?
- Are there teaching opportunities?
- Do students publish their work?
- Where are the former students now?
- What types of financial aid are available?

Graduate School Interviews

- What types of experience, test scores are important to the department
- Know your own work; be prepared to talk about your success, challenges, and next steps.
- Do not monopolize conversation. Ask your interviewers about their work. You must ask questions, but be willing to listen as well.
- This is an opportunity to address weaknesses in your application.
- Do not make excuses, make negative comments about a previous employer or professor, or falsify application materials or interview answers
- Remember that you are also evaluating the interviewers and the institution to determine if it is a good fit for yourself.
- Rehearse!

Qualities for Acceptance

- Potential to become a good scientist, i.e., independent thinkers, good critical thinking skills
- Strong record of past achievement
- Desire and motivation to become a research scientist
- Ability to work independently and with others in teams
- Good GPA, especially last 2 years
- Respectable GRE scores
- Good letters of recommendation
- Strong personal statement
- Prior research experience is valuable

Factors That Could Influence Admission

- Residency, i.e., United States and state residency (for state institutions)
- Funding (Department and grant resources), fellowship eligibility
- Do you know a faculty member in the department?

Selecting your Graduate School

- Important to visit and get a sense of how well you fit
- Evaluate match of specific program or potential mentors
- Review courses offered, quality of faculty, facilities
- Explore with enrolled graduate students how your interests match that program

Graduate School Experience

Qualifiers Along the Way

- Written qualifiers serve to screen doctoral candidates and guide course selection
- Oral Exam
- Thesis/Dissertation proposal
- Written thesis or dissertation
- Thesis/Dissertation Defense

Coursework and Time Management: 1st and 2nd Year

- Core Curriculum
- Specialized Courses
- Grades are not so important (as long as one's work is satisfactory)
- Research approximately 60% time
- Class approximately 30% time
- Draft an Individual Development Plan

Selecting a Mentor

- Match of personalities
- Available funding
- Projects: internal and external
- Lab environment
- Student track record
- Listen to everyone but be careful about taking opinions as truths

Pick your research advisor wisely. Don't be afraid to ask for references from previous students.

A Mentor Should

- Provide you with support and encouragement
- Help you to learn from your mistakes
- Offer opportunities for collaboration, joint presentations, and departmental talks
- Help you to learn about writing and submitting manuscripts for publication
- Be able to provide support and training in your area
- Model a successful academic career and training in your area
- Demonstrate personal integrity
- Provide opportunities for you to develop independence

Coursework and Time Management: 3rd, 4th, and 5th Year

- Schedules are no longer defined by classes or even the school calendar
- Research work year-round
- Prepare manuscripts
- Attend scientific meetings

Additional Resources

Resources

- Faculty members
- Academic advisors
- SOT mentors
- Online resources
 - <http://gradschool.about.com/>
 - <https://www.toxicology.org/careers/toxicologist/becomeTox.asp>
 - <http://www.nap.edu/readingroom/books/careers/>

Credits

This material has been compiled from presentations developed by a number of SOT members.

Some content is adapted from Schwartz N., et al, "A Great Interview: How to Excel in the Graduate Interview Process" Workshop Handout. SACNAS 2015.