"All About Graduate School (in a nutshell!)"

Notes from faculty presentations, April 2008

Introduction

Unlike the process of applying to medical school, you apply individually to graduate school. There is no composite letter of recommendation prepared by a committee. The student seeks individual letters of recommendation from faculty (three is a good number), and they are sent directly to the graduate school. If the student is applying to more than one school, the letters should be appropriately tailored to the program to which the student is applying.

Three common MISconceptions about grad school:

1. **You must pay to go to grad school** (primarily PhD route)
   NO! Contrary to the huge expenses incurred by those students going off to medical school, graduate programs will actually pay YOU! This payment is in the form of a stipend for part-time work you will be doing for the department as a Teaching Assistant (TA) or Research Assistant (RA). After a year or so, the pay is then from a faculty member's research grant for the research work you are providing. The amount is not big, but generally it's enough to get by on. In fact, the size of the stipend may in fact help you decide where to attend.

2. **Graduate School is just like college, only more intense and difficult**.
   NO again. The real experience of graduate school is personally engaging in research and scholarship, not attending classes and being taught information on a particular subject by a professor. Although the first year of grad school may entail some classes – perhaps to supplement an area in which you may not have had adequate instruction - the bulk of the experience will be your independent research, scholarship, investigation and collaboration with others in the area. Think of graduate school more as the beginning of your research career – an apprenticeship with a working scientist – than as an extension of college.

3. **You must know exactly what area and topic you want to research**
   Negativo! Although this is not the case throughout all areas of graduate work (for example, research in ecology-oriented fields will be an exception to the following statement), most programs in biological research are more "umbrella-like" in scope, and will offer students the opportunity to work in rotations through different research labs, to experience different types of work in different areas with different researchers. This will enable you to sample several possible areas of research, and to work with several different teams of researchers and research mentors, giving you a feel for both the lab environment and the topic.

Master's vs. PhD vs. ??

It is no longer the case, at least in science, that you must first get a master's degree before you can "go on" and get your PhD. Many doctorate (PhD) programs are now straight through, directly from the bachelors to the doctorate, after 4 – 7 years of study, research and writing. If a doctorate is what you aspire to, there is seldom a need to seek a master's first.

However, if you are not sure about a PhD, there is a wide variety of other degree programs from which to choose. There are both **research-based master's** programs, and **non-research based master's** programs. Some programs (such as those in the biotech and public health fields) terminate with a master's degree; others can lead to doctoral work if you find you are really passionate about your research. A "non-research-based" masters program will often allow you to "test the waters" and see if you would like to continue towards an advanced research degree. It can help you to transition to a PhD program, perhaps helping you to improve your GRE scores, or subject area test scores. A master's degree can help you to be more competitive for entrance to a PhD program; enable you to teach at the community college level; assist you in transitioning to a new field; and qualify you for a higher pay scale in the workforce. In fact, the master's degree tends to be the preferred degree for employers seeking bench scientists, researchers and the like. There are even some private sector companies who will pay your tuition towards a master's in an area which will help the company's bottom line.

A master's program generally takes two years to complete, and includes the preparation of a written thesis of between 50 and 100 pages. A doctoral program can take anywhere from 4 to 7 years to complete, depending on the nature of your research and the time it takes to complete it, and how quickly you can bring all the components together into a final thesis and defend your doctoral dissertation. A typical doctoral thesis, the presentation of high-quality investigative research and an analytical review of pertinent professional literature, can run between 150 and 350 pages.