Graduate School

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You can find the original article here and here.

Graduate School?

Is Graduate School for me?

A good place to begin is simply asking if graduate school is right for you. Are you excited to work on innovative projects? Do you have a desire to understand parts of our universe more deeply than anyone else? Does the potential to discover something completely new thrill you? If you answer yes to these questions than you are definitely in the right mindset to be a graduate student! Thoughts like “I don’t know if I have what it takes” or “I can’t afford grad school so I should probably do something else” are common but are not true of astronomy! You absolutely have what it takes to succeed in graduate school if you are excited to be there. No doubt it’s a very rigorous environment, but work ethic, not raw brain power, is a skill most graduates have. Also, the cost of graduate school doesn’t apply to astronomy grads. All major programs in the US will not only cover your tuition, but PAY YOU some stipend while you work! This is also true of other sciences.

Alternatives

- Careers, Like Space Missions, are Tricky: How a Master’s Degree Can Help
- Careers In Astronomy: What am I Doing with my Life??

What schools should I apply to?

When you begin looking at schools to apply to, the task can seem rather impossible. There are just so many programs, it is hard to choose just a couple. The first step in picking a list is to define your own personal goals. What parts of astronomy are most exciting to you? Do you want to use the world’s largest telescopes or create simulations and run them on supercomputers? What type of career are you interested in? In astronomy, you can do observations, theoretical work, instrumentation, or any combination of these. Bear in mind that the best graduate program out there is the one that fits you best. This can be an Ivy League program or a small school with one other grad. Figuring out what you want is easily the hardest and most important part of applying to grad school. If you spend the time to do this, suddenly the number of schools right for you will be crystal clear. Remember that it’s ok not to have EVERYTHING figured out. If you have no idea if you are more interested in galaxies or stars, designing instruments or simulating the universe, there are many programs with a huge diversity of ongoing research to choose from. Part of graduate school is finding your passion along the way.

So how do you know if a school matches your interests? The best way is to identify faculty who perform this type of research at each school. There are several ways to go about doing this. One is to go to department websites and look at the faculty pages. Make sure to look carefully though! Here is a great blog post about that process. A more direct way is to talk with the astronomy/physics faculty at your undergrad institution. A lot of times they can point you in the direction of the schools who are known for their excellence in your areas of interest making your search much easier. Also don’t be afraid to contact potential advisors by email! In astronomy, its who you know. Making your name more familiar helps you tremendously when the department starts pouring over hundreds of applications.

Even after taking these steps, you may still find yourself interested in a dozen or more schools. Your decision to trim this list may be dependent on several things:

1. Your Budget

Applying to graduate school is EXPENSIVE. This is important to consider going in. Applications can cost anywhere from $50-100 (and maybe more now). You also need to send transcripts which your university will most likely charge you for (some schools want multiple transcripts!). There is also the cost of taking the regular and Physics GRE. In addition to paying for the test, ordering scores to be sent to the schools also costs money, although you can save some money by knowing which schools you want to apply to before you take the test. On both GRE's they will ask you to list 4 schools you wish to send your scores to for free! Make sure you list the SAME 4 SCHOOLS on the regular and Physics GRE. In all, applying to 10 schools can cost you over $1,000 …. so this can affect how many schools you apply to.

2. Confidence

Don't let your confidence fool you in the process. Just because you think you CAN get into a program doesn't mean you WILL. This opposite is true as well. You may not think you can get into that Ivy League program, but maybe you are exactly the person they are looking for. Be very careful of having too much confidence and only applying to a couple schools. Situations change with funding, previous class sizes, moving faculty, and even things like office space. Feeling really nervous about not getting in anywhere is completely normal, so to calm your nerves and improve your chances apply to a RANGE of schools. Aim high and don't underestimate your chances at getting into those top programs! At the same time, apply to some places you think you are likely to get into but would still love to attend. If you get into everywhere you apply, you may fall in love with your backup on the visits and hate those places you thought were the best. See this astrobite about what visiting grad schools is like.

3. Family/Relationship Situation

Ah, the 2-body problem. First, do not feel embarrassed to ask for advice on this issue. Many couples go through it and work it out just fine. The question you need to ask yourself is how close you are to the person (married vs. dating) and how much your happiness depends on the happiness of the other person. Obviously if you are married/engaged, the question is a little easier because you must include the other half in the decision. The problem is tough when you are working it out with a girlfriend/boyfriend. How much are you willing to sacrifice for the other person? Would you be willing to give up your dream program for them? Do they have a career of their own they want to pursue? It's complicated because likely you both care about each other's happiness, but picking a grad program requires you to focus on yourself. Having successfully solved this problem myself, I will give one piece of advice: Be honest with each other about your wishes for the future. If staying together is what you both want, talk about the kinds of compromises you are both willing to make. Where do you want to end up? Are there overlaps with their choices? It is completely possible to work out a list of schools you are excited about while keeping the other person in mind, but it takes work and mature decision making. Whatever you choose, make sure you are happy!

Final List

The right number of schools is up to you. Some apply to as few as 5, others apply to more than 10. You should feel excited about every school on the list, even your "backups". Never apply to a school just because. Have a reason for each place and at least 1 (preferably 2) faculty at each place you would love to work with. Once you have your final list, its time to move forward with the applications.

Application Process

Setting Yourself Up for Success

Applying to graduate school is very much like walking into an interview with a company you would like to work with. Ideally, before-hand you have done your research on what the company is looking for in a candidate and have prepared yourself to answer questions that play of up your strengths that match the company's expectations of their employees. For graduate school, you look at faculty research, what their graduate students are working on, and talk about how those interests align with your own in your personal statement. Before an interview, you will ask yourself what your appearance says about you and dress appropriately for the station you are applying for. Likewise, make sure you present yourself in a manner you are proud of to the graduate programs. In an application, this means not having an email address like Mclovin@whatever.com or something cute and silly. If you need to, create a new email address with some variation of your name which doesn't distract the committee from concentrating on your application. In fact, creating a new email just for graduate applications is handy because it separates your contact with your schools from the rest of your emails making them easier to find and respond to.

Most important, when going in for an interview, you don't show up late or on-time, you show up EARLY! Forgetting the application due dates and turning your materials in late doesn't do anything to impress the grad committee. An easy thing you can do right now to make this process much easier is to create a giant table of all your schools of choice and add columns for the necessary materials, whether the application is online or by mail, and all important due dates (application/transcripts/letters of recommendation) which may different at each school. Double check and see if your transcripts need to be in before your application. Same goes for the letters of recommendation. If you are applying to any more than two schools, this table will be really handy. Keeping track of everything is tough and it gets frustrating going back and forth to different websites all the time just to check due dates or exactly the length of the personal statement each school wants. Do it now, and thank yourself when you finish.

1. The Application

Most schools have gone the convenient high-tech route and you fill the entire application out online. Whether they are online or not, this is all the basic information about you. Probably the hardest part of each application is remembering your GPA and your Physics/Sciences/Math GPA. Some schools will ask you to calculate out your Math or Physics GPA separately which can be a pain, so it's worth it to calculate those now and have them connected with that handy table you made already! Many applications will have some ~200 word short answer questions about your strengths like experience with computers/operating systems etc. Another thing to have included on your nifty table is the contact information of the people who will be writing your letters of recommendation (full name, office phone, email address, office address) because you will have to list them on your application. With any application, take your time, double check important information, and proofread.

2. The Personal Statement

Crafting a strong personal statement doesn't have to be difficult. The statement should show the committee that you have an idea of what you want to study and why that's important, demonstrate that you are familiar with the department and why you want to work there, reflect your motivation to solve problems and your curiosity with "enter interest here", and finally give the committee a reason to believe you will be successful in the program. This is the core of your application and where you set yourself apart from the other applicants. Rely heavily on your past research experiences and concrete examples of your commitment to the field. It's important to not only spend time tailoring this to each program, but also let your advisors or people you trust at your university look over it for you. The admission committee is thinking about one thing, "Why should we admit this person," and your job is to give them every reason to want you there.

- Personal Statement

3. Letters of Recommendation

Most schools require 3 letters from people who know you well in a professional setting. These don't have to be all professors at your university, but make sure you choose people who know you well enough to cite specific evidence for the strengths you possess. After you decide on the people you would like, there is a formal way to go about asking for recommendations. Once you have your list of schools you are applying to, formally write a letter to the people you want recommendations from. Then take this letter, a printed list of the schools you are applying to with their recommendation deadlines (which can be different than the application deadline!), a CV/Resume, and addressed and stamped envelopes for each program and hand it/mail it to your recommenders. Make sure you give them AT LEAST 2 weeks, but preferably more time, to write your letters. The more time you give, the better they will be. Sitting down and talking with your recommenders personally so you can talk with them about your goals and what you have listed in your personal statement will also help them craft a more personalized letter. This can also be mentioned in the letter requesting the recommendations. Also be sure to have thank you letters written after your applications go in for your recommenders. They are doing you a huge favor!

4. The GRE

Most schools need your test scores around the time the applications are due, so make sure to register for either the October or November testing dates. Some schools are more laid back about when they get the scores, but you don't want that to be a determining factor. Study, do well, get it out of the way, and make sure to send scores to all your schools. All astronomy programs I know of want you to take both the regular and physics GRE. You will need to study for both tests. Hopefully this is something you have had time to do over the summer, especially for the physics subject test. While the GRE scores are not the most important part of your application, doing poorly on one or the other can give the committee cause for concern. Again, you want to give them every reason to want you, not reasons to doubt. However, on the off chance you have a terrible day and don't do well on one of the GRE's, all hope is not lost. A strong application, praising letters of recommendation, and becoming familiar with the faculty at the graduate programs you apply to will count for much more than a standard test score. Keep that in mind.

- Physics GRE (Study Guide)

5. Transcripts

They are sometimes expensive, but this is the easiest part of the application. Your school can send them directly to the grad programs, so get these done early. Also, some schools want more than one transcript, so pay attention and read carefully.

YOU'RE DONE!!!……ALMOST

Deadlines for applications can be as early as December and as late as February. But don't wait! As mentioned earlier, don't show up to the interview on time. Make sure your applications are sent in with time to spare in case something goes wrong. Once everything is turned in, an important part of this process is following up with the grad programs. Call or email, introduce yourself and ask if your application is listed as complete (do they have all your materials). Some schools have the ability to track what they from you online which is nice. If you turn everything in early, you have time to correct problems should they arise with the mail or whatever else.

Finally, you reach the hardest part of the application process….. Waiting for the acceptance calls/emails.

They usually start in February and continue through March depending on the program, but most do it somewhat early so you have time to visit the school. Of course, there is always so much that can be said about applying to grad school and everyone has a different experience, so feel free to leave reach out to graduate students for advice.

Graduate Student Life

Everything you need to know about grad school life.!