A Guide to Applying to PhD Programs in Mathematics

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Introduction

Note that this is not a comprehensive application guide; for this to work, you’ll need to look things up when needed. If you aren’t Googling how to do things as you go, you either don’t need this guide or aren’t doing this right. This will also be written mainly for a Geneseo student; if you are not a Geneseo student, then the links and some various other information won’t help much, but the main point of this document will remain the same.

With that out of the way, let me say that I am glad you’re choosing to read this! If you don’t like this guide to the application process, and decide that it doesn’t suit your style, then that is perfectly fine with me; the main point is that you get the proper help and guidance you need to get through this process. The most important thing to know about this application process, above all else, is that **you don’t need to go through this process alone**. Getting help and asking people what to do is an essential part of completing these applications!

This guide should optimally be read the summer before your senior year of college (or before the fall during which you submit your applications); of course, reading it before this time won’t hurt, but it will make the most sense and be of most practical use at that time. This write-up is intended to guide you generally through the process and over the classic pitfalls which await the unwary applicant. So, read on to learn more, and I sincerely hope that this helps you avoid making the same mistakes that so many before you have!

**Section Summary:**

* **See if you like this guide, and find another source if you don’t**
* **Start applications during the season before they are due**

Preliminary Summer Work

There are a couple things that you should do even during the summer before you get back to school. The first I would mention is to **look out for grad school fairs**, as sometimes you can get application fees waived; since these average to be about $75, this can be a great help financially if you are able to get two or three fees waived.

Next, you’ll definitely need a comprehensive list of schools to which you’re applying; put whatever you want on your spreadsheet, but definitely **have a list of schools made**. Make it based off of program and faculty members at the school, as well as whatever other factors you deem to be important. Different people will say different things about which details are important, but the work that you will do at that school is the whole reason you are attending, so you should make sure that there is work that you like to do at that school.

I would like also to say that your list doesn’t have to be complete; you will want to do some preliminary research over the summer, but it is completely acceptable to have a list of about 20-30 schools on the possible list, with only 3-4 that you definitely wish to apply to. There will be plenty of time from here to cut schools off the list.

Finally, although they are not the most important part of your application, **start studying for the GRE tests**; no matter how much time you think you’ll have during the fall, it will not be enough to study unless you specifically set away time to study for these tests. If you are taking the math subject test, **expect to do awfully with respect to how well you normally do**, since this will be the first time you will not be competing against every person applying for entry into graduate school, but rather every aspiring mathematician. If you are able to study at all for these tests, you’re already doing much better at studying than I did. Note that the costs for taking the General GRE is $205, and the cost for the Mathematics subject test is $150, so make the most out of the tests that you are able to.

**Section Summary:**

* **Find grad school fairs or possible fee waivers**
* **Make a preliminary list of schools**
* **Start studying for GRE and GRE subject, if needed**

Pre-Application Check-List

The following things are items that you will want to have ready before you start completing any of your applications, since they will all be required for each application. These can be done in the first month or two of the Fall semester, and should be finished by (at the latest) late November or early December. Most likely, you will just need to update your resume or CV, and will need to completely write a personal statement / letter of intent, as well as download your transcript. The following is a list of those basic things which are needed.

* A resume or cv: <https://www.geneseo.edu/career_development/resumeandcoverlettersamples> has some good samples for you to use.
* An **unofficial copy of your transcript**. You will want to log in to <https://knightweb.geneseo.edu>, then click on student >> student records >> academic transcript and then once you get to the page with your transcript, google how to download it as a PDF. **You will also want to get an official copy of your transcript**, ordered for yourself so you can scan and upload it if needed; this can be ordered from knightweb as well, by following student >> student records >> order official transcript.
* You should have a document with the names, phone numbers, emails, and addresses (can be the school address) of your letter writers.
* You should have a personal statement written for at least one school.

Of these items, the letters of recommendation and a statement of purpose are a bit harder to obtain, so I will talk about those in more depth.

All the places to which you will apply will require some number of people to write letters of recommendation for you. You should ask your letter writers at **least two weeks, and optimally about a month, in advance** of the deadlines for your programs, so that they have proper time to write letters for you. You should also share with all of your letter writers a list of the schools you are applying to, along with the application deadlines for each of them, so that they know what their timeline is. If you add any schools last minute, **make sure to let your letter writers know**, and just generally keep them in the loop. It is your responsibility to make sure that all the letters get to where they need to be.

Writing a personal statement, on the other hand, depends entirely on you. I will not be giving you a guide on writing personal statements here; all I would recommend you do is go on Google, and find several different formats and statements to get a feel for what your statement needs, as well as what you want your statement to look like, and get working on it. Don’t be afraid to **have friends, family, professors, or the writing center look over your statement**. I wasn’t able to get my statement reviewed by the Geneseo writing center, since you have to sign up, but I would think that it is something that could help and wouldn’t hurt to do. The letters of recommendation and statement of purpose are possibly the most important parts of your application, because they are the only parts of your application that your programs will have which stem from real people, and which will hopefully most accurately give a reflection of the type of person that you are.

There are some other possible requirements that one might run into when completing their applications. For example, there is a chance that you will need to compile a list of courses in mathematics that you’ve taken, along with textbooks used, chapters covered, and descriptions of the course. This is, of course, a giant pain; however, if you are required to do this, there are shortcuts that one can take to lighten the workload. One option would be to use the descriptions for the courses found on the Geneseo website, which are the same as those in the undergraduate bulletin. One can also look up the books for the courses that they have taken on <https://books.geneseo.edu/>.

**Section Summary:**

* **Prepare a resume or CV**
* **Prepare a statement of purpose**
* **Ask recommenders for letters in a timely fashion**
* **Get necessary transcripts**
* **Do any other time-consuming things they need you to**

Applications – Entirely Dependent on You

As much as you will (and I have) complained about how hard the application process is, they really do make it easy to apply to most places. Most schools have websites that allow you to fill out parts of the application and save your progress, so starting all of the applications doesn’t mean that you have to finish the applications that day. You will most likely make an account and be able to log in each time you want to work on the application some more. **Filling these out is a huge time suck**, since you’ll have to fill out the same details over and over, **but you’ve got to do it**. Double check every detail, so that your application has no errors; if you’re doing this early enough, there shouldn’t be a problem. If you are applying to enough schools, you’ll notice that most subscribe to some service or another, and this can help in the sense that you know how filling out that ‘type’ of application will go.

There are a couple things that can help you as you go through the application process, so that your application looks the best for them. The first thing to do is, whenever you are about to submit something like a personal statement, CV, or transcript, **save the document as a PDF for submission**; this Is because some of the websites that you will be submitting documents to can mess up the formatting of the documents submitted if they are in an editable form, such as a Word document. Worst case, it’s just a small pain, even if it doesn’t end up helping any of your applications look nice; better safe than sorry in this case.

Next, when you are writing your statement of purpose / letter of intent, you will most likely write just one. Writing individual statements for each school from scratch would be ideal as an applicant, but is incredibly impractical. So, you will probably have some sort of basic statement written that you will be able to edit sections of for each school. When you have written your first statement, **mark the sections which are specific to the program or school in some fashion**, such as **bolding** the parts which are for that school, or something similar. This is because it would be bad to, for example, have a statement which talks about how much you like partial differential equations, and goes on to conclude how your research is similar to artificial intelligence research; that would make no sense, and be a terrible mistake to make.

A smaller but similar error that can occur with the statement of purpose is having a discrepancy with the original application is not considered during the editing of the statement. Since some applications will ask what specialties you would prefer, or which faculty members you would like to do research with, you will want to make sure that the specialty or faculty members you mention in your statement are the same as those in your application. It would again be silly to say that you want to do machine learning research in your statement, but only list partial differential equations in your online application form.

**Section Summary:**

* **Always save documents to PDF format for submission**
* **Keep track of the tailored sections in the statement of purpose**
* **Make your statement consistent with your application form**

Applications – Partially Dependent on You

The following will describe items that involve dependence on other people, such as the letters of intent, sending official GRE scores, or sending official transcripts. So, to get right to the first item on the list, **don’t be afraid to bother your letter writers** if it’s getting close to your deadlines. They’re just people, prone to forgetfulness and business just as much as anyone else, and might simply forget about writing or submitting the letters. It isn’t hard for them to submit letters once one is written for you, so don’t be afraid to have a more variable list, in the sense of being able to add schools last minute.

Next, you will have to submit official transcripts to most schools. This can be done from the same place as where you will order an official copy for yourself. Some schools will simply want or prefer a digital copy, and others will just not even look at paper copies, so **make sure that you know which type, paper or digital, of transcript you are sending**. It is again your responsibility to make sure that each school has the transcript they need, to follow up with them if you are not sure whether or not they’ve received their respective transcript. These transcripts are $7.50 per transcript from Geneseo for regular prices.

Finally, be warned that **every school will most likely require official GRE** scores (there is little chance of them not requiring an official score), so send them, especially by using the free score send after the test if you can. They are $27 per school, so you can save a lot of money by sending each score to the few schools you are definitely applying to. One nice thing about this process is that the price isn’t dependent on which or how many scores you send; sending one test to a school is the same price as sending five to a school. So, use your “send free to a couple schools thing” to send all your scores to the couple on your list to maximize the amount of money you will save. You should also be aware that scores take **at least five BUSINESS days and up to two to three weeks** to be sent after ordering them. A lot of schools will still review your applications with your unofficially reported scores, but it is a lot less stressful to just be able to have all the official scores in.

With each of these parts of your application, **don’t be afraid to contact people about what they need to do**. Program coordinators won’t mind if you email them about various parts of your application, ETS won’t mind if you call to confirm that your test scores have been sent and received on time, and so forth. Just like everything else about this process, it is much better to be safe than sorry.

**Section Summary:**

* **Don’t be afraid to remind letter writers**
* **Send GRE scores early, as GRE scores take time to send, at least five business days**
* **Contact people if you need to**

Miscellaneous Application Possibilities

Lastly, there are some optional things that you can do if you wish to. For example, it might be nice to make an account on, or simply follow, one of those websites which contains applicant profiles and results, so that you can either reassure yourself or just plain freak yourself out because you don’t have a 4.0 GPA from Harvard with both math and physics degrees. If you think you would like to do either of those, check out <https://thegradcafe.com/> and <https://www.mathematicsgre.com>; you might even be able to find my profile on the latter!

**Section Summary:**

* **Do anything else that you would like to during this process to keep track of your information**