

Graduate School in Math and Statistics

Swarthmore College, Spring 2022

Should I go to grad school?

Pros & Cons

- ▶ Freedom to learn and explore
- ▶ Join an active research community
- ▶ Chances to travel, meet people, have fun
- ▶ Low pay
- ▶ Stress
- ▶ Tough job markets, delayed career stability

Typical Ph.D. Program Timeline

- ▶ First 2 years
 - ▶ Take core courses
 - ▶ Study and take qualifying exams
- ▶ Next 2-4 years
 - ▶ Work closely with an advisor (and a research group or lab)
 - ▶ Complete a big, independent thesis project
 - ▶ Work on smaller papers and collaborations

Grad School Myths: Busted

- ▶ Myth: graduate school is too expensive.
- ▶ Fact: Ph.D. and some Masters programs offer grants for full tuition, stipends (salaries) and teaching jobs.
- ▶ Myth: you have to get into a top-ranked program.
- ▶ Fact: there are lots of good programs. You're better off with a great advisor at a low-ranked program than the reverse.
- ▶ Myth: graduate school is for “geniuses.”
- ▶ Fact: you can keep growing as a mathematical/statistical thinker. Success takes independence and persistence. It's about finding the right advisor, project, and community, not just about talent.
- ▶ Myth: graduate school is only for future professors.
- ▶ Fact: Math & Stat Ph.Ds go on to research and teaching jobs, but also to jobs in business, industry, government, and more.

How to Choose a Graduate Program

- ▶ Potential advisors/research community
- ▶ Location
- ▶ Big vs. small
- ▶ Community among graduate students
- ▶ Teaching responsibilities
- ▶ Amount and duration of stipend support

Your Application

- ▶ **Reference Letters:** usually 3
- ▶ **Transcript:** solid foundation in your field, good grades, challenging courses
- ▶ **Personal Statement:** about 2 pages
- ▶ **Resume/CV:** relevant academic experience, projects, professional experience
- ▶ **GRE Scores:** general and subject tests, not required for all programs

Tips for Reference Letters

- ▶ Ask faculty who have seen you do independent, challenging work.
- ▶ Get to know your professors.
- ▶ Be active in the Swarthmore Math/Stat community.
- ▶ Ask for recommendations at least a month in advance of the due date.
- ▶ Provide a complete list of programs you're applying to and due dates.
- ▶ Share your application materials and ask for feedback.

Tips for Statements

- ▶ Show that you know what you're getting into, and are prepared to succeed.
- ▶ Your background: interests, research experience, independent projects.
- ▶ Your plan: goals, potential research area, potential advisors.
- ▶ Tailor one paragraph to the specific school and program you're applying to.
- ▶ Your plan doesn't need to be very specific and is not binding.
- ▶ Start early, get feedback, edit!

Outside Fellowships

- ▶ [NSF Graduate Research Fellowships Program \(NSF GRFP\)](#)
- ▶ [National Defense Science and Engineering Graduate Fellowship \(NDSEG\)](#)
- ▶ [Graduate Fellowships for STEM Diversity](#)
- ▶ [Hertz Fellowship](#)
- ▶ [Paul & Daisy Soros Fellowships for New Americans](#)
- ▶ [The American Mathematical Society's Fellowships Page](#)
- ▶ [The American Statistical Association's Fellowships and Grants Page](#)
- ▶ [Swarthmore's Fellowships & Prizes Site](#)

Timeline

- ❑ Spring or Summer: make an appointment and take the GRE General Test
- ❑ Spring or Fall: Attend GRE practice sessions
- ❑ April: first chance to take GRE Subject Test
- ❑ Summer: draft personal statement & resume, begin selecting schools
- ❑ September: request recommendation letters, get professors' feedback on your list of schools and application materials
- ❑ September: second chance to take GRE Subject Test
- ❑ October: third chance to take GRE Subject Test
- ❑ October: Finalize list of schools
- ❑ October-November: NSF GRFP and other fellowship due dates
- ❑ December-January: application due dates
- ❑ March-April: results announced