Spring ‘25 Phys 496 Grad School Q&A Session

What Do Graduate Admissions Committees Look For?

(or *How to Create a Strong Graduate School Application*)

Lance Cooper, UIUC Department of Physics

The Typical Thesis MS/PhD Program Admissions Process

The admission process to most graduate programs is ***not*** like the undergraduate admissions process you may be more familiar with!

To understand why, it's useful to look at the typical timeline for a thesis master's or PhD student:

First year

- usually take some courses (usually 2 or 3 per semester)
- explore research opportunities

Second year

- you may take a 'qualifying' exam to test readiness for research
- maybe take 1 or 2 courses each semester, ramp up on research

Third year

- You're generally focused on research
- Take your thesis proposal ("prelim" exam)

Years 4 - 6

- Write and defend your thesis describing your research

Constructing a Competitive Grad School Application

Most graduate programs are focused not only on your preparation for coursework, but also and primarily on your preparation for research.

Consequently, it's useful to think of the grad school admissions evaluation process as a two-step process:

Step 1. Do you have the academic preparation to be successful in the initial graduate coursework?

- This stage is a bit like undergraduate admissions, with a focus on your undergraduate course preparation, grades, and possibly test (GRE) scores

Step 2. Do you have the interest and experience to be successful in the research you'll do?

- This stage can be more like a job interview, with specific faculty members evaluating your application to see if you're a good match for their research

Constructing a Competitive Grad School Application

With all this in mind, what goes into a competitive graduate program application?

(1). Course preparation and grades

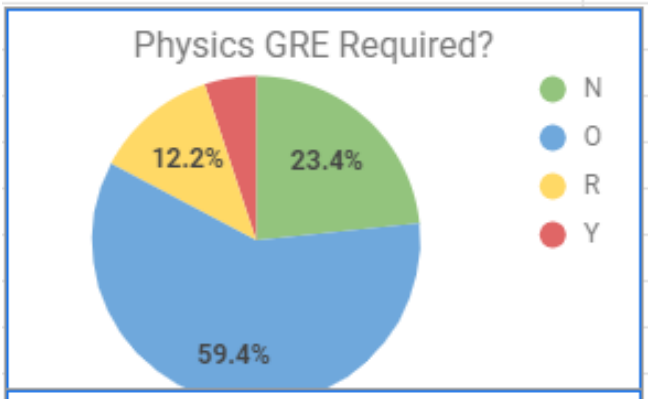
Of course, your preparation and grades in the courses needed for the graduate courses you take will be an important consideration

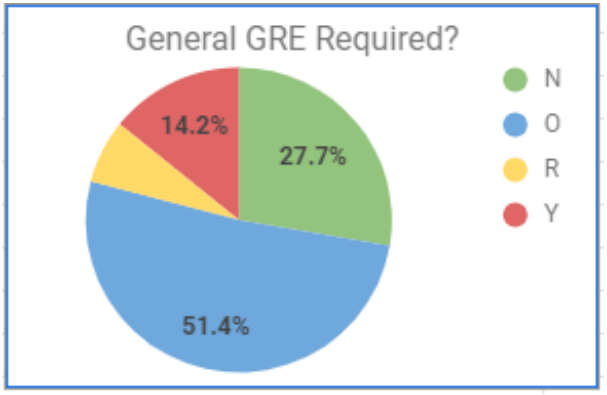
(2). Test Scores (GRE)?

Depending on the program you're applying to, you may be expected to submit general GRE scores, and perhaps even subject (discipline specific) GRE scores.

Programs may make GRE scores "required", "recommended", "optional", or "not required" for admission

>200 Physics grad programs surveyed:





Constructing a Competitive Grad School Application

With all this in mind, what goes into a competitive graduate program application?

(3). Personal Statement

This application component tells us about you, and is one place to emphasize your research preparation to the admissions committee (more on this below)

(4). Recommendation Letters

This application component is another important opportunity to communicate to the admissions committee your research ability and preparation (more on this below)

(5). Additional Materials

You will typically have other ways to communicate information about yourself, including a resume, a diversity statement, supplementary materials such as papers, presentations, etc.

Writing a Compelling Personal Statement

The personal statement is very important, as it is one of the only places to put information about your research abilities in your application.

- Emphasize your research experience and enthusiasm for research
- Describe your research interests: don't be too vague or broad in your descriptions. Remember that faculty you may work for may be evaluating your application!
- Tailor part of your statement to the department you're applying to:
  - Explain why the department you're applying to is ideal for fulfilling your academic and research goals.
  - List specific faculty with whom you're interested in doing research and explain why their research is interesting
- Have someone review and edit your personal statement: Are there typos or grammatical errors that should be removed? Is your statement clear and compelling?

Submitting Impactful Letters of Recommendation

Recommendation letters are another important way to emphasize your research and leadership abilities

- You should have **at least** 1 letter writer who can describe your research abilities
- If you use a letter writer from a course, choose someone who can comment on special qualifications you have, not just what grade you received
- Give your letter writers plenty of notice…do not wait until the last minute to ask them to write letters
- Provide your letter writers with a copy of your CV and, if possible, a draft of your personal statement, to help them write you a strong recommendation letter

Preparing for Grad School and Grad Applications

(1). Take courses that will best prepare you for grad coursework in your discipline and research area of interest

- Interested in experimental research? Take advanced labs or project-based courses.
- Interested in theoretical research? Consider taking more math.
- Interested in computational research? Take more coding and computational courses.

(2). Get involved in undergraduate research

- Some experience and preparation in research is very important to be competitive in thesis-based MS or PhD programs.
- Consider pros and cons of multiple shorter research projects vs. 1 longer research project

(3). Be aware of important application and test registration deadlines

Application deadlines are department specific, so consult the grad application websites for programs you're interested in. Deadlines generally range from early December through mid January

Example: Physics Graduate Application Deadlines*

Deadline	Schools
Dec. 1–21, ’24	Berkeley, Cal Tech, Chicago, Columbia, Cornell (Physics) , Cornell (App. Physics) , Florida, Harvard, Johns Hopkins, Maryland, Michigan, Minnesota, MIT, Northwestern, Ohio State, Princeton , Purdue, Rochester, San Diego, Santa Barbara, Stanford (Physics), Stanford (App. Phys), Texas, UCLA, Wisconsin, Yale (Phys & App. Phys)
Dec. 26–31, ’24	Rutgers
Jan. 14-21, ’25	Illinois

*Deadlines are often earlier for fellowship/international applicants

Be Aware of Fellowship Opportunities

Ask grad programs you apply to programs about fellowship opportunities at their institutions*:

*Fellowship application deadlines may be earlier than grad application deadlines!

Also consider applying for national fellowships:

- NSF: October 15 - 18, 2024 (depending on discipline)
  https://new.nsf.gov/funding/opportunities/grfp-nsf-graduate-research-fellowship-program/nsf24-591/solicitation
- Hertz Foundation: November 1, 2024
  http://www.hertzfoundation.org
- American Assoc. Univ. Women Fellowships: November 15, 2024
  https://www.aauw.org/resources/programs/fellowships-grants/current-opportunities/
- Gates: October 16, 2024 (US citizens); December 3, 2024 or January 7, 2025 (non-US, depending on course)
  https://www.gatescambridge.org/

Other Things to Consider When Applying to Grad School

(1). Make sure graduate school is for you

- Are you enjoying your undergraduate research experience?
- Do the research areas you hear about sound interesting?
- Are the day-to-day activities associated with the research you'll do generally enjoyable?
- Does the open-ended nature of research appeal to you?

(2). Make sure to apply to a reasonable number and distribution of graduate programs

- Don't apply to just 1 or 2 programs
- Don't apply to only the very "top"-ranked programs

(3). If you're not sure what research area you're interested in, make sure you apply to programs having groups doing research in more than one area you're interested in

- Give yourself research options

Other Things to Consider When Applying to Grad School

(4). Make sure you apply to programs having multiple research groups that interest you

- Give yourself options in case a particular group isn't available

(5). Talk with faculty in your departments to get insight into programs that might be a good fit for you and your research interests

(6). Don't ignore the campus, department, and group "climate"

- You need to be in a supportive environment to do your best work
- Go on campus visits when possible to see if the environment is a good fit for you
- Talk with grad students in departments you're considering to get a sense of the departmental and group climate

(7). Check to see if you're eligible for any application waivers

- Application fees can run from $50 to $100+, which adds up!

QUESTIONS?