

# Graduate Physics Programs Admissions Overview

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(with credit to Cal-Bridge Handbook)

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## Plug for Cal-Bridge

**Rising juniors at CSU campuses:** apply for Cal-Bridge.  
Deadline is **August 18, 2018.**

# Admissions Process: Timeline

## Junior Year:

- keep your grades up
- get some research experience
- summer research: start arranging it in *January*
- take physics GRE in spring (?)
- begin drafting statement of purpose

## Summer Before Senior Year:

- draft statement of purpose/personal statement
- *get peer feedback on statements*
- study for physics GRE
- start shopping for programs

## Timeline ct'd

### Senior year

- keep studying for GRE
- get mentor feedback on statements and target schools
- **September 15/October 27** Physcs GRE dates for 2018
- don't forget general GRE!
- **End of October** NSF GRFP deadline
- **November** finalize list of programs to apply to; check deadlines
- **December-January** most graduate application deadlines

## Choosing Where to Apply

- Goal is *not* to get into the highest ranked department on some national listing. **It is finding a good fit.**
- MS or PhD?
- Choose a program with more than one faculty/topic you are interested in doing research.
- Your interests/research topic choice is not a commitment, and ~50% of the time students work on different topics than initial interests.
- Contact faculty at programs in which you are interested... at least for 2 or 3 graduate programs you are interested in.
- Get advice from your local mentors!

## How Many Places to Apply?

- some target schools, some “stretch” schools, some backup schools
- GradSchoolShopper.com is a convenient place to get a quick look at programs
- reference point: typical student entering UCD PhD program has GPA  $\approx 3.6$ , PGRE  $\approx 55$ th percentile, quantitative  $\approx 90$ th, verbal  $\approx 80$ th, writing  $\approx 60$ th
- schools often post *minimums*, not typical values, on their websites
- process is stochastic  $\implies$  apply to  $\sim 5$  target schools, plus 2 backups and 2 stretches
- take advantage of any fee waivers!

# Application Components

- Undergraduate academic record
- GRE
  - don't panic: there is time to practice and improve
  - admissions committees vary greatly in how they use it
- **Letters of recommendation**
- Statement of purpose/personal statement

## Statement of Purpose (and Personal Statement)

- **Always answer the prompts.** Some schools ask for one statement with both elements; others ask for separate statements. In either scenario: convince faculty that you are aimed for success—*in their program*
- **Statement of purpose:** why you want a PhD or MS (including what you plan to do with it afterward) and why you want to earn it in *this* program.
- **Personal statement:** your personal history and how you will enrich the community you are wanting to join (including contributing to diversity)
- Writing strategy: assume most schools ask for one statement and carefully craft that; then separate the elements for other schools
- NSF GRFP applications will present a *third* writing challenge: a *project proposal*)



## Statement of Purpose Key Elements

- What is the purpose of your graduate study? Focus on your path to achieving your goal as a research scientist, from entering an undergraduate program to now (skip K12 years).
- Any specialized areas of interest? Who did you work with, what did you do: internships, projects, employment, research and publications? [Avoid list format!]
- Do not be afraid to get technical in short order. Include skills such as using equipment, programming, etc, but keep *science* in the forefront. Rule of thumb: one full paragraph per research experience.
- What are your future goals?

(quotes from Cal-Bridge Handbook)

## Tailor your statement to each department

- What makes you uniquely suited for this particular department, this specific institution?
- Include faculty with whom you want to work. This shows you have done your homework [and can save you a lot of grief!].
- Read specific faculty's research in the department you are applying to and tie into it.
- Contact faculty before you apply to build a relationship. [Or at least make sure they are taking new students.]

## What if I'm Torn Between Two Fields of Study?

- Try to be coherent in your fields of interest. If you express interest in very different fields, it looks like you should learn more about them before applying.
- Having  $> 1$  field of interest is not *necessarily* dangerous if your statement makes them both look *well* motivated.
- If you are really divided, consider writing very different applications to very different programs.

(quotes from Cal-Bridge Handbook)

## Tips for Writing

- Start early and revise, revise, revise (w/help of readers)
- Target length: 2 pages (personal statement can be much shorter; *always check the prompt*)
- Final product: a package that reflects your professionalism. (Drafts sent to faculty mentors should already look professional enough.)
- Include the adventure that got you to want to do research. What is the wow factor that got you into astronomy or physics? Did a certain book or article inspire you?
- Think of yourself as a scientist: astronomer or physicist (in training). Every paragraph should be related to your research area, interest, experience, and future.

(quotes from Cal-Bridge Handbook)

## But...

- Too many statements start with: “I’ve wondered about the night sky since I was 10 years old...” Make it more specific, scientific, professional.
- Do not *tell* us you are passionate and a hard worker [ as in “I love science. I love to study it, to breathe it, to be it. Science is the foundation for all that we are. I have worked long hours pursuing my goal to become a PhD.”] *Show* us how you are passionate and what you did because of your passion.
- do not compare your SoP with friends applying to programs in law, medicine etc...same criteria do not necessarily apply across fields.
- it’s a fine line between appearing confident (“I’ve been building to this for years and I know I’m ready”) and overconfident (“I’m ready to write down the theory of everything.”)

(many quotes from Cal-Bridge Handbook)

## Extenuating Circumstances

- Keep this section brief: such circumstances must be addressed, but a few sentences at most. Put this info in your *personal* statement to the extent possible.
- Describe any problems or inconsistencies in your records or scores, such as a bad semester. Explain in a positive manner. Since this is a rebuttal argument, it should be followed by a positive statement of your abilities.
- Point out positive trends in your grades.
- Describe any special conditions that are not revealed elsewhere in the application, such as a significant workload outside of school. This, too, should be followed with a positive statement about yourself and your future.

(quotes from Cal-Bridge Handbook)

## Frame the negative as a positive: building experience

- What did you learn from this experience?
- write a strong statement instead of a weak statement about the extenuating circumstances. Avoid “excuse” statements such as: “I had to work two jobs to support my family because my father was injured. My grades suffered.” [This doesn’t help me see how you will be successful in my program.]
- Better: “I maintained a B+ average while working in Dr. Sprout’s botany laboratory despite having to work forty hours a week as a waitress to support my family.” [Took ownership of this circumstance...]
- Best: tell the story of the extenuating circumstance and how your perseverance or motivations overcame that.

(slightly modified quotes from Cal-Bridge Handbook)