

Applying to Ph.D. Programs in Chemistry (or closely related fields)

Timeline (this corresponds to your Senior year, or the year that you plan on applying)

Summer / Early Fall (Sept)

- Start investigating programs
 - Talk to your professors – particularly in the areas you are interested in
 - Location, location, location
 - There should be at least 2-3 professors that you are interested in working with at any school you apply to
- Take the General GRE
 - Can be taken on the computer and scheduled at almost any time
 - Should be taken by October/November, at the latest

Fall (Oct-Nov)

- Take the Subject GRE (if needed)
 - In 2019, two options: Sept 14 or Oct 26
- Ask for letters of recommendation from three letter writers
 - The letters that are given the most weight are the ones from people who have supervised you in research projects
- Draft your personal statement
- Solidify which schools you will apply to
- Investigate the work of 2-3 professors at each school that you are applying to

Fall (Dec)

- Apply!
 - Many schools have deadlines of early December

Spring (Jan-Mar)

- Hear back from schools!
 - Many chemistry programs do not have interviews, but have “visiting weekends”
 - A couple of notable exceptions: UCSF and Scripps Research Institute

The GREs (aka, icky standardized tests)

The general test has three sections: Verbal Reasoning (scored from 130-170), Quantitative Reasoning (130-170), and Analytical Writing (0-6)

The subject test is scored from 200-990

What does “recommended” mean? That means if you have an awesome score (>90%), go ahead and submit the score. Otherwise, it probably won’t help (or hurt) if you submit a subject score. *Note: don’t be alarmed if you have a low subject score. It is common to have a low subject score and still get into great programs!*

Information from the Harvard website:

What are the average GRE scores for those who were admitted to the program last year?

GRE Verbal=163

GRE Quantitative=166

GRE Analytical= 4.5

GRE Chemistry= 816

Information from a Harvard professor:

“[With regard to the GREs], it really varies quite a bit. Of course, ideally all the GRE percentile scores would be in the 90s, but every now and then we admit candidates with unusually low (i.e.50-80 percentile) GRE scores in one or even two area. If it’s really low (say <50%, for example), it would be flagged for discussion or as evidence of poor English skills, etc.”

Information from a UCSF professor:

“For the non-subject test, anything above 90 is awesome. 80-90 is good. Below 80 is questionable.”

“...a high quantitative GRE score [correlates with success in graduate school at UCSF].”

Personal Statements

Typically, this should be 1-2 pages long. As with any personal statement, you should focus on things that make you unique and avoid gross generalizations such as “I’ve always been interested in science.” (Really? *Always*? Can you be more specific? Is there a memory you have that made you think, *Wow! Chemistry is great!*)

Things that will make a positive impact:

- Discussing your prior research accomplishments
 - One of the things that correlated with “success in graduate school at UCSF is “lots and lots of research experience”
 - Even if you don’t have lots and lots of research experience, do spend time discussing what research experience you have had and what you got out of it
- Discussing your career plans:
 - One thing that graduate schools will be wary of is that you are applying to grad school ‘cause you aren’t sure what else to do once you graduate from college. The danger there is that they could invest a lot in you for a year or two, and then you decide that grad school isn’t for you, and you leave. So being able to articulate why you want to go to grad school – what will it allow you to do that you couldn’t do otherwise – will convince the admissions committee that you are a serious candidate.
 - No one is going to hold this over you – so if you say you want to be a professor – but you end up going into consulting – that’s fine!
- Name two-three professors that you would be interested in working with and describe why you are interested in their research
 - This will be a lot of work, because you will need to tailor your personal statement for each school, but it’s worth it.
 - *From a Harvard professor:* “I think it’s particularly impressive when a prospective student has put in the time and effort needed to really understand a professor’s research program to the point that they can write about and discuss in person some of the questions in that research group that interests them the most.”
 - *From a UCSF professor:* “They should definitely name professors they are interested in and describe why they are interested. It shows they actually care about the substance of the program they’re applying to and are motivated by the science that is being done.”

Have advisors and professors read over your statement and go over several drafts.
This really is the one opportunity in most of the application processes for your personality to come through. So you really want to make the statement shine!

Final Notes on the Personal Statement:

- Avoid contractions
- Use proper grammar
- Proof-read
- Unless instructed otherwise, limit your statement to 1-2 pages (it can be single spaced or double-spaced), with 12 point font and 1 inch margins

References

Most schools will ask you for 3 letters of reference. These should all be from scientists – ideally people who can speak about your research skills.

From a UCSF professor: “Their letters should be from the PIs that supervised their research. We don’t put a lot of emphasis on other letters unless they provide some really unique insight into the students personal attributes.”

Keep in mind, that research papers or projects in a lab course could still count as “research”.

Things to do:

- Contact your letter writers early. Let them know why you thought they might be in a good position to write the letter (e.g. “I really enjoyed your course.” or “I learned a lot in the class.” or “I was proud of my performance in your class.”). End your email by asking if they would be willing to write the letter and give them the due date of the letter.
- In the follow up email, thank them for agreeing to write the letter for you! Also, provide your CV, a brief statement of why you are applying to grad school, and also include anything you think they should mention in the letter (e.g. “Perhaps you could mention the mock grant that I wrote in your class on HIV.”). Give them the instructions of how to submit the letter and remind them again of the due date.
- After they have sent in the letter – thank them!
- Also, if you get in to the school, let them know!

Interviews

Many chemistry programs do not have an interview process. They evaluate you instead completely on your paper application (GPA, GREs, personal statement and letters). For those programs that do have interviews, you will be invited to the campus for 1-2 days (the school should cover the costs of travel).

General format:

- Over meals and social events, meet with administrators, professors and current graduate students
 - These sessions are generally more to provide you with information about the program
- Meetings with professors
 - These could be one-on-one, or in small groups with a couple of other candidates
 - These meetings will either be all about the professor – s/he will tell you about their research; OR it could be all about you – s/he will want to know about what you've been doing in your own research project. You should be prepared to speak about both!
 - From a UCSF professor: "We interview at UCSF, so they should know something about the research of everyone they will be meeting with."
[Note, you will most likely be provided an itinerary beforehand, but that might not occur until just a couple of days prior.]

Things to keep in mind:

- The administrators, professors and students are not just scoping out your knowledge of chemistry – they are also looking to see if you will be a positive contribution to their community. Are you a team player? Will you be open to discussing new ideas? Don't be afraid to make clear your own accomplishments – but don't do too much bragging either. No one likes a braggart or a know-it-all.
- You should spend this time also figuring out if you want to be a part of that program. (You are interviewing them too!) Have a set of questions ready for professors and, particularly, students, about the department and the program.

Visit Days

Visit days (days when admitted students are brought to campus for wining and dining) follow the same general format as interviews. Although you are already "in", keep in mind that you still have to be accepted into a research group. So it is still a good idea to do your homework beforehand and to play nicely with the other students.