The Graduate School Experience: Resources

- **MAGAZINE**
  - inchemistry.acs.org
    - Check out the Grad School Section for articles about choosing a program, getting in, and what to expect.

- **MAGAZINE**
  - gpchemist.org
    - Learn how to survive and thrive in your graduate school and postdoc years.

- **CAREER PLANNER**
  - chemidp.org
    - A free individual development planning tool for chemical scientists. Log on to the new 2.0 version!

- **WEB PORTAL**
  - acs.org/CollegetoCareer
    - Learn about career options and decide whether grad school is the next step for you.

- **FUNDING**
  - acs.org/bridge
    - Find travel and graduate school funding for students from underrepresented minority groups.

- **SOCIAL MEDIA**
  - @ACSGradsPostdoc
  - ACS Graduate & Postdoctoral Scholars
    - Connect with grad students, post-docs, and ACS resources on Facebook, LinkedIn, and Twitter.
Know Your Grad School Options

**M.S./M.A.**
Master of Science (M.S.)
Master of Arts (M.A.)

- **Advanced education in a specialized area of chemistry**
  - Look for a robust program specifically dedicated to master’s students. Some degrees may transfer to PhD program, if desired.

  **For students who want to**
  - Conduct or support industry research
  - Advance in non-research career (lab support, analysis, policy, K-12 education)
  - Supplement professional degree program (e.g., law)

  **Components**
  - Coursework, research, thesis (varies)

  **Commitment**
  - 2–3 years

  **Financial Support**
  - Typically student-supported; independent funding, tuition waivers, teaching/research assistantships may be available

**P.S.M.**
Professional Science Masters

- **Combines advanced STEM education with business, leadership, project management training**
  - P.S.M. programs tend to be multidisciplinary and are relatively new in academia. Make sure the program emphasizes required skills for your desired career path.

  **For students who want to**
  - Pursue management, finance, intellectual property, or similar business positions in a chemical company
  - Start a business
  - Combine chemistry knowledge with another field

  **Components**
  - Coursework, research, departmental seminar, thesis

  **Commitment**
  - 2–3 years

  **Financial Support**
  - Tuition waivers and teaching/research assistantships are standard; independent funding may be available

**Ph.D.**
Doctorate

- **Highly specialized programs for leading independent research**
  - Doctoral programs are research-intensive, so look for programs with the resources to support your interests.

  **For students who want to**
  - Conduct independent research in industry, academia, government, etc.
  - Lead research teams
  - Teach at postsecondary institutions

  **Components**
  - Research, coursework, departmental seminar, thesis

  **Commitment**
  - 3–4 years with M.S., 5–6 years without M.S.

  **Financial Support**
  - Tuition waivers and teaching/research assistantships are standard; independent funding may be available
Applying to graduate school can take a while. Application deadlines tend to be in December to February of the previous academic year, so it pays to start early. Here are the steps to take.

1. **Select Programs**
   Discuss options with advisor, research programs, scout potential advisors, confirm application deadlines and requirements.

2. **Take GRE, Subject Exams**
   If required by program(s); international students may need TOEFL or similar exam.

3. **Prepare Applications**
   Order transcript(s), arrange for letter(s) of recommendation, prepare statements of interest for each program, any other application requirements.

4. **Submit Applications**
   Follow up with programs to ensure all materials arrive.

Many programs have rolling admissions, so the earlier you submit your application, the better your chances of getting the offer you want.

**POST-SUBMISSION**

5. **Review Offer Letters**
   Consider stipend, tuition waiver, other benefits, local cost of living, etc.

6. **Visit the Program**
   Make sure this is the right place for you for the next few years.

7. **Accept Offer**
   Research the area and prepare for your transition to graduate school; international students should also apply for visa.

For more information, see “The Road to Grad School” in *inChemistry* (inChemistry.acs.org).
The Graduate School Experience: What to Expect

**The PSM Path**
TIME: ~2 YRS.

- Entrance or Proficiency Exams (beginning)
  Written exams to assess starting chemistry knowledge and identify appropriate coursework

- Capstone Project Report (end of program)
  Written compilation of research; presentation and oral examination

**COURSEWORK (1–2 YEARS)
CAPSTONE RESEARCH / INTERNSHIP (3–6 MONTHS)**

**The MA/MS Path**
TIME: 2–4 YRS.

- Entrance or Proficiency Exams (beginning)
  Written exams to assess starting chemistry knowledge and identify appropriate coursework

- Research Proposal (1st or 2nd year)
  Oral defense of original research proposal to assess ability to generate new research and contribute to the field

- Dissertation and Thesis Defense (end of program)
  Written compilation of doctoral research; presentation and oral examination

**TEACHING/TA (1–3 YEARS)
COURSEWORK (1–2 YEARS)
RESEARCH, RESEARCH, RESEARCH (4–6 YEARS)**

**The PhD Path**
TIME: 3–7 YRS.

- Entrance or Proficiency Exams (beginning)
  Written exams to assess starting chemistry knowledge and identify appropriate coursework

- Cumulative or Comprehensive Exams (end of coursework)
  Written exams to assess ability to apply chemistry knowledge

- Oral Exams, Research Proposal (2nd or 3rd year)
  Oral defense of original research proposal to assess ability to generate new research and contribute to the field

- Departmental Seminar (3rd or 4th year)
  Compilation and presentation of research

- Dissertation and Thesis Defense (end of program)
  Written compilation of doctoral research; presentation and oral examination

**TEACHING/TA (1–3 YEARS)
COURSEWORK (1–2 YEARS)
RESEARCH, RESEARCH, RESEARCH (4–6 YEARS)
PAPERS, CONFERENCES, PROFESSIONAL DEVELOPMENT (3–6 YEARS)**

Professional Science Master's (PSM) programs are usually interdisciplinary and have a non-science focus. There is a lot of variation among programs. Some other common features of PSM programs are shown below.

Master's programs vary greatly. Look for a dedicated master's (not just a "doctorate-lite") program that is aligned with your goals. Some common features of MA, MS, and similar programs are shown below.

Doctoral programs vary greatly, but research is a major component of all of them. Programs typically run 5-7 years for bachelor's graduates and 3-5 years for master's graduates. PhD programs also frequently feature some or all of the following components.