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# 1. Introduction

This Chemistry Department Handbook contains information relevant to graduate students at the University of North Carolina at Chapel Hill, and includes community standards, Ph.D. requirements and timeline, and where to find more information.

In addition to reading the information presented here, all graduate students are encouraged to examine the regulations concerning graduate study at the [UNC Chapel Hill Graduate School website](#), particularly the [Graduate School Handbook](#).

## 2. Community Standards

### 2.1. Diversity, Equity, and Inclusion

The Department of Chemistry recognizes the importance of building and maintaining a diverse and inclusive community together. We feel strongly that diversity, equity, and inclusion are crucial to our pursuit of academic excellence. The UNC Department of Chemistry fully supports the University policy, which states:

*“...the University of North Carolina at Chapel Hill is committed to equality of opportunity and pledges that it will not practice or permit discrimination in employment on the basis of race, color, gender, national origin, age, religion, creed, disability, veteran’s status, sexual orientation, gender identity or gender expression.”*

The [UNC Department of Chemistry Diversity Committee](#) works to enhance the culture of diversity in the Chemistry Department and strives to sustain a culture of inclusiveness. This committee is comprised of undergraduate and graduate students, post-doctoral associates, faculty, and staff.

### 2.2. Expected conduct

Students and researchers are expected to:

- Act ethically, honestly, and with integrity
- Be fair and respectful to others
- Treat all members of the University community with respect and fairness
- Protect, preserve, and responsibly use University resources and property
- Respect the safety and welfare of others
- Preserve academic freedom
- Ethically conduct research, teaching, and community engagement
- Avoid conflicts of interest
- Carefully manage public, private, and confidential information

### 2.3. Unacceptable behavior

Unacceptable behaviors include:

- Harassment
- Discrimination

- Retaliation
- Unethical research practices
- Scholastic dishonesty
- Unauthorized use and/or misuse of facilities, equipment, or services
- Theft, property damage, or vandalism
- Violations of University rules
- Violation of local, state, or federal laws

University policies governing acceptable and unacceptable conduct apply to behavior on campus. The policies can also apply off campus, including in on-line or electronic conduct, if: the conduct occurred in the context of an employment or education program or activity of the University, had continuing adverse effects on campus, or had continuing adverse effects in an off-campus employment or education program or activity. Examples of covered off-campus conduct include University-sponsored study abroad, research, or internship programs. For more information, see the [University's policy](#).

## 2.4. Reporting misconduct

The Department of Chemistry works to maintain a collegial, professional, and inclusive environment. It is the responsibility of all members of the department to uphold UNC's policies and standards. Some details of these policies can be found in the [UNC Honor Code](#), and at the [Equal Opportunity and Compliance Office](#).

A healthy work and educational environment relies on community members communicating concerns of suspected or alleged misconduct. Different situations may require different reporting channels. It is important to note that some employees are "mandatory reporter" [Responsible Employees](#), who are required to report instances of discrimination or harassment to the Equal Opportunity and Compliance office. The Chemistry Student and Postdoc Wellness Committee (SWELL) [website](#) has more information on resources and reporting. If you report suspected or alleged misconduct, then the University of North Carolina has a policy that will protect you from retaliation. For misconduct reported to the department, the department will work with the appropriate campus offices and support their recommendations.

**General questions about misconduct**, or to receive guidance on who to contact within the University, can be reported to the following Departmental contacts, who can advise on additional steps:

- Supervisor or instructor (not strictly confidential, may be Responsible Employees)
- Department Leadership: [chemchair@unc.edu](mailto:chemchair@unc.edu) (not strictly confidential, may be Responsible Employees)
- SWELL [chemswell@gmail.com](mailto:chemswell@gmail.com) (not strictly confidential, may be Responsible Employees)
- The UNC Ombuds Office 919-843-8204 or [ombuds@unc.edu](mailto:ombuds@unc.edu) (CONFIDENTIAL service)

**Research misconduct** can be reported to:

- The [Office of Research Integrity](#)
- Anonymous reporting to Carolina Ethics: 866-294-8688 or <https://secure.ethicspoint.com/domain/media/en/gui/10808/index.html>

**Misconduct relating to discrimination, harassment, and retaliation** must be reported to:

- Equal Opportunity and Compliance Office (EOC) <https://eoc.unc.edu/report-an-incident/>
- [FAQs about the reporting process can be found here.](#)

## 2.5. Honor Code

The University of North Carolina at Chapel Hill has had a student-administered honor system and judicial system for over 100 years. It shall be the responsibility of every student at the University of North Carolina at Chapel Hill to support and comply with the enforcement of the Honor Code, which prohibits lying, cheating, or engaging in academic dishonesty involving academic processes or interactions with University, student, or academic personnel acting in an official capacity. The policy adopted by the faculty of the Department of Chemistry on September 9, 1977 states:

*“Since all graded work (including extra credit quizzes, midterm exams, and final examinations) may be used in the determination of academic progress, no collaborations on this work is permitted unless the instructor explicitly indicates that some degree of collaboration is allowed. This statement is not intended to discourage students from studying together or working together on assignments which are not to be collected.”*

Students may become ineligible to continue studies at UNC-Chapel Hill for Honor Code violations. Instances of suspected plagiarism, cheating on examinations, or other violations of the Honor Code should be reported either to the Office of the Graduate Student Attorney General or the Office of the Dean of Students.

## 3. Human Resources (HR) information

### 3.1. Funding

Teaching Assistants and Research Assistants are paid on a monthly basis by direct deposit. Students are exempt from the Social Security deduction except during the summer when not enrolled, work with your tax professional to adjust on your taxes if applicable. When you arrive, you will be required to file an I-9 form, tax forms W-4 and NC-4, and a direct deposit authorization. You will receive information about these forms from HR. The first paycheck should be expected around the end of August.

On pay dates (generally the last business day of the month), you will receive an email that your paystub is available through the self-service section of [Connect Carolina](#). Note that UNC Summer School guidelines can lead to summer session TA pay coming in a lump sum at the end of the session.

Students being paid through external fellowships may have different payroll stipulations than those supported by TA/RA positions. This can include differences in pay date schedules, tax withholding, and health insurance. Please discuss your individual case with the HR office.

Funding for five years is guaranteed for graduate students who are in good standing in the graduate program. “Good standing” is established through maintaining satisfactory grades in [coursework](#), making [adequate progress towards the PhD degree](#) each semester, and satisfactory [teaching performance](#). More details on these criteria are provided within this handbook and the UNC Graduate School Handbook. Students who are not in good academic standing should work with their advisors, department staff, and the Graduate School to take steps to return to good standing.

### 3.2. Health Insurance

All graduate students enrolled in at least 1 credit hour, in a degree-seeking program, and eligible to pay the student health fee at UNC-Chapel Hill are required to show proof of active health insurance coverage.

Proof of active creditable health insurance may include:

- An individual plan
- Coverage from a plan by a spouse or parent
- Enrollment in the Graduate Student Health Insurance Plan (GSHIP) as an active RA/TA/Fellow-Trainee

#### *RA/TA Insurance (also known as Graduate Student Health Insurance Program or GSHIP)*

All RAs, TAs, and Fellows/Trainees who also meet the tuition and fee eligibility requirements must be enrolled in GSHIP by their academic or hiring department. This health insurance is paid by the Department, it is not a deduction from your paycheck. The policy generally is effective August 1 to July 31 annually.

- When you are enrolled in GSHIP, you must **waive out of the Mandatory Student Health Insurance Plan for undergraduates** (Student Blue) **each semester** to avoid an insurance premium charge on your student account. You must waive the insurance by the deadline in September every year. For additional information, consult the [Campus Health](#) website.
- Your insurance card is needed to waive out of the Mandatory Plan.
- Insurance cards are mailed to the local address as noted in ConnectCarolina.

### 3.3. International Students

If you are an International student, when you arrive on campus, you will need to check in at the Office of International Student and Scholar Services (ISSS), 303 Pittsboro Street: <http://oisss.unc.edu/students/index.html>. You will need to present to ISSS your passport, I94 card, and I-20 form. While at ISSS, they will provide information on how to apply for a Social Security card.

### 3.4. Residency

#### 3.4.1. Introduction to residency

All out-of-state students are expected to begin to establish residency when they arrive in North Carolina. Students who are not already officially recognized as NC residents for tuition purposes, have resided in NC for more than 365 days, and have completed some of the “residential actions” listed below can apply for residency. The [Residency Determination Service](#) (RDS) determines your residency status, and detailed information regarding residency is available at <https://gradschool.unc.edu/studentlife/resources/residency/>.

Apply for NC residency by Oct 1 if you meet the criteria explained below, and then appeal if your application is denied.

#### 3.4.2. Applying for residency

General notes:

- Apply using the Residency Determination Service (RDS) in ConnectCarolina Student Center
- Demonstrate as many of the “residential actions” below as possible.
- Demonstrate “financial independence”
- Appeal within 10 days if you are denied.
- Notify UNC-CH of your resident certification number (via ConnectCarolina StudentCenter) when you obtain a resident determination.

Examples of “residential actions”:

- Vehicle registration
- NC Driver's license / State I.D.
- Voter registration and activity
- Property ownership
- Ties to community, (e.g. library card ownership, participating in local sports leagues, religious affiliations)

Examples of “financial independence”:

- Evidence of not being claimed on parental taxes
- Leases, bank accounts, titles, etc. in student’s name (without parents)

Common misconceptions:

- Students must have their own health insurance (cannot be on parents’ policy) - FALSE
- Students cannot leave the state of NC during the first 12-month period - FALSE

- Homeownership guarantees residency status for tuition purposes - FALSE
- Students must obtain a NC driver's license - FALSE
- Students must attend a church or have some religious affiliation - FALSE
- Students are guaranteed residency status after their 1st year - FALSE

### 3.4.3. After applying

**Additional action may be needed** on your part once a residency determination is received. Here are some common scenarios:

- If you are determined to be an NC resident, you will receive a Residency Certification Number (RCN), and **you must upload the RCN number in ConnectCarolina StudentCenter**. This is the only way the department finds out your residency status, and it is essential final step in the process.
- You may be asked for additional documentation. If so, **you must submit this additional documentation within 25 days**. Please act quickly to avoid having your status revert to non-resident.
- If you are determined not to be a resident, **please appeal the decision!** Appeals must be filed within 10 days of a decision, and simply taking the initiative to appeal can send an important message that you truly believe you are a resident. If you forgot to upload certain information, you can upload on appeal; you can also request an interview to make your case.
- **Plan to apply next year** if the appeal is denied, and consider taking actions that would address any factors that affected the initial residency decision.
- More information on the post-decision processes can be found at the Graduate School website: <https://gradschool.unc.edu/studentlife/resources/residency/#decision>

## 3.5. Leaves of Absence

### 3.5.1. Summary of Leave of Absence Protocol

There are a variety of reasons why a student might consider taking a leave of absence. It is important to go through the proper protocol for taking leave, which normally involves conversations with your advisor and/or Student Services. The procedure for determining the appropriate course of action is outlined below. This procedure is designed to allow the department to best support students.

- Student should visit Student Services (Kenan C140 )or email Student Services Manager to set up a time, Jill Fallin [jfallin@email.unc.edu](mailto:jfallin@email.unc.edu)
- Student Services will assess situation on a case-by-case basis
- After assessing situation student will be referred to one of the following options:

### 3.5.2. [Physical and Psychological Medical withdrawal](#): Recommended to

contact CAPS (Counseling and Psychological Services) or Campus Health

- Students are strongly encouraged to communicate with their advisor to understand how the leave will impact their project
- Once medical withdrawal is complete, Student Services will update status in department student database
- Student Services will inform HR and research advisor of the leave

- To return from leave clearance by CAPS is required for readmittance and must be completed 6 - 10 weeks before the first day of class in the semester desired to return. A provider must fill out the [Clearance Form](#) and return it to Campus Health or CAPS.
- Implications: No stipend or health insurance is paid during medical withdrawal, progress cannot be made towards degree, a new application process is required if the leave lasts more than 2 years (if withdrawal in first semester) or 5 years (if withdrawal occurs after first semester).

### 3.5.3. [Leave of Absence](#) (LOA): Recommended to contact PI to explain situation and request support.

- Students are strongly encouraged to communicate with their advisor to understand how the leave will impact their project
- If PI is in support, Faculty will send a support letter for the student's leave of absence request to the Director of Graduate Studies
- Students must submit [leave of absence form](#) to the Director of Graduate Studies
- Once the leave of absence form is completed, Director of Graduate Studies will return LOA form to Student Services who will forward to the graduate school for processing.
- Once graduate school approves the LOA form, an email is sent from the graduate school to the Student Services Manager and Director of Graduate Studies. Student services will communicate to the department Human Resources Student Payroll Manager and Director of Undergraduate Labs, if they are in a teaching assistant role
- Once LOA form is complete and approved by graduate school, Student Services will update status in department student database
- To return from leave students should be able to return and register for classes for the term following the approved leave period (1 or 2 semesters); readmission or reapplication is not required. **Note:** Students must contact the department at least 3 months in advance of returning from a LOA to either confirm they are returning or to make alternative arrangements. This advance notice is necessary for the department to make teaching assignments (if needed) and complete any payroll actions to ensure stipend payments are on schedule after return.
- Implications: No stipend or health insurance is paid during a leave of absence, progress cannot be made towards degree. Leaves of absence start at the beginning of the next term; students cannot begin a leave of absence in the middle of a semester. A new application process is required if the leave lasts more than 2 years (if withdrawal in first semester) or 5 years (if withdrawal occurs after first semester).

### 3.5.4. [Parental Leave](#)

- Students are strongly encouraged to communicate with their advisor to understand how the leave will impact their project
- Students must submit [parental leave application form](#) at least 8 weeks in advance of anticipated leave to their Faculty Advisor for signature as well as the Director of Graduate Studies

- Students taking advantage of the [Parental Leave Policy](#) do not need to file a separate Leave of Absence request unless they are planning not to make degree progress for a full semester or more.
- Progress can be made towards degree while on parental leave
- The student file will be automatically updated for a return from leave, no longer than 6 consecutive weeks from time of delivery/adoption.

## 4. Advising

### 4.1. Student Wellness (SWELL)

SWELL is the Department of Chemistry's initiative to promote student and postdoc wellness. The SWELL committee consists of faculty, postdocs, and graduate students who work to foster a supportive and healthy departmental community for graduate students & postdoctoral scholars. The [SWELL](#) website has a directory of campus resources related to health, diversity, accessibility, and more. SWELL also organizes community-building social activities within the Department and works to build peer mentoring networks for graduate students.

The SWELL committee members act as ombudspople for all graduate students to discuss concerns and problems, and can help to form plans to address issues. Note that most SWELL committee members are Responsible Employees, and as such are required to report incidents of discrimination, harassment, or retaliation based on any protected status, sexual assault or sexual violence, sexual exploitation, interpersonal violence, or stalking to the Office of Equal Opportunity and Compliance. **Students can access confidential support through the [UNC Ombuds Office](#).**

### 4.2. Graduate Achievement Through Mentorship (GrAM)

The [Graduate Achievement through Mentorship \(GrAM\)](#) program provides first-year graduate students with resources and support as they navigate graduate school. Incoming graduate students are matched with current graduate students in a mentoring group composed of 2 mentors and 3-4 mentees. The goal of this program is to give first-year graduate students the tools they need to succeed in graduate school and to provide senior graduate students with a formal opportunity to build their mentoring skills. Activities include monthly mentor meetings and social events. GrAM contributes to departmental culture and creates a supportive network among all graduate students.

### 4.3. First year

Entering students will initially be advised by their divisional representative on the Graduate Advisory Committee before classes begin. The main purpose of the initial advising session is to help select coursework for the first semester of study. Students should come to the advising session prepared to discuss what courses they would like to take in the first semester. A list of [courses offered](#) can be found on the departmental website. After the advising session, students go to the Student Services offices (Kenan C140) to complete registration for the first semester. Academic advisement for subsequent semesters will usually be performed by the student's research advisor.

## 4.4. Selection of a Research Advisor

### 4.4.1. Selecting a Research Advisor

Selection of a research advisor is an important decision, which will affect the course of students' graduate studies and subsequent career. The Department of Chemistry has a flexible rotation program designed to facilitate the process of joining a group. As part of this process, students should visit faculty websites and become familiar with the research performed by the potential advisors and to interact with research groups of interest. This will help students determine which groups to rotate with and inform them ahead of conversations with faculty.

**Students perform three 4-week rotations in the fall semester.** All students, in all divisions (including biological), participate the rotations. The style of rotation varies by lab: some involve attending meetings only, others also include some time in lab shadowing (observing), and others also include independent hands-on research. The faculty choose the style they prefer for their lab. Students request top choices for labs to rotate in, and based on these preferences are assigned three 4-week rotations starting in late August, late September, and late October. Students should expect a welcome meeting with faculty providing safety training (for in-lab experiences) and mentoring structure for the rotation, as well as an exit meeting with feedback and a chance for discussion.

**Students must meet with at least three faculty members, independent of divisional affiliation, in order to complete the group joining form.** The meetings are required even for those students who already think they know which faculty member they wish to choose as their advisor, as they are designed to ensure that each incoming student has a good knowledge of research being conducted by a variety of groups within the Department.

**The earliest date for joining a group is the Friday before Thanksgiving each year. Students must join a research group by the end of the second semester in order to be in good standing and remain in the program.**

The following articles may be helpful when choosing a graduate advisor:

- [“Choosing a Graduate or Postdoc Advisor”](#) by Jon Andraos, Science Careers (2002) This article encourages you to evaluate prospective advisors based on the compatibility between faculty member's career development stage and your personality and goals.
- [“Planning for Graduate Work in Chemistry”](#) by ACS Committee on Professional Training (2010). This is a comprehensive guide to graduate education in chemical sciences. The article “Choosing an Advisor” emphasizes the importance of personal fit and developing a mentor/mentee relationship with your academic advisor.

#### 4.4.2. Changing Research Advisor

Under special circumstances, which can vary widely, a student may request to change their research advisor and research group. Students should communicate with the Director of Graduate Studies if they are changing groups and expect to have a period where a new advisor has not been identified. As noted above, students who are not in research groups are considered to be not in good standing in the department; therefore, it is important to communicate with departmental leadership so to request an exception during a transition period from one group to another. Changing groups is inherently disruptive to the pursuit of a degree, so it should be carefully considered before making a final decision. When a change is needed, the department is here to help students minimize the disruption and find an ideal research environment. It should be emphasized that the department values the mental health and wellbeing of all students, and is committed to supporting students thrive at Carolina. [SWELL](#) can help with communication strategies and advice on the process of changing advisors. The following points are examples of advice that has proven useful to students in the past:

- Seek advice from a faculty member, peer, or other mentor to assess your needs and determine whether a different advisor would be good for you, particularly if you are attempting to change advisers towards the final phase of your graduate program.
- Approach another faculty member about being an advisor for you. In most cases, the new advisor will be responsible for financial support of your RA position. In some circumstances TA support may be available to facilitate a transition, and this should be discussed with the Director of Graduate Studies and Student Services.
- Practice diplomatic ways to express to your adviser why you are considering a change.
- Discuss and arrange a timeframe for completing any remaining work with your current adviser before the change takes place. Have a clear plan for what work will or will not appear in thesis chapters and/or publications.
- Complete or update any paperwork that contains information about your adviser, e.g., internship paperwork, thesis, general exam or dissertation committee forms.

#### 4.5. Individual Development Plan (IDP) Meetings

Each student meets one-on-one with their advisor each year to develop an individual development plan (IDP) whose goal is to enhance scientific productivity, academic excellence, professional development, and social outreach as appropriate to the student's goals. The student and the advisor each fill out forms to guide the discussion during the meeting. The advisor's form is transmitted to the Student Services office for departmental records (it is available only to authorized student support staff and the research advisor). Note that advisors can use this meeting to communicate to the student and the Director of Graduate Studies that a student is not meeting expectations. If this is the case, the Director of Graduate Studies will ask the student to call a meeting of their committee to discuss concerns about progress and develop a mutually agreeable plan to help you achieve your goals. Note also that students can discuss concerns with faculty mentoring at these meetings or with SWELL representatives.

Specific details about the timelines and procedures for IDP meetings are communicated to faculty and students each year.

## 4.6. Committees

All committees must be comprised of a majority of Chemistry faculty. Eligible committee members include, but are not limited to, faculty from other departments and members of staff (see <https://gradschool.unc.edu/policies/faculty-staff/faculty/> for details.) The **Qualifying Exam Committee** will contain 4 members, including the advisor. The **Dissertation Committee** will comprise 5 members, including the advisor, and will oversee the Prospectus, 4<sup>th</sup> year check-in, and Final Oral Defense. Substitutions are allowed as needed; that is, you do not have to have the same committee members for each PhD milestone and this can be done without any formal process (although there are often benefits of having significant overlap). Your advisor may not be the chair of any committee. Your committee is a valuable resource; in addition to annual interactions with your committee, you have the right to call a committee meeting to seek input or feedback.

## 5. PhD Requirements

### 5.1. Timeline Summary (see below for details)

Year 1 (semesters 1 and 2)	Coursework: registration in the student services office (fall of first year) or online (other semesters).	TA Assignment
Year 2 (semesters 3 and 4)	Doctoral Qualifying Exam/Research Summary: <a href="#">exam scheduling form</a>	
Year 3 (semesters 5 and 6)	Research Progress Seminar	Prospectus
Year 4 (semesters 7 and 8)	Original Research Proposal	Check-in meeting
Year 5+	Defense/Dissertation: <a href="#">exam scheduling form</a>	Publications

### 5.2. Overview of PhD Degree Requirements

The Graduate School at UNC requires all PhD students to complete the following requirements: (1) Preliminary oral examination, (2) Preliminary written examination, (3) Final oral examination, (4) Final written examination. In the Department of Chemistry, these requirements are fulfilled as follows:

- (1) Preliminary oral examination — **Doctoral Qualifying Examination**
- (2) Preliminary written examination — **(A) 2<sup>nd</sup> year Research Summary, (B) 3<sup>rd</sup> year Dissertation Prospectus**
- (3) Final oral examination — **PhD Thesis Defense**
- (4) Final written examination — **PhD Dissertation / Thesis**

### 5.3. Proficiency Examinations

All entering students will be given proficiency exams, currently in the following topic areas: Inorganic, Organic, and Physical. The examinations are designed to provide early feedback that students can use to address foundational areas that could be strengthened over the summer and to guide the selection of courses in which to enroll in the first semester.

### 5.4. Teaching Assistant (TA) Assignment

#### 5.4.1. Overview of TA assignment

A minimum of 1 TA Assignment (one semester) is required. Most students TA two or more semesters. Guidelines for teaching assistants are provided below.

#### 5.4.1. TA responsibilities

Graduate students who are teaching assistants (TAs) receive financial support for fulfilling responsibilities in the laboratory and lecture courses. All graduate students act as TAs in their first semester. TA training begins one week before the start of the fall semester (generally early to mid-August), and includes lab safety training and class-specific training.

The expectations and duties are outlined in the TA Guidelines document. These duties will normally include 20 hours per week of the following for the full duration of the semester, which includes check-in and check-out (TA assignments extend beyond the weeks that the students are in attendance):

1. Attending all TA training sessions.
2. Preparing for the duties (reviewing experiments and supplemental materials, performing experiments ahead of time, preparing pre-lab lecture)
3. Attending lab lecture and/or TA meetings
4. Arriving on time and being prepared to stay the entire lab period
5. Enforcing safety and waste disposal rules
6. Grading quizzes, lab reports, and/or other assignments and returning to students within one week of submission or as specified by the instructor.
7. Submitting all grades to the instructor before the final exam period begins or when specified by the instructor.
8. Grading lecture course exams
9. Proctoring exams for lecture courses

Specific responsibilities may be modified, and additional responsibilities assigned, depending on departmental needs. Graduate students may expect to receive continued support from teaching assistant positions when performing their duties satisfactorily.

Generally, written notification that a student is *not performing* in a satisfactory manner is provided as follows:

1. **WARNING:** a letter from the instructor notifying the TA of unsatisfactory effort with a copy to the Director of Laboratories and TA Oversight Committee. If the TA Oversight Committee deems necessary, then a **MEETING** will follow.

2. MEETING: with the TA Oversight Committee, Directors for Graduate Studies and Undergraduate Studies, course instructor, and/or head teaching assistant to discuss his/her unsatisfactory performance;
3. MEETING OUTCOME: Corrective action and probation or TERMINATION of your employment as a teaching assistant.

TA positions are 'at-will', which means that such positions are subject to discontinuation at the discretion of the University, consistent with applicable policies. The Chemistry Department reserves the right to bypass any of the steps above, and to implement discipline, including but not limited to immediate termination of a TA position, in its sole discretion. The termination of a TA position results in the student no longer being in "good standing" in the program, and may result in being asked to leave the program depending on alternative sources of support.

## 5.5. Coursework

### 5.5.1. Overview of course requirements

Students must complete a minimum of 15 credit hours of course work by the end of the second semester. Some additional guidelines:

- First year students must register for Introduction to Laboratory Safety (CHEM 701, 1 credit hour).
- First year students must enroll in their division's seminar course (up to 2 credit hours each semester).
- Students register for 3 credit hours of CHEM 992/993 (masters research) each term until the qualifying exam is completed. **CHEM 992/993 do not count towards the 15 credit hour requirement, but CHEM 992/993 does count towards overall degree credit hours requirements (ie 30 credit hours required for an MA or MS degree).**
- Most students also register for at least two courses related to their field of interest. An advisory meeting with the student's representative on the Graduate Studies Committee occurs during orientation to help select courses. These can include courses outside of the Department of Chemistry (with advisor approval), or at another university (if appropriate credit transfer forms are available, or if there is an cross-credit agreement in place; if interested in taking courses outside of UNC, please consult with Student Services first).
- Students are encouraged to audit courses taken in year 2 or 3 in support of the dissertation project. Auditing a class requires the permission of the instructor, and auditors do not complete written assessments or take quizzes or examinations in the class. Audited classes will appear on your transcript as "AU".
- Upon completion of the qualifying exam, students will switch to registering for CHEM 994 (doctoral research) every semester until the dissertation is defended.
- After the first semester, CHEM 992/993/994 is usually registered with the section of your research advisor. The advisor should set expectations for these research courses, upon joining the lab or during annual development planning meetings. If you have questions about expectations or standing in these courses, speak with

your research advisor. Note that L or F grades in CHEM 992/993/994 have the same effect as any other course.

- It is essential to be register for CHEM 992/993/994 in the semester when major requirements are finished, such as all examinations. Students do not need to register in the semester in which the degree is conferred, if they have completed all degree requirements in a prior semester. Note that the prior semester extends until the day before the first day of the next semester: if an exam is taken following the exam period of one semester, but before the start of the next semester, no additional registration is needed.

If a student has 24 or more credits at the beginning of semester 3 or 27+ credits at the beginning of semester 4, students will only register for three hours of Chem 992/993 (masters research). In the case where the thresholds are not met, the student will additionally register for seminar; see Student Services for guidance. A list of graduate courses can be viewed at [https://chem.unc.edu/course\\_schedule lec/](https://chem.unc.edu/course_schedule lec/)

### 5.5.2. Grade Scale

All master's and doctoral programs administered through The Graduate School operate under the same grading system. The graduate grading scale in use at UNC-Chapel Hill is unique in that it cannot be converted to the more traditional ABC grading scale. Graduate students do not carry a numerical GPA. Note that some fellowships or other actions that require a transcript may also require a letter from the Director of Graduate Studies explaining the grading scale. Contact Student Services if you need such a letter.

#### Graduate Permanent Grades

- H** High Pass - Clear Excellence
- P** Pass - Entirely Satisfactory Graduate Work
- L** Low Pass – Needs improvement
- F** Inadequate

Each course syllabus will contain information about the grading criteria for the course.

A student becomes academically ineligible to continue in the graduate school if they receive a grade F in any class, or 9 credit hours of L grades. In extenuating circumstances, the Department can petition the Graduate School for an exemption to these policies. Students should discuss this process with the Director of Graduate Studies.

### 5.6. Performance Evaluation / Maintaining “Good Standing”

Funding for five years is guaranteed for graduate students who are in good standing. “Good standing” is established through maintaining satisfactory grades in [coursework](#), making [adequate progress towards the PhD degree](#) each semester, and satisfactory [teaching performance](#). For course performance, a student becomes academically ineligible to continue in the graduate school if they receive a grade F in any class (including the safety or research courses), or 9 credit hours of L. In extenuating

circumstances, the Department can petition the Graduate School for an exemption to these policies. For teaching performance, there is a TA oversight committee that a student will be referred to if there are concerns about TA performance. For research performance, a student must be in a group by the end of the spring semester of their first year to be considered in good standing. After the first year, the student must be in a research group to maintain good standing (see section on changing groups for details of how that process can be navigated without jeopardizing good standing).

## 5.7. Doctoral Qualifying Examination

The Doctoral Qualifying Examination involves a written research summary and an oral presentation along with examination with a faculty committee. Students are responsible for arranging the scheduling.

### 5.7.1. Scheduling the Doctoral Qualifying Examination

The exam is to occur in semester 3 or prior to the end of the official exam period of semester 4. Only by permission of the Director of Graduate Studies (DGS) can the time for qualifying completion be extended. The student should consult with their research advisor to discuss the timing of the exam and the composition of the committee. The student should invite faculty to join their committee of at least 4 members well ahead of time, and to request that one of the non-advisor members in the Chemistry Department act as Chair. The student is responsible for finding a date where all committee members can attend. **Once the date is selected, the student must submit the [Doctoral Oral Examination Form](#) to the Chemistry Student Services Office at least two weeks prior to the examination.** The Student Services office can also help with scheduling a room.

### 5.7.2. Format of the Doctoral Qualifying Examination

The format of the doctoral qualifying examination is largely the same across divisions, but there may be some slight differences according to the norms of the student's home division. ***Students are strongly encouraged to meet with their committee chair before the exam to clarify the format.***

The written summary of research progress and future plans must be submitted to the committee *1 week prior to the examination*. The oral examination will not exceed two hours. The purpose of the exam is to:

1. provide a structure for students to reflect on research progress and plan future research directions
2. develop the student's writing and oral communication skills
3. evaluate the student's chemistry knowledge and critical thinking skills that will be essential for success in the PhD program
4. evaluate the student's research progress and to ensure the student is on track to succeed in the PhD program.

### 5.7.3. Possible outcomes for the Doctoral Qualifying Examination

1. **pass** – without restrictions

2. **conditional – with special requirements for improving general knowledge.** The committee will request another oral examination of general knowledge at a later time, and possibly an updated written document. The second exam must be completed within 4 months or the examination defaults to Fail. Only by permission of the DGS can the 4 month deadline be adjusted.
3. **conditional – but without approval of research progress.** The committee will request another presentation of the research, and possibly an updated written document. The second exam must be completed within 4 months or the examination defaults to Fail. Only by permission of the DGS can the 4 month deadline be adjusted.
4. **fail** – this grade is appropriate for students lacking adequate general knowledge and/or demonstrating insufficient foundations for undertaking PhD-level research. A student failing the preliminary examination will be permitted a second chance to complete the requirement. The re-take will follow the same format as the first exam and will occur no earlier than 3 and no later than 4 calendar months after the failure. Only by permission of the DGS can the 4 month deadline be adjusted.
5. A doctoral student who fails to pass their oral exam after two attempts will be removed from the program. Students may petition for reinstatement, usually to the MA or MS track, contact Student Services for details.

## 5.8. Research Progress Seminar

During the semester 5/6 period, students will present a seminar of at least 30 minutes within the divisional seminar series. The seminar will provide a background of the student's research area and share progress on their project to date. Delays or early presentations by DGS permission only. Students who give a >15 min oral research presentation at a National, International or Gordon Conference prior to semester 6 will be considered to have satisfied this requirement (check with DGS if in doubt), though they may still choose to present to their divisional colleagues. Attending faculty may choose to trigger a dissertation committee meeting if the presented research was considered to be sub-standard.

## 5.9. Prospectus

### 5.9.1. General guidance

In year 3 students will schedule a meeting with their Dissertation Committee to present their dissertation prospectus. The prospectus is a concise written document, 2-5 pages in length, that describes the major projects that will comprise your dissertation. The prospectus is one component of the department's written requirements for the PhD. The prospectus must be sent to the Dissertation Committee at least one week before the 3<sup>rd</sup> year committee meeting. The meeting is an opportunity to have a forward-looking scientific discussion with your committee. Schedule the meeting before the conclusion of the spring semester in year 3. This is not an examination; the meeting, which should be complete within one hour, is intended to be a supportive environment for students to outline their goals and discuss strategies. In the case that a prospectus is not approved, the student will have 4 months to address the concerns of the committee and reconvene.

### 5.9.2. Analytical division additional guidance

#### The Prospectus:

- The prospectus should follow the same format as the doctoral qualifying examination written document: five pages, single-spaced, 0.5" margins, with an appropriately sized font. This length does not include references but does include schematics and data figures.
- **Format:** The prospectus should have the following sections:
  - Significance 0.5 – 1 page of text refined from your doctoral qualifying exam doc
  - Innovation 0.5 – 1 page of text refined from your doctoral qualifying exam doc
  - Approach 4–5 pages expanding upon your doctoral qualifying exam, providing a more detailed plan to turn research progress made to date into papers or thesis chapters.
  - Timeline 0.5 – 1 page of text that defines your path forward over the next two years, with realistic (and quantitative) goals

#### The 3<sup>rd</sup> year committee meeting:

You should come with 5-10 slides to update your committee on research progress. This meeting should be data centric. Background and significance slides should account for less than 10% of the slides presented. The majority of the slides should be in terms of your plan to move your current project(s) forward, reaching publication quality data and paper submission before the thesis defense. Slides should contain data of successful experiments, preliminary data of new directions, and a plan with quantitative milestones. Slides of failed experiments or projects that have been discontinued should be kept to a minimum. If included, these slides should emphasize how the knowledge gained from these experiments are guiding/informing your current research trajectory.

### 5.9.3. Biological division additional guidance

#### The Prospectus:

- A chance to answer the following questions:
  - What are your research accomplishments?
  - What will be the most impactful accomplishment of your dissertation?
  - How can your committee help you achieve your goals?
- **Format:** 5 single-spaced pages, including figures but excluding references, 11 pt Arial font, 1" margins.

#### **Title**

Student name (Advisor)

#### **Abstract (<250 words)**

- What science question(s) will your thesis answer?
- What is the value of answering the questions?

#### **Dissertation Project** (including accessible and engaging figures)

- What are your overall goals?
- What has been accomplished? (Should be brief. The goal is to look forward.)

- What are your broad plans to complete the project? (This outline should be at a high level, not at the level of individual experiments)
- What are the barriers to answering your scientific questions, and what approaches will you use to overcome them?
- What equipment/collaborations/new techniques do you need?
- What is the timeline to complete the project?

The 3<sup>rd</sup> year committee meeting is:

- a student-led conversation, emphasizing projects that will comprise your dissertation,
- an opportunity to share your research plans and goals,
- the venue where the subject matter of your dissertation is formally approved, and
- an informal presentation (10 slides or fewer).

5.9.4. Inorganic division additional guidance

The Prospectus:

- Please address the following questions
  - What are your most exciting research accomplishment to date?
  - What is likely to be the most impactful/exciting accomplishment you can imagine achieving for your final dissertation?
  - How can your committee help you achieve your goals?
- **Format:** 2-5 pages, with accessible and informative figures, single-spaced, 1" margins, 11-pt Arial/Helvetica or 12-pt Times New Roman font

**Title**

Student name (Advisor)

**Abstract** (<250 words)

- What science question(s) will your thesis answer?
- What is the value of answering the questions?

**Dissertation Project** (including accessible and engaging figures)

- What are your overall goals?
- What has been accomplished? (Should be brief. The goal is to look forward.)
- What are your broad plans to complete the project? (This outline should be at a high level, not at the level of individual experiments)
- What are the barriers to answering your scientific questions, and what approaches will you use to overcome them?
- What equipment/collaborations/new techniques do you need?
- What is the timeline to complete the project?

The 3<sup>rd</sup> year committee meeting:

- The format is a student-led conversation, with an emphasis on low-stress discussion and dialogue about research directions you are most excited about

- Do not prepare a formal presentation, instead prepare to lead a discussion around the Prospectus document

#### 5.9.5. Organic division additional guidance

##### The Prospectus:

- 1-2 pages, 0.5 Inch margins, Arial or Helvetica, 10 point font, two columns page format
- Chemdraw ACS 1996 if your research group does not already have a Chemdraw template.
- Include a timeline that outlines those goals and proposed frame of completion (completed in MS excel).

##### *Example timeline*

RESEARCH TASK	2022				2023			
	June - Aug	Sept - Nov	Dec - Feb	Mar - May	June - Aug	Sept - Nov	Dec - Feb	Mar - May
Project 1								
Project 2								
Project 3								
Project 4								
Color Code								
	optimistic timeline							
	realistic timeline							
	publishable project							
	commercial process							

Note: You may not have a commercial process for any of your projects.

##### The 3<sup>rd</sup> year committee meeting:

Come prepared for a 15 minute ACS style talk on your research. Specifically, focus on **new accomplishments since your 2<sup>nd</sup> year exam and future directions in your project**. Future directions should be as detailed as possible giving proposed schemes, literature references, and any other relevant background to support the proposed directions. During the meeting, 15 minutes will be dedicated to question and answer. This will not be a qualifying exam question and answer, but a more candid dialogue about your progress and trajectory since your 2<sup>nd</sup> year oral exam. Now would be a good time to outline your goals upon graduating (e.g., industry, postdoc) and a plan to achieve those goals. What are you missing from your Ph.D. to help you achieve those goals? **Focus on the big picture. Do not focus on the minutia associated with your reactions.**

#### 5.9.6. Physical division additional guidance

##### The Prospectus:

- 2-5 pages, with accessible and informative figures
- Single-spaced, 1" margins, 11-pt Arial/Helvetica or 12-pt Times New Roman font
- Please address the following questions
  - What are your most exciting research accomplishment to date?
  - What is likely to be the most impactful/exciting accomplishment you can imagine achieving for your final dissertation?

- How can your committee help you achieve your goals?

**Title**

Student name (Advisor)

**Abstract** (<250 words)

- What science question(s) will your thesis answer?
- What is the value of answering the questions?

**Dissertation Project** (including accessible and engaging figures)

- What are your overall goals?
- What has been accomplished? (Should be brief. The goal is to look forward.)
- What are your broad plans to complete the project? (This outline should be at a high level, not at the level of individual experiments)
- What are the barriers to answering your scientific questions, and what approaches will you use to overcome them?
- What equipment/collaborations/new techniques do you need?
- What is the timeline to complete the project?

The 3<sup>rd</sup> year committee meeting:

- The format is a student-led conversation, with an emphasis on low-stress discussion and dialogue about research directions you are most excited about
- The informal presentation (no more than 10 slides) should lead a discussion around the Prospectus document

5.9.7. Polymer/materials division additional guidance

The Prospectus:

- 2 pages, with accessible and informative figures
- Single-spaced, 1" margins, 11-pt Arial/Helvetica or 12-pt Times New Roman font
- Please address the following questions
  - What are your most exciting research accomplishment to date?
  - What is likely to be the most impactful/exciting accomplishment you can imagine achieving for your final dissertation?
  - How can your committee help you achieve your goals?

**Title**

Student name (Advisor)

**Abstract** (<250 words)

- What science question(s) will your thesis answer?
- What is the value of answering the questions?

**Dissertation Project** (including accessible and engaging figures)

- What are your overall goals?
- What has been accomplished? (Should be brief. The goal is to look forward.)
- What are your broad plans to complete the project? (This outline should be at a high level, not at the level of individual experiments)

- What are the barriers to answering your scientific questions, and what approaches will you use to overcome them?
- What equipment/collaborations/new techniques do you need?
- What is the timeline to complete the project?

The 3<sup>rd</sup> year committee meeting:

- The format is a student-led conversation, with an emphasis on low-stress discussion and dialogue about research directions you are most excited about
- The informal presentation (no more than 6 slides) should lead a discussion around the Prospectus document

## 5.10. All But Defended (ABD)

For Graduate School categorization purposes, the student is considered ABD once the Qualifying Exam, Research Progress Seminar, and Prospectus have been approved (typically by semester 6). Students requiring ABD classification for fellowship applications (e.g. dissertation completion) should pay attention to appropriate deadlines so that all requirements are complete in time for ABD designation.

## 5.11. Original Research Proposal

Chemistry doctoral students complete an original research proposal (ORP) by the end of the fourth year of graduate study. The ORP targets development of the professional skills required for identifying important scientific problems, evaluating the current state-of-the-art, and developing original research ideas. The two-stage process is summarized below.

### Stage 1: White paper / Preproposal

A short “white paper” (also called a preproposal or abstract) summarizes the proposed research topic. The topic must be unrelated to the student’s dissertation research (students are encouraged to consult with their advisor in selecting a topic).

*What to expect:*

- Feedback on whether the proposed research topic is appropriate (i.e. sufficiently “out of field”).
- Feedback on potential pitfalls or areas of suggested focus in a full proposal.
- A decision: approval to proceed, approval with stipulations, or a request to choose a new topic.

### Stage 2: Full proposal

A full proposal adhering to the divisional requirements. For specific requirements for each section format and pagination please consult the division guidelines.

*What to expect:*

- Proposals will be reviewed in detail by at least 2 faculty.
- Each division will use a rubric that is shared with the students ahead of submission.
- Faculty reviewers will provide ample constructive feedback for all proposals.

- Faculty will consider that this is a learning exercise and not a competitive proposal review. As such, it is expected that revisions requests be limited to cases:
  - (i) there are serious deficiencies;
  - (ii) a revision will provide an important opportunity for the student to grow as a writer and a scientist.
- The division will consider the reviewer comments (and short presentation in some divisions) and provide constructive feedback by May 1<sup>st</sup> at the latest.
- A decision on whether the proposal is satisfactory, requires revision, or must be repeated the following year will be provided.
- A proposal deemed inadequate will be returned to the student for revision. Revised proposals must be submitted in accordance with the division established timeline, and these proposals will be re-reviewed by the original panel.
- It will be extremely rare for ORPs to not be approved: this will be reserved only for cases where no effort was apparent, or other extreme scenarios. Even proposals with a fatal flaw can successfully pass the exercise if the student wrote clearly and examined a new area.

Full details of each division's guidelines for the original research proposal can be found at the following links:

- [Analytical](#)
- [Biological](#)
- [Inorganic](#)
- [Organic](#)
- [Physical](#)
- [Polymer/Materials](#)

### **ORP FAQs:**

*Is my proposal far enough out of field?*

Students are strongly encouraged to speak with their advisor about their planned topic. It can be hard to find the right topic and hard to know what is sufficiently different from dissertation research. Advisors can provide valuable feedback on this area. A good rule of thumb is that your topic area should be something that your research group would not work on.

*Who reviews my proposal?*

Faculty from your home division review the proposal. If your advisor is out of division, they may be asked to assist in the review process.

*Is the ORP required?*

The faculty of the Department of Chemistry have adopted this as part of our graduate curriculum. It is not formally part of the PhD requirements as per the UNC Graduate School, but we still ask all students to participate in the exercise.

*If my ORP is not approved, what are the ramifications?*

In some cases, an ORP may not be deemed satisfactory. The goal is for this to be reserved for cases where no good faith effort was made on the assignment, or other extreme scenarios that make a revision impossible. In this case, the student is asked to complete the assignment again the following year. Note that the ORP is not tied to

progress towards the PhD, and thus failure to pass the ORP project cannot result in dismissal from the program.

### 5.12. Year 4 Check-in Meeting

In year 4 the student will review progress towards and plans to complete the dissertation with their committee. The student should provide an updated detailed dissertation outline and a timeline for completing all planned chapters. The committee feedback is advisory only at this stage.

### 5.13. Publications

At least 1 first- or co first-author research publication must be submitted before the PhD defense.

### 5.14. Defense/Dissertation

The final oral examination will be administered by the student's Dissertation Committee, and it is the dissertation advisor's responsibility to ensure the thesis draft is appropriate for committee evaluation. A draft of the doctoral dissertation must be submitted to the Dissertation Committee at least 2 weeks in advance. Two committee members, in addition to the advisor, must be identified as "readers" who report to the entire committee at the completion of the oral examination. All members must be present in person or virtually for the defense to proceed. If revisions are requested, it is the dissertation advisor's responsibility to ensure that these modifications are made in a timely manner, and before a final signature is applied to the Doctoral Exam Report by the Committee Chair.

The examination has the student describing the dissertation research, discussing its significance, and defending its conclusions. The examination has both a public and private component.

The student submits the Doctoral Oral Examination Form to Chemistry Student Services at least two weeks prior to the date of the exam. Dissertations are submitted to the Graduate School according to the schedule in the [Registrar's Calendar](#). The dissertation is prepared and eventually submitted as directed in the [Dissertation and Thesis Guide](#). The [Doctoral Exam Report](#) is submitted to the Graduate School after corrections have been made and all signatures obtained. The title page is signed by the advisor and the "designated readers", and included as a scanned image for uploading to the Graduate School. A *curriculum vitae* is included as an appendix. Note that the student must be registered for CHEM 994 for the semester in which the thesis is submitted and the final oral examination is completed (but they do not necessarily need to be registered when the degree is later conferred). Note that the time in between semesters is considered a continuation of the prior semester.

## 6. Master's Programs

## 6.1. Overview of Master's Programs

The [master's programs](#) in chemistry provide students with additional exposure to advanced topics in chemistry relative to an undergraduate degree, as well as opportunities to strengthen oral and written communications skills. A student may switch from the PhD to MA or MS program if they decide not to complete the PhD requirements, or if they fail an examination or classes (in many cases this will result in being removed from the PhD program followed by the student petitioning to be reinstated to a master's program). **Only under special circumstances are applicants admitted directly to the master's program, and they must have their own funding to pursue the master's degree. Please contact Student Services with questions.**

## 6.2. Master of Arts (Non-Thesis)

### 1. COURSE PROGRAM

The Master of Arts (MA) degree requires a minimum of 30 credit hours. A typical path to degree completion is 18 hours of advanced chemistry courses and 12 hours in seminar courses and thesis registration (only six hours of CHEM 992 can count towards the 30-hour requirement). Students must accrue a total of at least two semesters of "full time" status based on UNC Chapel Hill course registration (9 hours in one semester is full-time, 6-8 hours is half-time, 3-5 hours is quarter-time). *Students must be registered for 3 hours of CHEM 992 in the semester in which the MA Written Report is completed and the degree will be conferred.*

### 2. M.A. WRITTEN EXAMINATION

The M.A. written examination is a written report on the current state of research in an area or topic that is relevant to a departmental research topic. This is typically the introduction or background section of the 2<sup>nd</sup> year examination Research Summary, but it can also be a separate literature review. The report is submitted to and approved/signed by research advisor.

### 3. APPLICATION FOR DEGREE

M.A. candidates nearing degree completion should formally apply for a degree for the next commencement according to the deadline listed in the [Registrar's Calendar](#). Forms are available on-line at the [Graduate School](#) and in the Chemistry Student Services Office. The "Approved Substitute" form should be filled out, giving an example of an oral presentation (group meeting, graduate course presentation, etc) and describing the M.A. Written Examination described directly above. All degree requirements should be reviewed at this time.

### 4. WRITTEN REPORT FOR M.A. (NO THESIS REQUIRED)

A written report on a chemical research topic shall be submitted and approved/signed by the faculty advisor. This is typically, but not always, the results and discussion section of the 2<sup>nd</sup> year examination Research Summary. The written report should be submitted and approved at least two weeks prior to commencement, followed by notification of the Chemistry Student Services Office. Note that the student must be registered for CHEM 992 for the semester in which the MA degree requirements are

completed. Note that the time in between semesters is considered a continuation of the prior semester.

### 6.3. Master of Science (Thesis)

#### 1. COURSE PROGRAM

The Master of Science (M.S.) degree requires a minimum of 30 credit hours. A typical course load involves 18 hours of advanced chemistry courses and 12 hours in seminar courses and thesis registration (only six hours of CHEM 993 can count towards the 30 hour requirement). Students must accrue a total of at least two semesters of “full time” status based on UNC Chapel Hill course registration (9 hours in one semester is full-time, 6-8 hours is half-time, 3-5 hours is quarter-time). *Students must be registered for 3 hours of CHEM 993 in the semester in which the MS Thesis is defended.* Third, fourth, and fifth year students must register for CHEM 993 for three hours until they graduate.

#### 2. M.S. WRITTEN EXAMINATION

The written examination for the MS degree is a Research Summary approved by the Dissertation Committee.

#### 3. M.S. ORAL EXAMINATION

The oral examination for the M.S. degree involves passing the Doctoral Qualifying Examination as approved by the Dissertation Committee.

#### 4. APPLICATION FOR DEGREE

MS candidates who can anticipate final approval of the thesis should formally apply for a degree for the next commencement according to the deadline listed in the [Registrar's Calendar](#). Forms are available on-line at the Graduate School and in the Chemistry Student Services Office. Students are responsible for scheduling the oral examination and completing the dissertation well in advanced of university graduation deadlines.

#### 5. THESIS FOR M.S. DEGREE

The thesis should be submitted to the Graduate School for a specific commencement according to the schedule in the [Registrar's Calendar](#). The thesis must be prepared as directed in the [Thesis and Dissertation Guide](#). It is the responsibility of the thesis advisor to verify that the thesis is in appropriate form. After all alterations and corrections have been made to the thesis and the final oral examination has been held, the [Master's Comprehensive Exam Report](#) is submitted and the thesis, in final typed form, three copies of thesis with four abstracts, is registered with the Graduate School.

#### 6. FINAL ORAL EXAMINATION

The final oral examination is administered by the student's Dissertation Committee. A minimum of three committee members are required, or the full Dissertation Committee can be convened. The student should work with the Chemistry Student Service office to schedule the time and location of the oral defense at least two weeks in advance. The student should submit a copy of the thesis to the committee members at least two weeks before the defense. The student presents on the context and findings of their dissertation research before answering questions from the committee. Note that the

student must be registered for CHEM 993 for the semester in which the thesis is submitted and the final oral examination is completed (but they do not necessarily need to be registered when the degree is later conferred). Note that the time in between semesters is considered a continuation of the prior semester.

## 7. Awards and Fellowships

### 7.1. Departmental Awards

The Chemistry Department offers multiple awards to current outstanding graduate students. The candidates for the fellowships are typically nominated by the student's research advisor and the awardee is then selected by the Graduate Studies Committee. Nominations are usually due in June/July, and graduate students should remind their advisors of these opportunities and ask to be nominated!

Examples of Departmental Fellowships (all covering tuition, fees, stipend, and health insurance)

- Venable Award (Rising 5th year): two-semester fellowship and \$5,000 cash award to outstanding rising 5th year students
- Burroughs Wellcome Fellowship (Rising 3rd Year Organic Students): one-semester fellowship
- Bost/Dobbins/Eliel/Hiskey Fellowships (Open to any year): one-semester fellowship
- Eastman Chemical Company Fellowship (Open to incoming first years): \$4,000 cash award to students committed to enhancing departmental mission to create a diverse and inclusive community

### 7.2. Graduate School Awards and Fellowships

The Graduate School also offers awards to support progress towards the degree, and conducts pre-selection review for some external fellowships, such as the [Schmidt Science Fellowship](#). In particular, [Dissertation completion fellowships](#) (due in January or February) and [off-campus dissertation fellowships](#) can support final year doctoral students (due in March). Other fellowships, scholarships, and awards include the [Dolores Z. Liebmann Fellowship](#) (due in September), [DAAD Research Grant and Study Scholarship](#) (due in September), [2023 GEAB Impact Award](#) (due in October), and the [Dean's Distinguished Dissertation Award](#) (due in November). **Check out the Graduate School [online portal](#) for more info.**

### 7.3. Travel awards

Travel awards to cover conference, workshop, or training travel are available from [Graduate and Professional Student Government](#), the [Graduate school](#), and the Department. Inquire with the Student Services Office about applying for these awards.

## 7.4. National Awards

There are many awards offered by private foundations, government agencies, and corporations, to support graduate study, with various eligibility requirements. In general deadlines are in October-January, and many fellowships require institutional support of your application. Discuss your applications with your research advisor significantly in advance of the deadline. Classes focused on proposal writing skill development are offered most years in the fall semester. Please note that national awards/fellowships can change the way your stipend is processed. Students should talk with the departmental HR staff well in advance to discuss plans to adjust health insurance and stipend allocation mechanisms.

Award Name	Description	Eligibility	Approximate deadline
<a href="#">NSF - Graduate Research Fellowship Program</a>	The NSF Graduate Research Fellowship Program recognizes and supports outstanding graduate students in NSF-supported science, technology, engineering, and mathematics disciplines who are pursuing research-based Master's and doctoral degrees at accredited United States institutions.	M, D - STEM	September/October
<a href="#">American Association of University Women (AAUW)*</a>	Fellowship and grant recipients perform research in a wide range of disciplines and work to improve their schools and communities. Their intellect, dedication, imagination, and effort promise to forge new paths in scholarship, improve the quality of life for all, and tackle the educational and social barriers facing women worldwide. AAUW seeks a diverse applicant pool.	M, D	November
<a href="#">Ford Foundation Fellowships</a>	Predocctoral, Dissertation, and Postdoctoral fellowships will be awarded in a national competition administered by the National Academies of Sciences, Engineering, and Medicine on behalf of the Ford Foundation.	D - STEM	November
<a href="#">National Defense Science and Engineering Graduate Fellowship (NDSEG)</a>	National Defense Science and Engineering Graduate (NDSEG) Fellowships are awarded to applicants who will pursue a doctoral degree in, or closely related to, an area of DoD interest.	D – STEM	December
<a href="#">DoD SMART Scholarships</a>	The Science, Mathematics And Research for Transformation (SMART) Scholarship-for-Service Program is an opportunity for students pursuing an undergraduate or	M, D - STEM	December

	graduate degree in Science, Technology, Engineering, and Mathematics (STEM) disciplines to receive a full scholarship and be gainfully employed by the Department of Defense (DoD) upon degree completion.		
<a href="#">NIH F31</a>	The purpose of this Kirschstein-NRSA program is to enable promising predoctoral students with potential to develop into a productive, independent research scientists, to obtain mentored research training while conducting dissertation research.	D – health related	April 8, August 8, December 8
<a href="#">Department of Energy Computational Science Graduate Fellowship</a>	The DOE CSGF is open to U.S. citizens or permanent resident aliens who plan full-time, uninterrupted study toward a Ph.D. at an accredited U.S. university. We encourage applications from students in engineering and the physical, computer, mathematical or life sciences who meet the following eligibility requirements. The fellowship provides four years of support, but must be renewed each summer.	D - STEM	January
<a href="#">Hispanic Scholarship Fund</a>	The HSF Scholarship is designed to assist students of Hispanic heritage obtain a university degree.	M, D	February 15
<a href="#">National Research Council Research Associateship Programs</a>	The NRC Research Associateship Programs (RAP) promote excellence in scientific and technological research conducted by the U.S. government through the administration of programs offering graduate, postdoctoral, and senior level research opportunities at sponsoring federal laboratories and affiliated institutions.	M, D - STEM	February

M – Master’s, D – Doctorate, STEM – Science, Technology, Engineering, and Mathematics, \* Open to international applicants.

This list is not exhaustive, and there are databases of fellowships that may be helpful in identifying external funding opportunities, for example:

[UCLA Graduate Education Funding Database](#)

[University of Illinois Funding Database](#)

[Pathways to Science](#)

## 8. Additional Resources

### 8.1. University resources

Graduate School Handbook: <https://handbook.unc.edu/preface.html>

Health Insurance Plan Information: <http://studentbluenc.com/#/uncch-ta/welcome>

The log-on link to Connect Carolina: <https://connectcarolina.unc.edu/>

## 8.2. Emergency funds or hardship relief

Unexpected expenses, medical situations, or other emergencies can arise while in graduate school. Departmental and university resources may be available. If you are struggling, we would like to try and help. Please reach out to learn about what support may be available!

Department of Chemistry SWELL Emergency Fund: [chemswell@gmail.com](mailto:chemswell@gmail.com) or the committee chair

Graduate and Professional Student Government (GPSG) Emergency Fund: <https://gpsg.unc.edu/funding/the-emergency-fund/>

Dean of Students Emergency Funds: <https://dos.unc.edu/student-support/student-emergency-and-hardship-funds/>

Child Care Scholarship Program: <https://research.unc.edu/wp-content/uploads/sites/61/2020/09/UNC-CH-Child-Care-Scholarship-Program.pdf>

## 8.3. Core Laboratories

The Department of Chemistry has six core facilities available to support research at all levels. Capabilities include materials and chemical characterization, quantification and imaging, and micro/nanofabrication. <https://chem.unc.edu/critcl-main/>

Mass Spectrometry <https://chem.unc.edu/critcl-main/critcl-mass-main/>

Nuclear magnetic resonance (NMR) <https://chem.unc.edu/critcl-main/critcl-nmr/>

X-ray diffraction (XRD) <https://chem.unc.edu/critcl-main/critcl-x-ray/>

Electronics <https://chem.unc.edu/critcl-main/critcl-electronics/>

Chapel Hill analytical and nanofabrication lab (CHANL) <https://chanl.unc.edu/>

Scientific Glass <https://chem.unc.edu/critcl-main/critcl-glass-shop/>

## 8.4. Student groups

[Am-WISE](#): Allies for Minorities and Women in Science and Engineering.

[STEM-Pride](#): Creating a visible and interconnected community of LGBTQ+ and allied STEM students and professionals committed to pursuing their careers with pride.

UNC [WinS](#): Women in Science at UNC.

[SACNAS](#): Society for the Advancement of Chicanos/Hispanics and Native Americans in Science.

[UNC NOBCCChE](#): National Organization for the Professional Advancement of Black Chemists and Chemical Engineers.

[ACGS](#): Association of Chemistry Graduate Students.

[Future Science Educators](#) (FuSE)

[Graduate Committee for Professional Development](#) (GCPD)

[Materials Research Society](#)

[Research Triangle Electrochemical Society](#) (TrECS)

[Science Policy Advocacy Group](#) (SPAG)