



Department of

CHEMISTRY

Clemson® University

Graduate Student Handbook

Fall 2022

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1 Introduction

This handbook presents policies and procedures of the graduate programs in the Clemson University Chemistry Department. It is meant to serve as a guide to help students (you!) as you make your way through the program. Note that this handbook does not cover all the policies of the Clemson Graduate School; those policies are available in the Graduate School Announcements, which are published each year by the Graduate School. Access to the Graduate Announcements is also available via the web at <http://www.grad.clemson.edu/>. **You must follow both the Chemistry Department guidelines and the Graduate School guidelines as you pursue your graduate chemistry degree.**

The graduate chemistry program at Clemson University is administered by a graduate committee consisting of (usually) six members, including the graduate student coordinator, the Graduate Program Coordinator, and at least one member from each departmental division. The individuals on the committee change annually. The composition for the current academic year is given below:

Composition of Chemistry Department Graduate Program Committee for 2021 – 2022

Dr. Julia Brumaghim, Chair & Graduate Program Coordinator
Dr. Carlos D. Garcia, Analytical Chemistry Division
Dr. Dev Arya, Organic Chemistry Division
Dr. Dvora Perahia, Physical Chemistry Division
Mrs. Heather Shelton, Graduate Student Coordinator

The first point of contact for students in the graduate program is the Graduate Student Coordinator. That person will handle the processing of all forms relating to the program and can answer most questions about program policies and procedures. Students should feel free to contact the graduate student coordinator or any member of the graduate committee regarding all issues relevant to the program.

This handbook summarizes the policies and procedures that are in effect for the academic year specified on the cover page. These policies remain in effect until new policies are introduced in an updated handbook and posted on the departmental webpage. Students will be notified of changes as they occur. If policies change in minor ways during a student's course of study, the student may be asked to work toward a degree under the new policies, in place of policies that were in effect when the student was admitted. Students may choose to adopt the policies described in the latest version of the handbook or continue working towards their degrees following policies and requirements described in the handbook used the year they were admitted. The Graduate Program Committee and the Department Chair (Dr. William Pennington) will consider cases in which a change in policy creates a hardship for a student on a case-by-case basis.

The graduate committee and the entire chemistry faculty and staff are here to help you in your journey toward a graduate degree. Graduate School is a time of intensive learning and professional development that will call upon the very best in you to achieve success. It is also a time of great personal development and growth that we hope you will look back upon with fondness.

Good luck with your degree journey!

2 Proficiency Requirements

2.1 Chemistry Proficiency

Entering graduate students will take a series of entrance examinations at the beginning of the first semester of study. Four exams will be given, one each in the areas of analytical, inorganic, organic, and physical chemistry. These are standardized, multiple-choice exams, covering undergraduate-level material. Passing the exam indicates that the student has achieved proficiency in the subject area, sufficient to continue taking courses at the graduate level. The exam results will not appear on the student's transcript.

The results of the placement exams are used to advise students regarding course selection. Students who pass an exam in a given area will be encouraged to take required graduate-level courses in that area. Students who do not pass an exam in a given area will be recommended to take a remedial class to address the lack of proficiency before enrolling in graduate classes in that subject area. Please note that this recommendation is to best prepare the students to successfully pass the required graduate-level courses.

2.2 English Language Speaking Proficiency

Newly admitted graduate students who are not native English-speaking students are required by South Carolina state law to pass an English-Speaking Exam (the CESP test) before they can be certified to teach as a laboratory teaching assistant. The Clemson Emeritus College administers the exam, which is similar in form to the Test of Spoken English administered by ETS (<https://www.ets.org/>). The exam is offered at the start of the fall and spring semesters, and once near the end of the fall semester. Students may take the exam anytime when it is offered. **It is expected that students pass this exam during the first year of study. If a student does not pass the exam by the end of the first year of study, then that student is not eligible for further Chemistry Department support and may be asked to leave the program.** Once a student passes the English-Speaking Exam, they become eligible to serve as a teaching assistant in undergraduate laboratory courses and receive the same stipend as all other students teaching lab sections.

Note: The stipend that students receive before they pass the English-Speaking Exam and become certified to serve as a teaching assistant is lower than the stipend received by students who are teaching laboratory sections.

3 Advisement

3.1 Initial Advising

Entering students will initially be advised by the Graduate Program Committee in an advising session to be held after the entrance exams have been completed but 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. After the advising session, students will complete registration for the first semester. Academic advisement for subsequent semesters will usually be performed by the student's research advisor.

3.2 Selection of a Research Advisor

Selection of a research advisor is a very important decision to which careful thought and consideration should be given. No other factor or decision so strongly affects the course of one's graduate studies and subsequent career. Each research group in the Department is unique, and it is very beneficial to be as open-minded as possible.

At the beginning of the Fall semester a series of faculty presentations will be held, during which faculty will introduce their research programs and answer questions about their research groups. A schedule for these sessions will be distributed before they take place. All entering students **must attend all faculty presentations**. Students who have entered in the previous semester, or who have already committed to joining a particular research group are still required to attend. These presentations are intended to introduce you to the broad variety of research conducted in the Department thereby helping you to make an informed choice when selecting the research group/advisor. This activity will also help with selection of the Advisory Committee, after you have joined a research group.

After all faculty presentations have been made, students should make individual appointments with several faculty members, potential advisors, for a more detailed discussion/interview about their research programs. Each student must meet with at least three faculty members, independent of divisional affiliation. Students are strongly encouraged to meet with more than three faculty. These interviews 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. Students are also strongly encouraged to visit the Department's website and become familiar with the research performed/published by the potential advisors, so they are ready to ask specific questions and/or discuss potential projects.

Students beginning their studies in the spring semester should begin the process of meeting with individual faculty as soon as possible after the start of the spring semester. These students are required to attend the faculty research presentations in their second (Fall) semester, so that they are acquainted with the research activities in the Department. Only regular (tenured / tenure-track) faculty members of the Department of Chemistry are eligible to act as Research Advisors. The following link contains the names of those eligible for such a role: <https://www.clemson.edu/science/academics/departments/chemistry/about/people.html>.

Adjunct Faculty and other professionals approved as "Graduate Faculty", may also serve as co-chairs or committee members. Students are strongly encouraged to discuss the selection of the committee members with the main Research Advisor, who can provide additional information regarding the process.

Additional information related to faculty ranks and qualifications can be found in the University [Faculty Manual](#) (Chapter IV, Section B).

When choosing a potential research advisor, students are expected to have a more in-depth discussion with the potential advisor(s). Expectations of students may be slightly different in different research groups, and it is crucial that students be aware of these expectations before joining a research group.

After the faculty interviews are completed, students will complete a form (Attachment II) stating their top three choices for major research advisor. The student should discuss their intention to list a potential advisor with each of the three faculty members that they identify. For a variety of reasons, not all faculty will be able to accept new research students in every semester. The

completed advisor selection form will then be submitted to the Graduate Student Coordinator. **By submitting this form, the student declares willingness to join the research group of any of the potential advisors listed.** For those rare cases when prior arrangements were made between the student, the potential advisor, and the Department Chair, such arrangements should be described in the form (Special comments) along with the corresponding documentation.

Choice of a research advisor is not official until authorized by the corresponding research advisor, the Graduate Program Coordinator, and the Department Chair. Official approval will be granted before the end of the first semester. Students are expected to start their research activities by the end of the first semester.

3.3 Changing the Research Advisor

Under special circumstances, a student may request to change their research advisor and research group. Changing research advisors typically requires changing research projects and is therefore highly disruptive to a student's progress toward their Ph.D. degree. Requests to change research advisors will be considered on a case-by-case basis.

The written request will be submitted via the Graduate Student Coordinator and will be considered by the Graduate Program Committee and the Department Chair. The request should present reasoning for changing advisors and a plan for finding a new research advisor/group. The student will be required to meet with Graduate Coordinator and Department Chair or their designees to discuss their request and seek further advice.

If the committee and the department chair deem that changing the research advisor is in the student's best academic interest, the student will be required to find a new advisor in the Department to remain in the program. It is the student's responsibility to find a new advisor within the timeframe determined by the Graduate Program Committee. By default, students are expected to find a suitable advisor within three weeks after meeting with Graduate program Coordinator and Department Chair.

Prior to changing advisors, students are required to transfer in an orderly manner all research materials, acquired data, and lab notebooks to their current advisor. Students are also required to provide a research report at the discretion of their current advisor.

The final approval of a new research advisor and research group lies with the Department Chair and is subject to available research position openings according to the department guidelines. Having a research advisor is a requirement to remain in the Ph.D. program. If any difficulties arise in the process, the student will meet again with Graduate Program Coordinator, Department Chair or their designee to report on their efforts and to attain further guidance.

3.4 Advisory Committee

In addition to the research advisor, all students are required to have an Advisory Committee. This is a committee of at least three (for M.S.) or four (for Ph.D.) faculty members that are responsible for evaluating/approving the plan of study, supervising the progress towards the degree, and administering both the comprehensive oral examinations and the final thesis (for M.S.) or dissertation (for Ph.D.) defense. The majority of the Advisory Committee must be constituted by regular (tenured / tenure-track) faculty from the Department of Chemistry.

Non-tenure track faculty and other members of the scientific community, including those not employed by the University, may serve as committee members as long as they have an appointment as Graduate Faculty in the department. Nominations for Graduate Faculty should be discussed with the corresponding advisor, who can request the Department to grant status of Graduate Faculty to a person that has adequate qualifications.

The Advisory Committee should be selected by the end of the third semester of study. This selection is done using the Plan of Study (GS2) form; see Section 4.6 for more details.

The Advisory Committee will meet periodically with the student to assess the student's progress towards the graduate degree. These meetings can occur in the form of an informational progress meeting, or a formal examination such as the comprehensive oral exam and the final thesis or dissertation defense.

4 PROGRAMS OF STUDY

4.1 Overview

The Clemson Chemistry Department offers programs of study leading to the M.S. and Ph.D. degrees. Each degree program has specific requirements in terms of coursework, student seminars, comprehensive exam (Ph.D. only), and a thesis (M.S.) or dissertation (Ph.D.) that presents the results of an original research project. It is possible (and common) to earn the Ph.D. degree directly without an M.S. degree. It is also possible to earn only the M.S. degree.

The following sections summarize Chemistry Department requirements and policies as they relate to the programs of study for the M.S. and Ph.D. degrees. The Clemson University Graduate School has additional policies that relate to programs of study for these degrees. Graduate School policies are summarized in the Graduate Announcements, available online at <http://www.grad.clemson.edu/>. By University policy, full-time status is defined as being enrolled in 9 credit hours in the fall and spring semesters and a total of 6 credit hours in the summer session(s).

4.2 Curriculum

The curriculum requirements differ substantially for the M.S. and Ph.D. degrees. The M.S. degree requirements are primarily designed to ensure that sufficient graduate coursework is completed. The coursework requirements for the Ph.D. degree are more rigorous (*e.g.*, see Section 4.4 on Grade Requirements), in both the core areas of chemistry and in their focus area. The research advisor may also require a student to take alternative and/or additional courses in chemistry or courses that are outside of chemistry, beyond those required in the Chemistry program. Both programs are sufficiently flexible to allow the student and their research advisor to construct a curriculum that matches the student's research emphasis.

4.2.1 Broad Chemical Awareness. By the end of the first year of study, students pursuing graduate degrees in our Department must display competency in each of the four traditional areas of chemistry (analytical, inorganic, organic, and physical chemistry) to demonstrate a well-rounded foundation in chemistry.

This competency can be demonstrated in any one of four ways:

1. Passing the entrance exam in that subject area with a score of at least the 50th percentile when compared to the national average. If the entrance exam is passed upon arrival, no further action is needed. These exams are offered three times per year, in August, January, and May. No more than three attempts are permitted in any subject area.
2. Completing an identified 8000-level or 9000-level course in the subject area with a grade of B or better. (Note that these courses may simultaneously satisfy the focus area or distribution requirements; see below.). Courses satisfying this requirement are:
 - i. Analytical Chemistry - CH8120, CH8130, CH8140, CH8150, CH8160, CH8180 & CH9100
 - ii. Inorganic Chemistry – CH8050, CH8070 & CH8080
 - iii. Organic Chemistry - CH8210 & CH8220
 - iv. Physical Chemistry - CH8300, CH8340, CH8350, CH8370, & CH8380
3. Completing a two-semester sequence of the undergraduate 2000- or 3000-level courses in the subject area that are required for the undergraduate major, with a grade of B or better in both semesters. Courses satisfying this requirement are:

- i. Organic Chemistry - CH2230 & CH2240
 - ii. Physical Chemistry - CH3310 & CH3320
 - iii. Such courses are unavailable in Analytical or Inorganic chemistry.
4. Completing any 6000-level course in the same subject area as the entrance exam, with the exception of CH 6270, with a grade of B or better. Such courses are available in all four traditional areas of chemistry. These courses may be used for graduate credit, when allowed by Graduate School rules (i.e., except for CH6110, which has a corresponding 4000-level course that is a requirement of the undergraduate degree).

Note that multiple attempts to demonstrate a minimal competency are permitted. Thus, for example, a student earning a C in an 8000-level course would not demonstrate minimal competency. However, the student could still re-take the entrance exam and score at the 50th percentile or higher, perhaps aided by the material studied in the 8000-level course.

If the entrance exams are not passed at the 50th percentile or higher upon arrival, the student should consider their course of action very carefully to ensure that they meet the broad chemical awareness requirement by the end of the first year. Note that some courses (especially 8000-level courses) are not guaranteed to be offered every year and may have prerequisites, and some subject areas do not have courses at the 2000 or 3000 level. To avoid unforeseen problems, it is crucial that the student plan their curriculum in conjunction with their academic and/or research advisor.

At the end of 12 months of study, students in the Ph.D. program who have failed to meet the Broad Chemical Awareness requirements will be removed from the graduate program and will become ineligible to transfer to the M.S. degree program. Under special circumstances, the time to complete the Broad Chemical Awareness requirements could be modified to allow (for example) attendance of courses essential for the student research program. These changes must be reflected in the student's research program, approved by the research advisor and the Graduate Program Committee, and listed in the GS2 form.

4.2.2 M.S. Curriculum

The Department of Chemistry offers two tracks for graduate education at the M.S. Level:

- M.S. in Chemistry (Thesis Option)
- M.S. in Chemistry (Non-Thesis Option)

Coursework. Graduate classes at Clemson are classes offered at the 6000 level, 8000 level, or 9000 level. A 6000-level class that has a 4000-level counterpart that is required for the undergraduate degree, e.g. CH 6110, cannot be used as credits towards the M.S. degree. Students must also complete graduate lecture coursework subject to the requirements outlined in the sections on Broad Chemical Awareness, Focus Area, and Distribution Requirement.

Students pursuing a M.S. degree (Thesis Option) at Clemson University must complete a minimum of 24 hours of graduate coursework and six hours of master's thesis research (8910). At least half of the total graduate coursework credit hours required to satisfy the M.S. program, must be in 8000-level courses or above, and at least 12 credit hours must be in the major field of study, as required by the Graduate School. Up to three credits of seminar classes, e.g. CH8510 and CH8520, may be counted toward the required credit hours of coursework.

Students pursuing a M.S. degree (Non-Thesis Option) at Clemson University must complete a minimum of 30 hours of graduate coursework. At least half of the total graduate coursework credit hours required to satisfy the M.S. program, must be in 8000-level courses or above, and at least 15 credit hours must be in the major field of study, as required by the Graduate School. Up to three credits of seminar classes, e.g. CH8510 and CH8520, may be counted toward the required credit hours of coursework. Students in this track are required to complete a GS2 form that contains only one committee member, which by default will be the Graduate Program Coordinator.

Graduate courses taken in other Departments may count towards the distribution requirement. In such cases, students must receive approval from the corresponding advisor and the Chemistry Department Graduate Program Committee before enrolling.

Transfer of credits. Students may request that up to 9 credit hours of graduate-level coursework completed at other accredited institutions be applied towards their M.S. degree. These requests will be evaluated by the Graduate Programs Committee to assess the similarity between those courses and the courses offered at Clemson (required by the program). Students are

responsible for providing copies of the corresponding syllabi to facilitate such a comparison and verify the information. If approved by the Committee, students will be then required to submit an official transcript from the previous institution to the Office of Enrolled Student Services.

4.2.3 Ph.D. Curriculum

Coursework. Ph.D. students must complete a total of at least 60 hours of graduate credit, including at least 18 hours of Ph.D. research. Students must also complete graduate lecture coursework subject to the requirements outlined in the sections below on Broad Chemical Awareness, Focus Area, and Distribution Requirement. Additionally, within the first year of enrollment, the student must complete at least 18 graduate credits counting towards the Ph.D. degree. Any exception to this requirement must be approved by the Graduate Program Committee. These credits include seminars but do not include graduate research and they do not include 6000-level classes for which the companion 4000-level course is required for the undergraduate major: e.g., CH 6110.

All required coursework must be completed by the end of the third year of full-time graduate study (although alternative and/or additional courses may be taken after the third year).

Distribution Requirement. The Ph.D. student must take an 8000- or 9000-level course in at least three different subject areas.

Graduate courses taken in other Departments may count towards the distribution requirement. In such cases, students must receive approval from the corresponding advisor and the Chemistry Department Graduate Program Committee before enrolling.

Focus Area. Students take additional coursework as appropriate for their individual research programs. A minimum of four such focus area courses carrying graduate credit must be taken, only one of which may also be counted for the distribution requirement. (Note that CH 6110 does not carry graduate credit, as its 4000-level counterpart is required for the undergraduate major.) These courses can be in any area and should be chosen by the student and his or her research advisor based on the student's research program.

Transfer credit. Students in the Ph.D. program can use graduate courses taken elsewhere to partially fulfill curriculum requirements for the Ph.D. degree. In particular, coursework taken elsewhere can be used, with the approval of the Department Graduate Program Committee, towards satisfying the 18-credit requirement for the first year; the broad chemical awareness requirement, the distribution requirement, and the focus area requirement. In such cases, the Petition for Course Substitution Form (see §7) must be used. This approval suffices to allow the external courses to be used to satisfy the curriculum requirements. If the transferred courses are to be listed on the student's GS2 form (which is not typically necessary), an official transcript must be sent to the University's Office of Enrolled Student Services.

In addition, incoming Ph.D. students may transfer graded graduate coursework (taken in the last 8 years) for which they earned a B or higher at a regionally accredited institution. These transferred credits must be approved by the student's Advisory Committee at Clemson, and they must account for 2/3 or less of the total credit hours required for the Ph.D. degree (as documented on the student's GS2 Plan of Study, approved by the student's Advisory Committee). Transfer credit cannot be awarded for courses graded on a pass/fail basis; for continuing education units; for correspondence, extension, or in-service courses; or for concentrated courses and workshops that award credit at a rate exceeding one credit per week.

4.3 Non-Chemistry Courses

Most classes taken to satisfy the coursework requirements for a graduate chemistry degree will be those offered by the Chemistry Department. Graduate courses taken in other Departments may also count towards the distribution requirement. In such cases, students must obtain approval from their Ph.D. Advisory Committee before enrolling and reflected in the GS2 Form. Students may also take other Clemson courses for credit during their graduate program, though normally such classes will not be counted toward the graduate degree. Students supported on either a research or a teaching assistantship **MUST** obtain approval from their research advisor prior to taking any such class while working toward a graduate degree in chemistry. Once the degree requirements are complete, students wishing to take other courses should obtain approval only from their research advisor.

4.4 Grade Requirements

M.S. students receiving grades of C or below in 9 or more credits worth of graduate coursework at Clemson University (for example, grades of C in three 3-credit lecture courses) will be ineligible to continue in the M.S. program. This includes any coursework taken in the Ph.D. program prior to transferring into the M.S. program.

Ph.D. students receiving grades of C or below in 6 or more credits worth of graduate coursework at Clemson University (for example, grades of C in two 3-credit lecture courses) will be ineligible to continue in the Ph.D. program. This includes any coursework taken in the M.S. program prior to transferring into the Ph.D. program. Such students will be permitted to transfer to the M.S. program, if they meet the academic requirements of that degree program.

Students who fail to maintain a 3.0 grade point average in graduate coursework will be placed on academic probation by the Graduate School and will be ineligible for graduation until their GPA is above 3.0. When on academic probation, students will have nine additional semester hours of graduate credit in which to remediate their GPA, or they will be subject to dismissal from the university.

Students on academic probation will be considered not to be making adequate progress towards their degree and will be required to meet with the Department Chair, Graduate Program Coordinator, and/or research advisor to discuss their plans for meeting program requirements.

4.5 Research Requirement

Ordinarily, both M.S. (Thesis Option) and Ph.D. students will spend a significant portion of their time doing research. The Graduate School requires a minimum of 18 hours of research (CH9910) for a Ph.D. degree and 6 hours of research (CH8910) for a M.S. degree (Thesis Option). This is a basic minimum. Students are required to spend the research hours needed to carry out comprehensive research and obtain significant scientific results, worthy of a scientific thesis or dissertation. The research topics and deliverables are chosen in conjunction with the research advisor.

Students that opt to pursue the M.S. (Non-Thesis Option) degree after having already completed significant research as part of a M.S. (Thesis Option) or Ph.D. program may be required to write a progress report before applying for graduation. The student's graduate advisor determines whether the report is required, as well as the content and format of the report.

4.6 The GS2 Form

The coursework plan for both the M.S. and Ph.D. degrees is specified on a Graduate School GS2 form. Students should complete a GS2 form as soon as they have formulated the coursework plan that they intend to pursue for the graduate degree. The coursework plan is formulated in consultation with the major research advisor. All students must file a GS2 form **by the end of the third semester** of study, indicating all graduate courses to be taken to satisfy the degree requirements. The GS2 form should be approved by the Department Graduate Program Coordinator. The Graduate School has the right to block registration by students that have not filed a GS2 form on time. If changes are made to the plan of study after the GS2 form is filed, a modified GS2 form should be submitted to the Graduate School.

At the time of filing of the GS2 form, the student will also select members of their degree Advisory Committee. In the case of an M.S. student (thesis option), the committee will consist of the research advisor and at least two other members of the Graduate Faculty. In the case of a MS student (non-thesis option) the committee will consist of one faculty member, which by default is the Graduate Program Coordinator. For a Ph.D. student, the committee will consist of the research advisor and additional members of the Graduate Faculty as needed to complete the committee of at least four members. The majority of the Advisory Committee must be constituted by regular (tenured / tenure-track) faculty from the Department of Chemistry. Additional details related to those approved to serve in each role are provided in Section 3.4 of this Handbook.

Selecting a committee is an integral component of the Ph.D. requirements. Students who have not selected a committee by the end of their third semester of study will be considered not to be making adequate progress towards their degree. They will first be notified (along with their research advisor) by the Graduate Program Coordinator. Students not complying with the requirements after two weeks of the notification will be required to meet with the Department Chair (or designee), the Graduate Program

Coordinator, and their research advisor to discuss their plans for meeting program requirements. Failing to address this requirement will result in termination from the program.

Whenever changes in the composition of the student's Advisory Committee occurs, an updated GS2 form must be filed as soon as possible. Following guidelines from the Graduate School, such changes should occur before the semester of the intended graduation. Other deadlines are available at <https://www.clemson.edu/graduate/>

4.7 Student and Departmental Seminars

All chemistry graduate students are expected to attend the weekly departmental seminars and student seminars. Students can attend seminars pertaining to their research presented in other Departments, even if they occur at the same time as the departmental seminars. Prior approval is required from the seminar course instructor and advisor.

Students are expected to register for one credit each of the student seminar (CH 8510) and departmental seminar (CH 8520) courses each semester. Attendance in both seminar courses is required and grading reflects attendance and participation, as described in the course syllabus. Students are expected to schedule their teaching assignments to minimize the time conflict with the seminars. In situations where lab teaching responsibilities conflict with seminar attendance, students can request up to three waivers (to avoid enrolling in the seminar program to fulfill teaching obligations) during the course of their studies. Students that participate in university academic activities, such as meetings, short internship and experiments in other venues, are required to inform the course instructor in advance. Graduate students are also required to give several departmental student seminar presentations; these are commonly given within the context of the graduate student seminar course (CH 8510). In semesters in which a seminar is presented as part of the course, two credits are awarded in CH 8510 rather than one. Graduate students must present one seminar before the end of their 4th academic semester, and another before the end of every third semester afterwards. One of these talks must be a literature talk.

The final thesis or dissertation defense may (optionally) count as one of these seminars, if presented as a public (open) defense. The research proposal given to the student's Advisory Committee in association with the Ph.D. oral examination does not count as a public seminar. M.S. students are expected to give the literature seminar before their final defense. Abstracts for all seminar presentations should be distributed to the entire Department at least one week in advance of the seminar, regardless of whether the seminar occurs as part of the graduate student seminar course or a defense. The division, date, time and location for the seminar must be included in the abstract.

Ph.D. students are expected to give annual progress reports to their Ph.D. Advisory Committee. Alternative frequency for these progress reports must be approved by the Ph.D. Advisory Committee.

4.8 Advancement to Ph.D. Candidacy

A major step on the way to earning a Ph.D. degree is the admission to Ph.D. candidacy. Successful completion of this exam marks a transition from the initial phase of the degree program involving coursework the research focused stage and the preparation of the dissertation. The Advancement to Candidacy takes the form of an examination with a written and an oral component. The specific format of the oral and written component may vary by the subdiscipline.

The candidacy examination should take place at the end of the second year in the program and no later than the 5th semester in the program. It is permissible to delay the oral examination until sufficient preliminary research results are acquired, as deemed by the student's Ph.D. Advisory Committee. Requests for exemptions from this deadline can be made in writing to the Graduate Program Committee.

The student will prepare a written research proposal. The student should consult with the research advisor and the Ph.D. Advisory Committee regarding the content of this document, as it may vary between different research groups and emphasis areas. This written component may comprise a proposal for the research to be conducted for the Ph.D. degree, in which case it will summarize the basic elements of the student's research project, report on the progress to date, and present a research plan for the remainder of the dissertation research. Alternatively, the report may consist of an original research proposal, on a topic unrelated to the student's dissertation research. The oral examination will consist of an oral presentation by the student summarizing the written proposal, followed by a question-and-answer session. The emphasis will be on demonstrating understanding of the

fundamental science underlying the topics in the report, knowledge within the student's major field of study and general chemistry, as well as the student's capability to pursue independent research at the Ph.D. level.

Upon successful completion of the oral examination, students must file a completed GS5 form with the Graduate School, signed by all members of the Ph.D. Advisory Committee. After passing the oral examination and filing the GS5 form, the student is formally admitted to candidacy for the Ph.D. degree.

Successful completion of the oral examination will admit the student to candidacy for the Ph.D. degree. In the event that the student fails the oral examination on the first attempt, the student will be allowed one opportunity to retake the oral examination. This second attempt must occur before the end of the first full semester following that in which the first examination was failed.

4.9 Scientific Communication Requirements

Communication and dissemination of research results is a critical part of professional scientific research and also a crucial part of graduate training. Consequently, the Department requires that all Ph.D. students have at least one research publication and one research presentation by the time they graduate, as described in the following sections.

4.9.1 Publication requirement

All Ph.D. students must have at least one peer-reviewed original research publication before graduation, or equivalent (e.g., a patent, report, or other academically recognized contribution). The student must be the primary contributor to the research described in the publication. This is normally indicated by first- or second-author status or marked as equal contributor by the convention used in the specific journal. In cases where the student is the primary contributor but is not first or second author, a statement describing the contributions of the student to the research should be provided to the student's Ph.D. Advisory Committee. Both published articles and those accepted for publication are acceptable. Manuscripts merely submitted or in preparation are not acceptable. If a manuscript has been reviewed but has not been accepted at the time of the defense, the student may complete this requirement by providing the manuscript, the corresponding reviews, and the rebuttal letter (if available) to the Ph.D. Advisory Committee. Students are expected to submit manuscripts for publication well before their planned graduation date because the review, revision and publication process can be slow at many journals, sometimes requiring six months or more.

More than one publication is encouraged, and most successful students publish several papers before graduation. Every publication strengthens your research expertise, technical writing skills, and curriculum vitae, and will help you find a job and succeed as a research scientist.

4.9.2 Presentation requirement

All Ph.D. students must present at least one extramural research presentation, in either oral or poster format, before graduation. Common venues where graduate students deliver research presentations are SERMACS, national ACS, APS, MRS meetings, Gordon Conference, Pittcon, etc. (the specific venue is not critical). The student must be the presenting author, and the presentation should be delivered at an extramural scientific meeting (conference, workshop, etc.) attended by a scientific community relevant to the student's research, and the presentation format should provide an opportunity for discussion. In cases where it is not certain whether a particular venue would qualify, the student should consult with his or her Ph.D. Advisory Committee, which is responsible for certifying that the presentation requirement has been satisfied. Students are encouraged to discuss financial details related to their attendance to conferences with their advisors.

More than one research presentation is encouraged. Most students make a number of research presentations before graduation. Every presentation provides additional public speaking experience and exposure for the research results, both of which are valuable in post-graduation research endeavors and job-seeking.

4.10 Research Progress Meetings

The purpose of research progress meetings is to assess the student's progress towards graduation and address possible problems for any student who are not on track to graduate within the average time for that discipline.

All M.S. students are expected to hold a research progress meeting with their Advisory Committee in their 3rd semester of study (not including summers) and in every semester thereafter. All Ph.D. students are expected to hold an annual research progress meeting with their Advisory Committee, as outlined in the Ph.D. Program Timeline. Progress meetings may also be held earlier for any student. Some research advisors convene progress meetings at earlier dates for the purpose of keeping the Advisory Committee informed of the status of the research and soliciting their input.

The students will discuss with their advisor the format and scope of the progress report and prepare accordingly. Students are responsible for arranging these required meetings with the Ph. D. Advisory committee.

At the progress meetings, the student should present research results and a projected timeline for any future work that remains. This can be done in a variety of formats, including an oral presentation, brief written report, distribution of publications, or open discussion. The specific format of the meeting is to be determined by the research advisor and the Ph.D. Advisory Committee, based on what they feel is required to assess the student's research progress. These meetings provide an opportunity for the committee to provide feedback to the student on their research progress, and the reasonability of their plans for future progress. In cases where the Advisory Committee determines that the student is not making adequate progress towards the degree, the committee can recommend that the student be dismissed from the Ph.D. program.

A final thesis or dissertation defense can serve as the progress meeting (i.e., it is not necessary to have a progress meeting and a final defense during the same semester).

4.11 The M.S. Thesis, Ph.D. Dissertation, and Final Defense

Both the M.S. and Ph.D. degrees in Chemistry at Clemson University are research-based. The central feature of the program of study is pursuit of an independent research project under the direction of a chemistry faculty member. For both degree programs, this project culminates in the preparation and defense of a thesis (M.S.) or dissertation (Ph.D.) to be written by the student that provides background material and summarizes the research project. Successful completion of the writing of this thesis or dissertation, and defense of the thesis or dissertation before the Advisory Committee, is the capstone feature of both degree programs.

The Graduate School's guidelines for a thesis/dissertation, including an outline of the entire formatting and review process, are located at <https://www.clemson.edu/graduate/>. A formatting template for students using Microsoft Word is also available at <https://www.clemson.edu/graduate/students/theses-and-dissertations/index.html>

Students should be aware that the Department of Chemistry has adopted the following guidelines:

The oral thesis or dissertation defense consists of a presentation of the research described in the thesis or dissertation, as well as relevant discussion and questions by the Advisory Committee members.

Students must submit the final version of their thesis or dissertation to the Advisory Committee members at least two weeks prior to the defense. This time is needed for the committee to properly evaluate the document.

The Advisory Committee is also responsible for verifying the publication and presentation requirement (see §4.9). At the time of the thesis or dissertation defense, graduate students must submit the following items to their Advisory Committee:

- A list of publication(s), including full citation(s), publication status, and narrative description of the student's contribution to the publication(s) when needed
- A list of extramural research presentations
- The results of a Turnitin or other plagiarism screening tool applied to the thesis or dissertation

Regardless of the acceptability of the dissertation and oral portion of the defense, the Advisory Committee will not approve the passing of the defense (via form GS7M or GS7D) until these items have been supplied.

Students are strongly encouraged to provide the publication and presentation information to the committee in the form of a curriculum vitae (CV). This document is necessary to apply for most jobs after graduation, and thus should have been prepared by the time of the defense. It provides all the information needed by the committee to assess the candidate's publication and

presentation history, and the committee may also be able to volunteer feedback on the format, content, and likely viability of the CV.

Plagiarism screening of the thesis or dissertation is required to protect the student, advisor, committee, Department, and university from the highly damaging consequences of plagiarism. The originality of the research is not the issue: this will be demonstrated by the student and assessed by the Advisory Committee in any successful defense. Instead, the screening tool is designed to aid in pointing out cases where other authors' words have been used without proper attribution. In cases where such plagiarism – whether intentional or unintentional – is not discovered until after the thesis or dissertation has been published, the legal and ethical consequences are far more severe.

The student is responsible for submitting the thesis or dissertation to Turnitin or an equivalent plagiarism-screening tool. This can be done from the Canvas course page for the CH 8910 or CH 9910 research course. Please see the Graduate Program Coordinator if you need assistance using this tool.

In rare cases, such as when dissertations are embargoed to avoid public disclosure for intellectual property reasons, it may be preferable to opt-out of the Turnitin database or to avoid including on other external servers. In such instances, alternate arrangements must be made with the Advisory Committee to ensure that they have taken adequate precautions to detect intentional or unintentional instances of plagiarism.

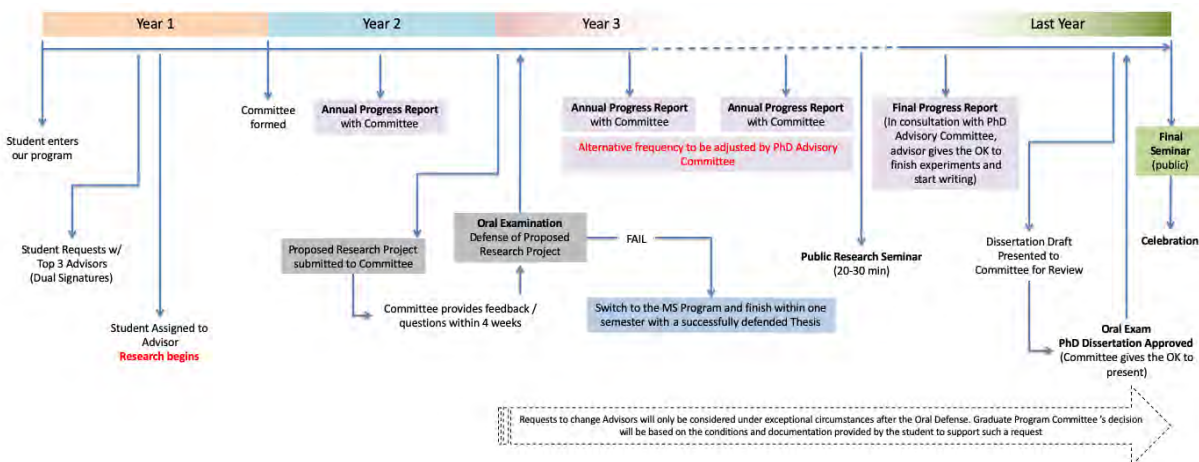
4.12 Time Limits for Degree Programs

In accordance with Clemson's Graduate School, a master's student has six years from the date of first matriculation to complete a degree; therefore, all coursework to be credited toward any master's degree must have been enrolled in and completed within six (6) calendar years prior to the date on which the degree is to be awarded. All requirements for the doctoral degree must be completed within eight (8) years from the date you first matriculate into the doctoral degree program.

The total time required to complete a graduate degree depends on the student and the research project but the average time to complete a Ph.D. degree in the Department is six years. Students who have been in the graduate program for more than 6.5 years without receiving a degree will be required to meet with the Department Chair (or designee), Graduate Program Coordinator (or designee), and research advisor to discuss plans for completing the degree.

4.13 Ph.D. Program Timeline

The following timeline serves as a general guideline for students to plan their degree and manage deadlines. A full-sized version can be also requested from the Graduate Student Coordinator.



4.14 Computer / Foreign Language Literacy and Competency

The Chemistry Department has no formal requirements for computer or foreign language literacy or competency. Competency in various software programs will be essential both in your teaching and research, and it is expected that students will acquire necessary skills to use these resources as needed.

4.15 Duplication of Degrees

The holder of a master's degree in a given field, received at another institution, may not become a candidate for another master's degree in the same field at Clemson University. If a doctoral student who holds an M.S. degree in chemistry fails the Ph.D. comprehensive oral examination or any other requirement as determined by the Graduate Program Committee, then that student must leave the Program without a degree.

4.16 Checklist and Sample Programs of Study for M.S. and Ph.D. Degrees

Summary/Checklist of Departmental and Graduate School Requirements

First Year

- Take four placement exams
- Take CESP Exam-formerly known as the SPEAK test (international students only)
- Attend Fall faculty research presentations and select a research advisor by the end of the first semester
- Broad Chemical Awareness Requirement must be fulfilled
- Ph.D. students must complete at least 18 hours of graduate credit (not including research or 6000-level classes for which the companion 4000-level course is required for the undergraduate major: CH 6110)

Second Year

- Select a committee (complete and submit GS2 form) by the end of first semester of the student's second year of study
- Have and maintain a GPA of at least 3.00 by the end of the first semester of the second year of study. Students that fail to meet this requirement are dismissed from the Ph.D. program.
- Complete the oral examination by the end of the second year (no later than the 5th semester in the program)

Third Year

- All required coursework must be completed by the end of a student's third year (Distribution Requirement and Focus Area Courses).

Student and Department Seminars

- Students must register for student and Department seminars each semester (unless teaching lab during seminars).
- Graduate students must present one seminar before the end of their 4th academic semester (and another before the end of every third semester afterwards. One of these talks must be a literature talk).
- Ph.D. students are required to give an additional public talk (final seminar), as described in the Ph.D. Program Timeline.
- M.S. students are required to give only one public talk, which can double as a thesis defense if it is a public talk.

M.S. Requirements

M.S. students must complete a minimum of 24 hours of graduate credit and six hours of M.S. research. A 6000-level class that has a 4000-level counterpart that is required for the undergraduate degree, i.e., CH6110 cannot be used towards the M.S. degree. At least one-half of the total graduate coursework credit hours required by the committee must be in courses numbered 8000 or above, and at least 12 credit hours must be in the major field of study, as required by the Graduate School. Up to three credits

(but no more than three credits) of seminar classes (CH8510 and CH8520), may be counted toward the required total of 24 credit hours of coursework.

Ph.D. Requirements

Ph.D. Students must complete a minimum of 60 hours of graduate credits, including at least 18 hours of doctoral research

Both M.S. and Ph.D. students are required to present an oral defense of their thesis or dissertation to their committee members. The Graduate School requires that there be at least six months time between a student's oral exam and dissertation defense.

A sample M.S. program of study

- Year 1.** First semester: Take 3 graduate courses. Attend seminars. Attend faculty research presentations. Choose a research advisor. Second semester: Take 3 graduate courses. Attend seminars. Begin work on research project
- Year 2.** Select Advisory Committee. File GS2 form. Take 2 more graduate courses (or more as needed / desired). Attend seminars. Continue working on research project. Present seminar and write and defend thesis if research is completed. Second semester: present literature seminar.
- Year 3.** Take more graduate courses as needed / desired. Attend seminars. Continue working on research project. Publish and present research results. Write and defend thesis.

A sample Ph.D. program of study

- Year 1.** First semester: take 3 graduate courses. Attend seminars. Attend faculty research presentations. Interview faculty. Choose a research advisor. Second semester: take 3 graduate courses. Attend seminars. Begin work on research project.
- Year 2.** Select Advisory Committee. File GS2 form. Take 2 more graduate courses (or more as needed/desired). Attend seminars. Continue working on research project. Second semester: present literature seminar. Write a research proposal / report in preparation for oral (comprehensive) exam. Complete oral (comprehensive) exam. File the GS5 form
- Year 3.** Take more graduate courses as needed / desired. Attend seminars. Continue working on research project. Publish and present research results.
- Year 4.** Attend seminars. Continue working on research project. Publish and present research results. First semester: present research seminar.
- Year 5.** Attend seminars. Continue working on research project. Publish and present research results. Write and defend dissertation.

4.17 Overview of Some Relevant Forms from the Graduate School

Graduate School (GS) forms need to be filled out by all grad students as a way for the Graduate School and the Chemistry Department to keep a record of student progress. These forms are on-line (see URLs below). If you have questions, contact the Graduate Student Coordinator in 219 Hunter. Deadlines for turning in these forms to the Graduate School can be found in the

“Graduate Announcements” and at <http://www.grad.clemson.edu/deadlines.php>. After completing each of these forms turn it in to the Graduate Student Coordinator, who will submit them to the Graduate School.

GS2 Plan of Study. This form is used to list the coursework that will be used to complete the individual student’s degree. It must adhere to Graduate School as well as departmental policies. It is available online using iRoar (<http://iroar.clemson.edu>). Note that it is not necessary to have finished the coursework to complete this form; the form should be completed as soon as the student and advisor have agreed on the coursework that will be needed for the degree, typically by the end of the third semester. It is not required to list every course (e.g., all semesters of seminar; all credits of Ph.D. research) on this form — merely those that are required to meet all degree requirements.

GS2 Committee Selection. This form is used to specify the members of the student’s M.S. or Ph.D. Advisory Committee. It is available online using iRoar (<http://iroar.clemson.edu>) and should be completed by the end of the third semester of study.

GS5D Form (Results of the Doctoral Comprehensive Exam and Candidacy Form). The GS5D form is for Ph.D. students only and is found at <http://www.grad.clemson.edu/forms/pdf/g5.pdf>. It should be filled out upon completion of the Ph.D. comprehensive (oral) exam.

Application for Graduation and Diploma Order. Both M.S. and Ph.D. students must submit to the Graduate School a formal application for a diploma. You must complete this form online in the first four weeks of the semester in which you intend to graduate. In iRoar (<http://iroar.clemson.edu>), choose Apply for Graduation under the Student Record menu. Early submission is not accepted (e.g., do not complete the form in January if you do not plan to graduate until August or December, only if you plan to graduate in May). If you miss the deadline, you must contact Enrolled Services to receive a hard-copy version of the application; late fees will accrue at \$25 the first day after the deadline and an additional \$5 each business day thereafter to a maximum of \$125. If you submit the form and do not graduate in that semester, you must re-submit in each term in which you hope to graduate thereafter.

If your name in the student database is not as you want it to appear on your diploma (due to marriage, etc.), you must contact Enrolled Services prior to submitting the Diploma Application form online. Any degree/major changes via form GS2 must also be processed before you submit the Diploma Application.

There is no fee to receive a diploma if you attend the graduation ceremony or agree to pick up your diploma in the Enrolled Services office in Sikes Hall. There is a fee assessed if you request that your diploma be mailed to you.

For more information, contact Enrolled Services at (864) 656-5339, if your last name begins with A-L, or (864) 656-5341 if your last name begins with M-Z.

If you choose to participate in graduation ceremonies, you should make arrangements for cap and gown purchase (or rental for Ph.D. gowns, if preferred) well in advance. See the Clemson University Bookstore’s website at <https://www.clemson.edu/campus-life/campus-services/book-store/services.html> for deadlines and more information.

GS7M Form (Final Exam and Approval Form – M.S. Candidates). Upon successful completion of your oral defense and the approval of your manuscript by your committee, the GS7M form should be filed. The Graduate Student Coordinator will provide this form to you on the day of your defense. Return this form to the Graduate Student Coordinator after the defense. This form is due several weeks prior to graduation. Visit <https://www.clemson.edu/graduate/students/deadlines.html> for graduation deadlines.

GS7D Form (Dissertation Oral Defense and Approval Form – Ph.D. Candidates). Upon successful completion of your oral defense and the approval of your manuscript by your committee, the GS7D form should be filed. The Graduate Student Coordinator will provide this form to you on the day of your defense. Return this form to the Graduate Student Coordinator after the defense. This form is due several weeks prior to graduation. Visit <https://www.clemson.edu/graduate/students/deadlines.html> for graduation deadlines.

GS14 Form (Request for Change of Degree and/or Major). This form is a request for change of degree and/or major. The forms can be accessed via the iRoar portal (<http://iroar.clemson.edu>), under the Student Records tab.

The Graduate School sets deadlines for the following items, some of which are listed below. The specific dates are determined according to the academic calendar for the semester in which you plan to graduate.

Form/process	Approximate deadline*
Submit your final GS2 to Enrolled Services	End of the term prior to the term in which you plan to graduate
Submit GS5 to Enrolled Services	Six months prior to defense
Complete online application for diploma (formerly Form GS-4)	Within the first four weeks of the term in which you will graduate
Add your defense to the university defense calendar: http://www.clemson.edu/graduate/calendar/index.html	At least 10 days prior to your defense.
Submit completed thesis/dissertation electronically for formatting review	Two weeks prior to graduation
File GS-7 with Enrolled Services	Three weeks prior to graduation
All revisions requested by the Manuscript Review Office must be completed and approved by the Manuscript Review Office	One week prior to graduation

*Refer to the Graduate School’s website for actual deadline dates (<https://www.clemson.edu/graduate/students/deadlines.html>). All Graduate School forms are available online at <https://www.clemson.edu/graduate/students/forms.html>.

4.18 Costs

For current tuition and fees, see <https://www.clemson.edu/finance/student-financials/index.html> and for payment information, see <https://www.clemson.edu/finance/student-financials/billing.html>.

Graduate students can enroll in a payment plan in the iRoar portal. The tuition and fees will be deducted at various intervals during the semester. International students are not eligible for a payment plan during their first semester. Please see the Graduate Student Coordinator if you have any questions about your tuition and fees.

4.19 Withdrawing from the Program

If for any reason you decide to withdraw from the program, inform your advisor, and the Graduate Student Coordinator, who will inform you of the procedure to officially withdraw from the university. If you do not follow this procedure, you could end up owing tuition and other fees to the University. This applies to both domestic and international students.

5 WORKING AT CLEMSON

Graduate students in good standing in the Clemson chemistry program are normally supported as either teaching assistants (TAs) or research assistants (RAs). Students supported on assistantships receive a stipend, which provides for living expenses while the student pursues his/her degree. Funds for teaching assistantships normally come from Clemson University; stipends are normally set at the same level for all students who are qualified to teach lab sections (i.e., for international students, this means the student has passed the CESP test with a satisfactory score.) Funds for research assistantships normally come from faculty research grants; stipends are normally set by the principal investigator of the research grant from which the funds are derived.

Assistantship support is generally available only to students that are meeting all the academic requirements of the graduate curriculum, and who have secured a faculty research advisor in the Chemistry Department. The main exception to this is for first-year students, who are supported on teaching assistantships during the first year while choosing a research advisor. In cases where a student switches research groups or loses the support of a research advisor, the Department may support the student for a very limited time on teaching assistantship, subject to the availability of funds. After any such temporary period, students who are unable to obtain or maintain the advising support of a research advisor will not be eligible for financial support.

5.1 Teaching Assistantships

Students supported as teaching assistants (TA) will be assigned specific duties, which may include one or more of the following: teaching laboratory sections, grading papers, and proctoring exams. It is important that these considerable responsibilities be taken seriously and discharged conscientiously. If illness, accident, or an emergency prevents you from meeting your commitment, you must inform your supervisor and help make arrangements to cover that duty. Prior to starting your TA duties, you must obtain training. The TA training is mandatory for all students scheduled to TA. The students should acquire information about TA training opportunities from the Graduate Student Coordinator (Mrs. Heather Shelton) immediately upon arriving to Clemson, before the first semester starts.

5.2 Research Assistantships

Through mutual agreement, a student may work for a professor on a research problem and while doing so be supported as a research assistant. The duties of such an assignment are given to the student by the professor in charge. Each graduate research assistant will work out with his research supervisor his responsibilities and duties regarding research.

5.3 Summer Support

Graduate students in the Clemson Chemistry Department are supported in summer as either teaching or research assistants, as in the academic year. Support is normally guaranteed for the first summer as part of the teaching assistantship offered to entering students in their first year, with the understanding that such students will not be assigned teaching duties in the summer of their first year and will be free to dedicate themselves fully to research.

First year students will need to register for research hours during the summer to be supported on an assistantship and will be required to pay the Grad Assistant fee and any other related fees. After the first summer, students who are supported as Teaching Assistants in summer will be expected to perform duties as specified above in the section on teaching assistantships. They will also be required to register for hours and pay the related Grad Assistant fees.

5.4 Time Limit on TA Support

Teaching assistantship support is normally made available to graduate students for only a limited time. A student pursuing a Ph.D. degree may be supported from departmental funds for no more than 5 calendar years total (ten academic semesters) as a teaching assistant, and a student pursuing an M.S. degree may be supported for no more than 3 years (six academic semesters) as a teaching assistant. Exceptions to these limitations may only be made with approval of the Department Chair.

Students who have received more than 5 years of TA support will be required to meet with the Department chair, Graduate Program Coordinator, and research advisor to discuss their plans for completing the degree.

It should be noted that while most chemistry graduate students are supported as either teaching or research assistants, no student is guaranteed financial support. Unsatisfactory performance of teaching duties, course work, or research work can be cause for termination of financial support.

5.5 Payroll and Paydays

All Clemson University employees receive bimonthly paychecks, on the 15th and the last day of the month (24 paychecks per year). The first check in the fall semester is usually the first payday in September. The Department Office Manager can inform you of the payday schedule.

5.6 Holidays

Graduate students are entitled to take as holidays the days on which the University is officially closed (<https://www.clemson.edu/human-resources/benefits/holiday.html>). In addition, graduate students are allowed to take ten working days during the year, that is, essentially, two weeks, as vacation. The latter should be taken so that the interference with teaching responsibilities and the research program is minimal. Any leave beyond this allotment requires approval of the research advisor, and notification of the Graduate Program Coordinator and Department Chair. Students will not normally receive a departmental stipend for extended leave beyond that indicated above.

<i>University Holidays</i>	<i># of Days</i>
New Year's Day	1
Martin Luther King Day	1
Memorial Day	1
Independence Day	1
Fall Break (1 day)	1
Thanksgiving (2 days)	2
Christmas (5 days)	5
TOTAL	12

5.7 Outside Employment

One of the purposes of the graduate assistantships (research or teaching) is to support the student's subsistence during graduate studies so they can focus on their research projects, coursework, and teaching. Therefore, it is the policy of the Chemistry Department to disallow students from outside employment if the assistantship is equivalent to more than half of a full-time TA stipend. Beyond this policy are temporary consulting and/or tutoring jobs, which the student may do with the approval of their supervisor. Exceptions to this policy will be evaluated by the Graduate Program Committee.

5.8 Academic Misconduct

The Department of Chemistry is committed to build a community of scholars with the highest ethical standards. As stated in the Policies & Procedures Handbook from the Graduate School, it is expected that Clemson graduate students avail themselves of the many opportunities and resources both on and off campus to learn how to engage in professional practice with integrity. The Graduate School and the community of scholars engaged in graduate-level education will respond vigorously and expeditiously to charges of violations of academic integrity. Violations of academic integrity include, but are not limited to, the intentional or unintentional plagiarism, cheating, fabricating/falsifying information, facilitating violations of academic integrity, and failing to cite contributors. Detailed definitions, explanations, and examples of violations of academic integrity are described in the Policies & Procedures Handbook from the Graduate School.

In case of alleged or confirmed violation of academic integrity, the Department of Chemistry will follow the guidance/procedure outlined in the Policies & Procedures Handbook from Graduate School (<https://www.clemson.edu/graduate/students/policies-procedures/index.html>), such as categorization of level of violation of academic integrity, and determination of corresponding sanctions. Depending on the seriousness and number of violations, sample recommended sanctions include, but not limited to, failure on the assignment, dismissal from the enrolled degree, discontinuation of financial support, or even permanent dismissal from the University with no possibility of academic renewal. In addition, students with confirmed violation(s) of academic integrity may not receive the endorsement of the Department when applying for awards or fellowships.

Students are strongly encouraged to avoid situations linked to academic misconduct and are advised to become familiar with the Graduate School's procedure on Violation of Academic Integrity.

6 DEPARTMENTAL OPERATIONS AND GENERAL INFORMATION

6.1 Student Contact Information

All students are required to update their contact information. These records are kept separately in different Departments and should be reported to each Department separately, where applicable.

The Department of Chemistry should be notified immediately by informing the Graduate Student Coordinator whenever there is a change in your Clemson University contact information: room, building, and/or phone number. You should also inform the Department of home phone and local address changes. The Department is not authorized to release your personal information to third parties. In addition, you need to change your address in the Student System using iRoar (<http://iRoar.clemson.edu>).

If you have been awarded an assistantship, you also need to complete the “Change of Address Form available at the Office of Human Resources’ website, http://www.clemson.edu/employment/worklife/change_address.html. Contact the Graduate Student Coordinator if you have questions.

6.2 Student Offices

For the first semester, new graduate students will have a desk in Hunter 203. After the student has chosen a research advisor, the student will move to office space in the advisor’s laboratory. Students should not move from their desk in Hunter 203 until the Department Chair has approved their selection of a research advisor. After moving, the student should notify the Graduate Student Coordinator of the move so that Department listings may be updated.

6.3 Building Security and Keys

An administrative assistant in the main office will issue you the keys you will need during new student orientation or shortly thereafter. You will receive keys to the labs you are assigned to.

To request a key, you must complete a key request form, available in the Chemistry Department main office in 219 Hunter. Two signatures are required on the form: yours and the faculty member who is in charge of the room.

It shall be clearly understood by all those receiving keys that you shall:

- Exercise great care to prevent loss. Should loss of a key occur, this loss should be reported immediately to the Chemistry Department office.
- Not loan a key to anyone.
- Enter the building using your student ID card after regular hours. Unless locked at all times, the outside door will lock each afternoon at 4:30 pm and will remain locked until 7:30 am. You must enter using your student ID card. The library and copy room in Hunter will always remain unlocked. Please see the building manager, Scott Drayton in 261 Hunter, to make sure your ID card is activated to access the building between at 4:30 pm and 7:30 am.

- Under no circumstances hold the door for anyone to enter the building when the doors are locked. People must enter the building using their ID card.
- Report to the University Police and to the Building Manager any unusual or suspicious occurrence or persons found in Hunter Lab after the building is normally closed.

6.4 Mail

Graduate student mailboxes are located in the graduate student lounge, Hunter 370. Delivery of U.S. mail and Clemson campus mail is made to these boxes. You should check your box daily for memorandums, notes, mail etc. Contact the Graduate Student Coordinator if you have questions.

6.5 Photocopying

The Chemistry Department maintains several photocopiers, some for student use and some exclusively for Departmental staff use. One of these copiers is located in the chemistry mailroom and is designated for student use in copying library materials. At present, photocopying on Departmental copiers may be performed free of charge, up to certain monthly limits which are set by the master operators. Photocopier hardware and policies change frequently, so students are advised to ask in the main office if they are unsure of which copier(s) are available for student use.

6.6 Computers in Hunter/BRC/AMRL

Student access to computers in Chemistry buildings is offered through computers in the individual research labs, and through public-access computers (if available) in various places throughout the building.

6.7 E-mail

Upon acceptance to Clemson University, you will receive information about your user ID and password from the Graduate School. E-mail is the most common communication mode used by the Department and the university to communicate with you regarding official businesses. It is your exclusive responsibility to check your e-mail regularly. Please be aware that you may have e-mails in both the clemson.edu and the g.clemson.edu servers. It is your responsibility to consolidate these accounts or to check both periodically.

6.8 Counseling Services

The demands of Graduate School can sometimes feel overwhelming. If you think you need help or that you could benefit from talking to a counselor – about grad school stress or any other issue – you may be eligible to receive services from the Counseling and Psychological Services Program (CAPS), located in Redfern Health Center.

To learn about their current programs, visit the CAPS website at <http://www.clemson.edu/studentaffairs/redfern/caps/index.php> or call them at (864) 656-2451.

In addition, Tigers Together is Clemson University's suicide prevention initiative. The primary purpose of this program is to prevent suicide by decreasing risk factors, enhancing protective factors, facilitating gatekeeper workshops via our Tigers Together Advocate Training (TTAT) program, reducing stigma and creating an overall community of caring for the Clemson University family. Although more information is available at <https://www.clemson.edu/campus-life/healthy->

[campus/suicideprevention/](#), you are strongly encouraged to reach out to any of the members of the department if you feel the need to discuss your situation. You are not alone!

6.9 The Chemistry Department Stockroom

Many of the supplies, gases and equipment needed in research labs may be purchased from the Department Stockroom in Hunter 235. Stockroom purchases are accurately recorded and are charged to each individual research group. Quarterly invoices of purchases, with an itemized list, will be charged to each research group's faculty member.

STOCKROOM WINDOW HOURS – HUNTER 235

Monday - Friday
8:00AM – 12:00PM
1:00PM – 4:30 PM

Hazardous chemicals that must be transported using approved safety carriers. Please remember to bring your safety carrier with you when picking up hazardous materials, e.g. acids, solvents, etc. If your lab doesn't have one, the stockroom will **lend** you one.

A small amount of equipment is available for loan from the stockroom including the following: carts, extension cords, and safety carriers. This equipment can be checked out with a signature.

The stockroom manager and personnel politely, but firmly, request that NO laboratory gloves or other personal protection equipment (PPE) be worn when picking up shipments and supplies at the Hunter 235 window.

NO CHEMICALS SHOULD BE DISPENSED IN THE STOCKROOM

6.10 Procedure for Ordering Chemicals & Lab Equipment

Clemson University holds many state contracts with vendors. State Contracts held with Fisher Scientific and VWR International offer discounted prices and no shipping fees. These vendors also distribute for other chemical companies. Always check with state-contracted vendors first when making lab supply purchases. Lists of contracted vendors can be found on the Clemson University website under Procurement.

BuyWays is the best way to view accurate pricing for the VWR, Fisher, and Sigma websites. It allows one stop shopping. You can log in to access the site using your employee username and password. Buyways can be accessed at: <https://solutions.sciquest.com/apps/Router/Login?OrgName=Clemson&tmstmp=1238434453337>.

Purchases that cannot be completed through BuyWays are made using the Department's triplicate copy purchase form, which can be found in the Chemistry stockroom, Hunter 235.

In filling out the purchase form, please use the following guidelines:

- Fill in the proper information. **PRESS FIRMLY AND WRITE NEATLY!!!**
- Next to NAME: Fill in Advisor's name/your name and email address.
- Please fill in vendor's name (company we are ordering from) and the vendor's phone number.
- Under the QUANTITY: be sure to indicate the unit of measure (ea., pkg., gram, mL, etc.), along with the amount you want (100 g, 500 g, 100 mL, etc.). For example: 2 × 50 g, 1 × 500 mL

- It is essential that you indicate the correct catalog number; otherwise your order cannot be processed and will be returned to you for correction. WRITE NEATLY!!!
- Include a brief description of the item.
- Unit Price will usually vary from catalog price. Leave blank if unsure.
- After the purchase form is filled out, **always** have your advisor indicate the grant or account number the order will be charged to and sign the form. Orders without the authorizing advisor's signature will not be processed.
- If order is needed ASAP, be sure to indicate this in writing on the order form. There will be an additional shipping charges with overnight and/or rushed orders.
- When the form is complete, return it to the stockroom manager in Hunter 235.

DO NOT place orders yourself unless your research advisor has approved it. Research advisors must indicate change in policy (in writing) to Stockroom Manager. **All** orders must have a purchase order number issued by the stockroom manager, your advisor's signature, and the account number to charge.

You will be notified of your order's delivery electronically and/or names will be posted on the board in Hunter 235.

For all research groups that are not located in Hunter, orders can be sent electronically to robinw@clemsn.edu. Ask your advisor for computer access to the group order form. Please indicate room and building where delivery is needed. All packing slips in received packages must be turned in to the stockroom manager in 235 Hunter.

6.11 Procedure for Ordering Office Supplies

Office and computer supplies are ordered, maintained, and invoiced through the main office in Hunter 219.

6.12 Procedure for Requesting Departmental Letters

When applying for driver's license, South Carolina identification, extension of visa (international students), and other personal matters, you may be asked to present evidence of your student and/or stipend status. Contact the Graduate Student Coordinator and make your request indicating your full name (as it should appear on the letter), student ID, and why you need the letter. You will be contacted once your letter is ready for pickup.

6.13 Procedure for Hazardous Waste Removal

Hazardous Materials and Environmental Compliance Officer: June Brock Carroll, (864) 633-6357, juneb@clemsn.edu
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https://www.clemson.edu/research/oes/index.html

You must be registered as having taken the on-line hazardous waste training before requesting hazardous waste pick up. Refer to the above web site.

All waste chemicals must be properly labeled and stored. All waste chlorinated solvents will be kept in separate containers from non-chlorinated solvents. There will be NO UNKNOWN WASTE CHEMICALS PRODUCED OR STORED BY ANYONE. When the supply of waste reaches a significant quantity, each individual lab is responsible for requesting a pick-up from the E.C.O.

1. Submit a pickup request electronically by clicking on the link found on the Office of Environmental Safety website, <https://www.clemson.edu/research/oes/hazardouswaste/>. Hazardous waste removal request forms and labels can be found on the Office of Environmental Safety web site, in the Chemistry Department mailroom, and in Hunter 235.
2. Request empty hazardous waste and biohazard sharps containers from Office of Environmental Safety on the pickup request form.

Please refer to your Clemson University Hazardous Waste Management Manual (copies can be obtained from the Office of Environmental Safety website) with any questions or contact the Office of Environmental Safety.

PLEASE take the proper steps in requesting a hazardous waste removal from your lab, which are as follows:

1. REGISTER ONLINE WITH THE OFFICE OF ENVIRONMENTAL SAFETY AS HAVING COMPLETED THE HAZARDOUS WASTE TRAINING.
2. Complete a Hazardous Waste Removal Request form found on the Office of Environmental Safety website.
3. Submit the completed form electronically.
4. Print the pickup request and attach form to the container(s) to be picked up.

6.14 Work Injury Protocol

Effective April 1, 2001

*** Immediately after a work injury, the supervisor will call**

CompEndium Services at 877-709-2667

Give your Name and the Company Name. A Medical Manager Nurse will take your call and ask the name of the injured worker and specific questions about the accident.

The Employer's First Report of Injury is no longer used.

CompEndium will assist the injured worker in selecting a physician and scheduling an appointment or will direct the injured worker to the Emergency Room (ER). Clemson University employees will be directed to Redfern Health Center during normal business hours.

CompEndium will notify the Physician or the ER of the injury and the arrival of the injured worker.

The physician or the ER will call CompEndium before the injured worker leaves the facility to receive authorization for treatment and/or referrals. Immediately following, the Medical Manager Nurse Consultant will call you with a report on the status of your employee's condition and work status.

The physician's report/case notes will be faxed within 24 hours of after treatment.

NO COVERAGE FOR CLAIMS UNLESS REPORTED BY SUPERVISOR BEFORE MEDICAL TREATMENT IS RECEIVED.

In the event of an Emergency call 911 immediately. Once the emergency is under control by emergency personnel, CompEndium needs to be called next.

*CompEndium Nurses are available 24 hours a day / 7 days a week at 877-709-2667; fax 877-710-2667
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6.15 OMBUDS INFORMATION

What Is an Ombuds?

The ombuds is an independent, confidential resource that provides assistance to faculty, graduate students, and postdoctoral researchers in resolving problems, complaints, and conflicts when normal processes and procedures have not worked satisfactorily. The Ombuds Office (<http://www.clemson.edu/ombuds/>) serves as a central information source on policies, procedures and regulations affecting faculty, graduate students, and postdocs. The office refers individuals to persons able to resolve problems or handle appeals at the lowest possible level. Where appropriate, the ombuds can facilitate and/or mediate communication between parties who find themselves in a dispute.

What Is the Role of the Ombuds?

The ombuds strives to ensure that faculty, graduate students, and post docs receive fair and equitable treatment within the University system. The Ombuds provides an independent point of view in an informal and confidential environment and will not identify you or discuss your personal concerns with anyone without your permission. Private confidential meetings can be arranged at your convenience. All communications will be treated with strict confidentiality. The ombuds works toward resolutions based on principles of fairness. The ombuds is neither an advocate for faculty, administration, or students, nor an agent of the University, but is an advocate of fair processes.

What Services does the Ombuds Provide?

The Ombuds Office provides fair and impartial counseling to faculty members, graduate students, and postdoctoral researchers by:

1. Addressing problems and concerns, identifying and evaluating options to reach resolutions.
2. Providing available resources within the University that may be of assistance
3. Serving as a neutral party in conflict resolution
4. Opening lines of communication through mediation
5. Recommending changes in University policies and procedures when necessary

How Does the Ombuds Help?

The Ombuds Office is available to assist faculty members, graduate students, and postdoctoral researchers who:

1. Have a problem or concern relating to the University and need guidance in resolving the issue
2. Need information about policies or procedures at Clemson
3. Need someone to mediate between individuals or within the University
4. Think that the University has made an error in a particular case
5. Feel like a victim of harassment or discrimination
6. Are unsure about which University policies, procedure or regulations apply to certain situations
7. Have a specific academic problem that cannot be resolved by following regular University procedures
8. Feel that he/she has been unfairly or inequitably treated
9. Have a problem that requires someone to negotiate a solution or to help facilitate communication between parties
10. Feel that a University policy, procedure or regulation has been applied unfairly or erroneously

Code of Ethics

The ombuds, as a designated neutral party, has the responsibility of maintaining strict confidentiality concerning matters that are brought to their attention unless given permission to do otherwise. The only exceptions, at the sole discretion of the ombuds, are where there appears to be imminent threat of serious harm. The ombuds must take all reasonable steps to protect any records and files pertaining to confidential discussions from inspection by all other persons, including management.

The ombuds will not testify in any formal judicial or administrative hearing about concerns brought to their attention. When making recommendations, the ombuds has the responsibility to suggest actions or policies that will be equitable to all parties.

The Clemson University ombuds adheres to the Ombuds Association Code of Ethics:

1. We base our practice on confidentiality.
2. We assert that there is a privilege with respect to communications with the ombuds, and we resist testifying in an informal process inside or outside the organization.
3. We exercise discretion whether to act upon a concern of an individual contacting the office. Ombuds may initiate action on a problem we perceive directly.
4. We are designated neutrals and remain independent of ordinary line and staff structures. We serve no additional role (within an organization where we serve as ombuds) which would compromise this neutrality.
5. We remain an informal and off-the-record resource. Formal investigations for the purpose of adjudication should be done by others. In the event that an ombuds accepts a request to conduct a formal investigation, a memo should be written to file noting this action as an exception to the ombuds role. Such investigations should not be considered privileged.
6. We foster communication about the philosophy and function of the ombuds' office with the people we serve.
7. We provide feedback on trends, issues, policies and practices without breaching confidentiality or anonymity. We identify new problems, and we provide support for responsible systems change.
8. We keep professionally current and competent by pursuing continuing education and training relevant to the ombuds profession.
9. We will endeavor to be worthy of the trust placed in us.

The Ombuds Office (<http://www.clemson.edu/ombuds/>) welcomes constructive suggestions of ways to better serve the faculty, graduate students and postdocs at Clemson University. If we can be of service to you, please feel free to contact our office.

Graduate Student Complaints. Any complaint should first be taken to the faculty or staff member involved to reach a resolution. If no resolution is reached, the graduate student should consult with the Department chair and the dean who will hear the complaint and act as a referee. The ombuds, student, dean of the college, Department chair and the involved faculty or staff member should make every effort to reach a solution. If a resolution cannot be made, the student should then consult with the dean of the Graduate School. Graduate students should talk with the associate dean responsible for academic grievances if mediation is necessary. The Graduate School is located in E-106 Martin Hall, and the telephone number is 656-4172.

Contacting the Ombuds

The ombuds can be contacted by letter, email, walk-in, appointment, or telephone:

R. Gordon Halfacre, University Ombuds for Faculty and Students and Member of the Ombuds Association

201 West Cherry Road, Seneca, SC 29678

Office telephone: (864) 656-4353; fax: (864) 656-4373

Email: ombuds@clemson.edu

7 CHEMISTRY GRADUATE PROGRAM FORMS

For convenience, copies of several Chemistry-Department-specific forms can be obtained from the Graduate Program Coordinator:

- **Checklist of Ph.D. requirements.** This form is maintained by the Graduate Program Coordinator to track each student's progress toward degree.
- **Petition for Course Substitution Form (Optional).** Used to request that a course taken elsewhere be used to satisfy a degree requirement. To be completed as early as possible, preferably during the first few weeks of the first semester of graduate studies.
- **Advisor Interview Form.** Used to document discussions of research Department faculty. To be completed during the first semester of graduate studies.
- **Research Advisor Selection Form.** Used to indicate student's preference of research advisors, and by the Department to approve the choice of research advisor. To be completed during the first semester of graduate studies.
- **Checkout Form.** Used to document return of keys and research materials. To be completed before leaving the Department or a research group.

Electronic copies of the forms are available on the Chemistry Department web site (<https://www.clemson.edu/science/academics/departments/chemistry/>)