



Graduate Student Handbook

**University of Florida
Department of Chemistry
Graduate Student Handbook**

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1. INTRODUCTION

This handbook is a compilation of policies and procedures of the chemistry graduate program at the University of Florida. It is meant to serve as a guide to help students as you make your way through the program. Note that this handbook does not cover all of the policies of the University of Florida Graduate School. Those policies are compiled in the University of Florida Graduate Catalog which is available at the Graduate School web site. You must follow both the chemistry department guidelines and the graduate school catalog as you pursue your advanced chemistry degree. It is also critically important for you to confirm division requirements with the division offices.

Your progress in the chemistry graduate program at the University of Florida is administered by a graduate committee consisting of (usually) five faculty members, with one chairperson and four committee members. The Chemistry Graduate Program staff consists of:

Dr. Ben Smith, Graduate Coordinator
Lori Clark/Program Assistant

Usually, the first point of contact for students in the graduate program is the program assistant listed above. 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 program assistant, the graduate coordinator or any member of the graduate committee regarding questions or other issues relevant to the program.

Note that this handbook summarizes the policies and procedures that were in effect on the date on the front cover. Students will be notified of changes as they occur, but this handbook is not a contract and if policies change in minor ways during a student's course of study, then 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.

2. PROFICIENCY REQUIREMENTS

2.1. Chemistry Proficiency/Placement Examinations

Entering students who plan to qualify in either organic or physical chemistry will take a placement examination during orientation. The exam is strictly diagnostic, and will serve to illuminate the student's strengths and weaknesses as they relate to the fundamental core concepts in these fields of specialization. Your performance on the exam will help to guide your approach to your first organic or physical core courses.

2.2. English Language Speaking Proficiency

Newly-admitted graduate students who are not native English speakers are required by Florida state law to present a score of 23 or higher on the speaking portion of the iBT, a score of 6.0 or higher on the IELTS exam or to pass an English speaking exam (score of 45 or higher) at the University of Florida. A student must pass this exam before he / she can be certified to teach as a teaching assistant. If you are conditionally enrolled in your first semester without the required iBT score, it

will be expected that you will pass the exam before the end of your first semester of study. In such cases, the support stipend will be reduced during the first semester. If a student does not pass the exam by the end of the first semester, then that student will not receive any further departmental support. Obtaining a score of 55 or 60 on the UF Speak Test or a 28 or higher on the iBT speak test will exempt you from taking English courses.

Students who pass the English speaking requirement are eligible to serve as a teaching assistant in one of the undergraduate laboratory courses.

3. ADVISEMENT

3.1. Initial advisement

Entering students will be advised by a member of the graduate faculty during orientation. The main purpose of the initial advisement session is to select coursework for the first semester of study. Students should come to the advisement session prepared to discuss what courses they would like to take in the first semester. Advisement for subsequent semesters will usually be undertaken with the research advisor or in consultation with the graduate coordinator.

3.2. Registration Guidelines

Before each semester, you will need to fill out the Course Request Registration Form and submit it to the graduate coordinator's office. You will also need to update your contact information on ISIS every semester. Do not register for courses yourself. All registration is done by the graduate program assistant.

We expect that each student will pay attention to registration and fee payment announcements. Early registration is strongly encouraged! Late registration will result in a \$100 late fee penalty.

Drop-Add Procedure

Any change in registration must be initiated through the Graduate Coordinator's office with the advisor's approval. The normal drop-add period only extends about one week into the semester. Changes in enrollment after this time must have exceptional justification and will result in tuition liability to the student. Changes in registration after the normal drop-add period require Graduate School, College and/or University approval, which is given only on the basis of strong justification. The tuition for any courses which are dropped after the formal drop-add period will be billed to the student. If you change your registration without consulting the graduate coordinator's office, you will be responsible for any fees incurred.

3.3. Selection of a Research Advisor

Your selection of a research advisor is a very important decision to which you should give much thought. It will strongly affect the course of your graduate studies and your professional life. Each research group in the department is unique, and it is to your benefit to be as open-minded as possible at the start of your program of study as you consider your interests and options. The following paragraphs specify the procedures followed at the University of Florida Chemistry Department for student selection of a major research advisor.

At the beginning of the fall semester every faculty member will present a 20 minute talk about their research. New students are required to attend at least 50% of these talks. This is intended to introduce you to as many faculty as possible in the most efficient manner. During your first semester, it is expected that you will interview with at least six faculty members, independent of divisional affiliation. All six interviews are required even for those students who already think they know which faculty member they wish to choose as their adviser. The interviews are required to ensure that each student has an opportunity to get to know about several different research projects and to get to know the faculty. It is also important for the selection of the members of your graduate committee.

Students beginning study in the spring semester will receive individual orientation and may begin their faculty interviews as soon as they are enrolled. Spring students should plan to choose an advisor before the start of the summer semester. Spring students must also participate in the subsequent fall orientation in order to receive required safety training.

After the faculty interviews are completed, students will submit their top 3 ranked choices for advisor to the graduate coordinator by November 30. Advisor assignments will be issued in the first week of December after all faculty have agreed to their new students. This process should be completed by early December for students entering in the fall and by early April for students entering in the spring. Any faculty member may direct a student in any field of specialization by mutual agreement. There is no requirement regarding the choice of an advisor and the area in which a student qualifies. You should consult your division for any special considerations regarding the composition of your PhD committee.

3.4. Selection of a Supervisory Committee

By March 1 (July 1 for those beginning the program in the spring), a Supervisory Committee must be selected (chosen with the help and guidance of your research advisor).

For the Ph.D. degree, the chemistry department requires that the committee consist of at least five members. At least one member must be from a department other than Chemistry (the "external" member). This outside member may be from any program in the university and does not need have particular expertise in the area of research. At least two members must be from the division in which the student will meet course and qualifying requirements. At least one member must be selected from a different division in the department. With prior approval, this member may also be out of the department, giving you 2 external members. Note that the inorganic division requires that 3 members of the committee be members of the inorganic division.

For the M.S. degree, the committee consists of three faculty members. If a student wishes to have a formal minor outside the Chemistry Department, one member of the supervisory committee must be a representative of the outside department.

3.5. Substitutions of Committee Members During Examinations

If a supervisory committee member cannot be present at the student's oral qualifying examination or final defense, a graduate faculty member in the same academic area may substitute for the absent committee member. The substitute should sign the examination form noting the name of the absent member.

No substitutions may be made for the committee chair or the external member of the committee. Both must be physically present at the examination. Formal changes to a supervisory committee are made in the chemistry graduate office. A petition to the graduate school is required for changes made to the committee during the student's final term.

Should you require a substitute during the final exam, the substitute should not sign the signature page of the thesis or dissertation. They may only sign the examination form. The original committee member must sign the thesis or dissertation pages.

4. PROGRAMS OF STUDY

4.1. Overview

The University of Florida chemistry department offers programs of study leading to the MS (thesis and non-thesis), Masters of Science in Teaching (MST) and Ph.D. degrees. Each degree program has specific requirements in terms of coursework, student seminars, qualifying examinations (Ph.D. only) and a thesis (MS) or dissertation (Ph.D.) that presents the results of an original research project. We offer a direct Ph.D. track without the intermediate MS degree. However, for those students who wish to earn an MS, the conventional MS – Ph.D. track is available.

The following sections summarize chemistry department policies as they relate to the programs of study for the MS (thesis and non-thesis), MST and Ph.D. degrees. The University of Florida Graduate School also has policies that relate to programs of study for these degrees. Graduate School policies are summarized in the Graduate Catalog. Students should always confirm detailed requirements with the qualifying division program assistant.

4.2. Student Evaluations

Graduate student progress is monitored by the graduate coordinator every semester. You will be notified in writing at the conclusion of every semester if you are deficient in any basic standard of performance. The faculty will carry out a formal evaluation of the progress of all chemistry graduate students at annual intervals. For first year students, good academic standing is defined by the chemistry department as a minimum GPA of 3.25 in all graded chemistry course work (excluding teaching grades). In addition, all first year students are formally evaluated by the Graduate Standards

Committee with respect to teaching performance, progress in research and work ethic. This evaluation will take place in September of the second year. Students who are found deficient in this review may be asked to leave the program. Each first and second year graduate student will be notified in writing of their status, as determined by the faculty reviews.

Beyond the first year, each graduate student's progress will be evaluated on grades, research, teaching and written qualifying exam status. This evaluation will be conducted by the student's committee which will recommend to the faculty (by the middle of the student's sixth semester) that the student continue towards the Ph.D.; work towards a MS; or be terminated. If the student is asked to complete a conclusive MS degree, departmental support will terminate at the end of the student's seventh semester.

IMPORTANT: The graduate school requires a minimum GPA of 3.00 for a student to receive an assistantship and tuition waiver. One cannot receive a graduate degree at the University of Florida with a GPA below 3.00.

Additional student evaluations are also carried out annual by several of the divisions. You will be informed by the division head of any deficiencies which are noted. The nature of this evaluation process will vary from division to division.

4.3. Department Course Requirements

MS coursework.

The minimum course work required for a master's degree with thesis is 30 credits including up to 6 credits of the research course, CHM 6971. Students seeking a master's degree with thesis must register for a total of six credit hours in CHM 6971 and must be registered for CHM 6971 in their final semester. No accumulated credits of CHM 7979 will be counted toward the MS degree.

At least half of the required credits, exclusive of CHM 6971, must be in a field of study designated as the major. As for the Ph.D., 18 course credits are required, 9 from the area of specialization and 9 from outside the area of specialization. Students should refer to the detailed course requirements specified in the sections below for the doctorate degree. One or two minors of at least six credits each may be taken, but a minor is not required by the Graduate School.

MST coursework.

The MST degree requires 36 total hours of credit distributed as follows.

18 hours of CHM at the graduate level, excluding 6943, 6971, 7979, 7980. This can include 6905 (Advanced Individual Problems), 6910 (Supervised Master's Research) and seminars.

6 hours of CHM 6943, Internship in College Teaching
9 hours in the College of Education: of from each of three areas:

Community College Curriculum: Choose from:

EDH 6053, EDH 6066, EDH 6305, EDH 6945, EDH 7225, EVT 6170, EME 6606

Psychological Foundations: Choose from:

EDF 6938, EDF 6113, EDF 6211, EDF 6215, EDF 6355, EDF 3210 (EDF 3210 is available as a Correspondence course, if needed)

Sociological and Historical Foundations: Choose from:

EDF 4542, EDF 6520, EDF 6544, EDF 6606, EDF 6608, EDF 6630, EDF 7573

Plus 3 hours of other course work, 3000, 4000 or graduate level in any area besides chemistry. A chemistry graduate course may be substituted. Variations in these course requirements are possible with the approval of the graduate coordinator.

Ph.D. coursework.

A minimum of 90 credits beyond the bachelor's degree is required for the Ph.D. degree in all fields. All master's degrees counted in the minimum must have been earned in the last seven years.

No more than 30 semester credits of a master's degree from another institution will be transferred to a doctoral program. If a student holds a master's degree in a discipline different from chemistry, the master's work will not be counted in the program unless the department petitions the Dean of the Graduate School. All courses beyond the master's degree taken at another university, to be applied to the Ph.D. degree, must be taken at an institution offering the doctoral degree and must be approved for graduate credit by the Graduate School of the University of Florida. All courses to be transferred must be letter graded with a grade of B or better and must be demonstrated to relate directly to the degree being sought. The total number of credits (including 30 for a prior master's degree) that may be transferred cannot exceed 45, and in all cases the student must complete the Ph.D. qualifying examination at the University of Florida. In addition, any prior graduate-level credits earned at the University of Florida (e.g., a master's degree in the same or a different discipline) may be transferred into the doctoral program at the discretion of the supervisory committee and the graduate coordinator and by petition to the Graduate School. In such cases, it is essential that the petition demonstrate the relevance of the prior course work to the degree presently being sought.

4.4. Chemistry "Core" Courses

The chemistry department has specific coursework requirements for graduate students in addition to those given above. As part of the coursework required for the graduate degree, each chemistry graduate student (MS and Ph.D.) is required to complete 18 credits of 5000-6000 level courses with no less than 9 credit hours in the major division and at least 9 credit hours outside of the division. To remain in good standing, a chemistry student must maintain a minimum 3.25 GPA in all coursework.

Students will normally be expected to complete the course sequence within the first five semesters of study. For entering Ph.D. students who have already earned an MS degree, coursework from the MS may be used to satisfy core course requirements for the Ph.D., subject to approval by the graduate

committee. Course requirements for the various divisions are summarized below. Consult with division offices for full details regarding course selections in each division.

Analytical

IN DIVISION COURSES: THREE REQUIRED

Analytical students must take three analytical courses selected from CHM 6153 (Electrochemistry), CHM 6154 (Separations), CHM 6155 (Spectroscopy), CHM 6165 (Chemometrics) and CHM 6159 (Mass Spectrometry). One analytical special topics course may be counted for in-division credit.

OUT OF DIVISION COURSES: THREE REQUIRED

The electronics/computer interfacing course, CHM 6158C counts as out-of-division and is strongly recommended. Scientific Writing is optional and does not count towards the 18 credit hour requirement.

Biochemistry

IN DIVISION COURSES: THREE REQUIRED

All Biochemistry students will take CHM 5305 (Chemistry of Biological Molecules) and two divisional courses that can include the following: CHM 6036 (Chemical Biology), CHM 6301 (Intro to Enzyme Mechanisms), CHM 6302 (Chemistry and Biology of Nucleic Acids), CHM 6303 (Methods in Computational Biochemistry), CHM 6304 (Special Topics in Biochemical Mechanism) and CHM 6306 (Carbohydrate Chemistry).

OUT OF DIVISION COURSES: THREE REQUIRED

Three out-of-division courses are chosen with advisement from the committee chair. Recommended courses include:

CHM 6670 (Bioinorganic Chemistry), CHM 6225 (Adv. Principles of Organic Chemistry), CHM 6226 (Adv. Synthetic Organic Chemistry), CHM 6270 (Chemical Dynamics), CHM 6470 (Chemical Bonding and Spectra), CHM 6430 (Chemical Thermodynamics), CHM 6381 (Special Topics in Organic Chemistry), PHA 6356 Complex Natural Products, BCH 6415 (Advanced Molecular and Cell Biology), GMS 6140 (Principles of Immunology) and GMS 6152 (Molecular Genetics).

Inorganic

IN DIVISION COURSES: FOUR REQUIRED

All inorganic students are required to take CHM 6620 (Advanced Inorganic Chemistry I).

You may select two from CHM 6621 (Advanced Inorganic Chemistry II), CHM 6680 (Characterization of Paramagnetic Molecules), CHM 6626 (Application of Physical Methods in Inorganic Chemistry) or CHM 6628 (Chemistry of Solid Materials).

The fourth course may be chosen from those listed above or from the following: CHM 6680 (X-ray Crystallography), CHM 6670 (Inorganic biochemistry) or CHM 6680 (Special topics in Inorganic chemistry).

All inorganic division students will register for CHM 6690 (division seminar) every semester beyond the first year.

OUT OF DIVISION COURSES: THREE REQUIRED

Out of division courses may not begin with 66xx.

Organic

IN DIVISION COURSES: THREE REQUIRED

All organic students are required to take CHM 5224 (Basic Principles for Organic Chemistry), CHM 6225 (Advanced Principles of Organic Chemistry), and CHM 6226 (Advanced Synthetic Organic Chemistry).

OUT OF DIVISION COURSES: THREE REQUIRED

Three out of division courses are chosen with the advisement of the committee chair. Ordinarily these electives will comprise courses from outside of organic chemistry. Typical exceptions include: CHM 5235 (Organic Spectroscopy), CHM 5275 (Organic Chemistry of Polymers), CHM 6271 (Chemistry of High Polymers), CHM 6251 (Organometallic Compounds), CHM 5511 (Physical Chemistry of Polymers) and CHM 6227 (Topics in Synthetic Organic Chemistry). With approval, electives may also be chosen from among courses offered in other departments on campus. Writing in the Sciences, CHM 6180, while strongly encouraged, does not count toward the elective requirement.

Physical

IN DIVISION COURSES: THREE REQUIRED

Physical Chemistry students are required to take CHM 6470 (Chemical Bonding I), plus two chosen from CHM 6430 (Chemical Thermodynamics), CHM 6490 (Molecular Spectroscopy), and CHM 6720 (Chemical Dynamics).

OUT OF DIVISION COURSES: THREE REQUIRED

If students are exempted from any of the required courses above, they must fulfill the requirement of three in-division courses from the remaining course in the list above or from courses in the list below. Students who take any additional non-required chemistry courses are encouraged to follow the same procedure.

CHM 5511/5511L (Physical Polymers), CHM 6461 (Statistical Thermodynamics), CHM 6471 (Chemical Bonding II), CHM 6480 (Quantum Chemistry), CHM 6520 (Chemical Physics/Advanced

Kinetics), CHM 6580 (Special Topics), CHM 6586 (Computational Chemistry), CHM 6710 (Applied Spectroscopy), and CHM 7485 (Theory of Atomic and Molecular Structure).

CHEMICAL PHYSICS OPTION

The Chemical Physics certificate is awarded to those students who have taken four courses listed in the Physical Chemistry requirement list, three credits from another division of Chemistry and nine credits from math or physics at the 5000 or 6000 level.

Note: A physical chemistry course (CHM) which is also listed as a physics course (PHY) with the same title/course content may not be counted as “Chemistry – out of division/department.”

4.5. Non-Chemistry Courses

In most cases, the classes taken to satisfy the coursework requirements for a graduate chemistry degree will be those offered by the chemistry department. With prior approval, credit received for graduate-level courses taught by other departments may also be counted toward a chemistry graduate degree, provided those classes involve subject matter that is relevant to the student’s degree program. The student should consult with and receive approval from their major research advisor and the graduate coordinator before taking such classes with the intention of having them count toward a graduate chemistry degree. Tuition waivers will not cover non-chemistry courses that are not approved in advance.

4.6. Divisional and Departmental Seminars

All chemistry graduate students must register for one credit hour of departmental seminar (CHM 6935) during the first two semesters of graduate studies. Beginning your second year, you must register for one credit hour of divisional seminar. Please follow the guidelines set by your qualifying division. Attendance at divisional seminars is always encouraged during the first year and required by some divisions. Seminars throughout the department are an important part of your graduate education. Fully engaged graduate students will often attend seminars in any division when the topics are of interest. Most divisions have detailed policies regarding student seminar presentations. Consult with the division program assistants for up-to-date details.

Analytical

PhD candidates must present two seminars, one on a literature topic and one on their research. An additional seminar may be required based on the review of the analytical division faculty. If you are not presenting a seminar in any given semester, be sure to sign the S/U document in the division office during the first week of the semester. The S/U grade is based on attendance with a maximum of 2 unexcused absences resulting in an unsatisfactory grade.

The first 40-minute seminar (literature) must be given no later than May of the 3rd year. Students not complying with this deadline may be required to present an additional literature seminar prior to graduation. The 40-minute literature seminar must not be on a topic which the student’s research group has worked on during the past 5 years, and must not be a critical review of a broad research

area. The topic for the literature seminar must be approved by both the research advisor and the faculty member in charge of CHM 6190 for the respective semester. The second seminar must be on the PhD dissertation research. It must include substantial research results (or it will have to be repeated); thus it will typically be in the final semester; indeed, the final PhD defense may be scheduled to coincide with the seminar.

An MS candidate must give one 40-minute literature seminar, as defined above, before the MS defense. If the student continues on for a PhD, he/she must then present the research seminar as discussed above.

Biochemistry

All students qualifying in the Biochemistry Division must register for CHM 6037 each semester beyond the first year. Attendance during the first year is strongly encouraged. In the third year of graduate study, students will present a 20 minute seminar in the division seminar series and a full 50 minute seminar in the fifth year. The topic of both seminars will be the student's research toward a PhD.

Inorganic

Beginning in the third year, each student is required to present a seminar each year during the Fall or Spring semester. The first required seminar will consist of an introduction that frames the project appropriately followed by research results obtained to date. The seminar will be 25 minutes in length followed by questions

In the *fourth* and *fifth* years, the student will present a full seminar on their research. The student is expected to provide an informative introduction that outlines the scope of the project and may relate current literature where appropriate, followed by significant research results. The full seminar will be fifty minutes in length followed by a question and answer period.

Members of the student's supervisory committee should be notified with a memorandum by the student of the date and time of the seminar. Helpful information on the presentation of seminars can be obtained from the CHM 6690 instructor or the divisional office. Each student will register for and attend CHM 6690 each semester. A letter grade will be assigned for each semester in which the student gives a seminar; S/U (satisfactory/unsatisfactory) grades will be given for other semesters. Seminar grades will be assigned by the CHM 6690 instructor. Only semesters in which a student receives a letter grade will be counted toward the department's 6000-level course requirements.

Organic

Organic seminars come in two flavors, those offered by graduate students and those given by external (invited) speakers. The former give graduate students the opportunity to practice public speaking, to learn their research area in-depth (for literature seminars), or to present research results. The latter expose students to the exciting science that is going on elsewhere in the world. Students qualifying in the Organic Division must adhere to the following seminar guidelines.

Thursday seminar attendance is *mandatory* (attendance will be taken) for all graduate students qualifying in the Organic Division for years 1–4, unless prevented by teaching duties. Grades (either S/U or a letter grade) will only be given for students in years 2–4. Students will register for CHM6390 and if you are not presenting you must complete an S/U option form at the division office during the first week of classes. Those who are presenting will receive letter grades. Detailed guidelines regarding the presentation requirements are available in the organic division office.

Physical

Physical Chemistry students are expected to register for the divisional seminar, CHM 6590, every semester. Students are also expected to present one seminar of half-hour length each year in the second, third and fourth years. Although first year students may not be able to register within the 9 hour registration limit, they are required to attend. Attendance is optional for 5th year students.

4.7. The Qualifying Exams; Becoming a Ph.D. Candidate

A major step on the way to earning a Ph.D. degree is the qualifying exam. This exam marks a transition from the more formal phase of the degree program involving coursework and the beginnings of a research project to the more informal but in many ways more important phase involving intensive pursuit of an independent research project, eventually leading to a dissertation.

Qualifying examinations vary in details among the chemistry divisions. There is a written portion to the exam, normally given over many months *via* a series of cumulative examinations. The written portion of the candidacy exam may also be based upon a written research proposal. There is also an oral component to the qualifying exam, which consists of a meeting of the Ph.D. committee at which the student makes a presentation relating to their research. Since the details of the qualifying exams vary so much by division, we present below the procedures that have been adopted by each division in the department. Students will be expected to follow the procedures which have been adopted by their qualifying division. Most divisions have excellent detailed guidelines regarding formats, content and style. You should also note that there are specific rules regarding substitutions of committee members during the oral exams (Please see the Supervisory Committee section).

It is the responsibility of the student to arrange a suitable meeting time for holding their oral qualifying exams. Students are advised to use freely available online meeting planning applications (such as when2meet.com or doodle.com) to determine mutually agreeable times for your committee examinations.

Analytical

You should contact the divisional office regarding specific proposal and formatting rules or other requirements that might apply.

CUMULATIVE EXAMINATIONS

Monthly cumulative exams on announced topics are intended to expose second-year graduate students to material not covered in courses, often focusing on recent literature topics. Ph.D. candidates who enter with BS or MS degrees must begin their written cumulative examinations as shown on the table below. Approval of any variation from this sequence must be requested by writing a letter to the Division Head. When the student has the equivalent of 4 full passes, no further cumulative examinations are necessary. Each examination is worth a Pass (P), Half Pass (1/2P), or Fail (F). Cumes will be given in the months of July, Aug., Sept., Oct., Nov., Jan., Feb., and Mar. No cumes will be given in the months of Dec., May, and June. Graduate students can, of course, always begin cumes earlier than the above designated times. The maximum number of cumulative examinations any given student can take is 8. Once cumes are begun, students must take all given (unless excused from specific exams) until 4 passes are obtained. If a student cannot attend a cume, arrangements must be made in advance with the cume proctor and the Division Head.

Starting Cumulative Exams	
Month Entered	Must Begin By
<i>Students Entering with BS or MS</i>	
August (Fall semester)	Following July
May (Summer semester)	Following July
January (Spring semester)	Following January

If a student does not pass 4/8 or if they drop out of the cumulative examination sequence, then that student can still obtain an MS degree. After the completion of a thesis-MS degree, the student may petition the Analytical Division to be allowed to continue on to the Ph.D. If the petition is approved, the student must start cumulative examinations immediately and must pass 4 out of the next 8 cumes.

Students pursuing the non-thesis MS must pass a minimum of 2 out of the first 6 cumulative exams, plus give a literature seminar (registered for CHM 6190). The thesis MS does not require any cumulative exams in the analytical division.

PH.D. ORAL QUALIFYING EXAMINATION

Ph.D. candidates are required to take the oral qualifying examination in their sixth semester or first half of their seventh semester after entering graduate school. Any student not complying with this deadline must pass ½ additional cumulative exam for each month past the deadline. Any exceptions must be approved by the division head. Students who enter with a Masters Degree must complete their oral exam by the end of their fifth semester or in the first half of their 6th semester.

Biochemistry

You should contact the divisional office regarding specific proposal and formatting rules or other requirements that might apply.

CUMULATIVE EXAMINATIONS

Cumulative exams will be administered eight times a year in the first week of Sept, Oct, Nov, Dec, Jan, Feb, Mar and Apr. A total of 4 passes out of a consecutive 8 cumulative exams are required to pass the written qualifying portion of the PhD degree. Students should start taking exams no later than the first month of their second semester. Grades will be pass, half-pass, and fail. The content of the exams will include material from in-division Biochemistry courses and current literature topics. The exams will be focused on general topics which will be posted three weeks prior to the exam. The cumulative exam requirement in biochemistry is the same for thesis or non-thesis MS degrees and the PhD.

ORAL QUALIFYING EXAMINATION

The oral qualifying examination must be taken before the end of the student's 7th semester (normally the Fall semester of third year). Two weeks before the scheduled exam the student must submit to their committee a short research proposal (20 page limit), that outlines their proposed Ph.D. research. The report should be a well-referenced document that outlines the background/ importance of the project, goals of the project, progress toward these goals and future work. The document must contain a detailed experimental section that is of the format and quality of published work. You can see the division secretary for examples of previous written documents. Based on performance, students will be admitted to the Ph.D. candidacy or be required to complete an MS thesis, or the supervisor may resign from the committee. The criteria include good scientific writing, understanding of the project, and progress in the research.

Inorganic

You should contact the divisional office regarding specific proposal and formatting rules or other requirements that might apply.

CUMULATIVE EXAMINATIONS

The inorganic division bases the written examination upon an evaluation of the written qualifying proposal document. There is no separate qualifying exam or cumulative exams.

ORAL QUALIFYING EXAMINATION

Prior to completion of seven semesters of graduate study, the student will take the oral qualifying exam. This requirement will typically be met prior to the end of the first semester of the third year if the student has been continuously registered following entry in the Fall semester. Students who enter with a Master's Degree must complete their oral exam by the end of their fifth semester. No fewer than seven days prior to the exam date, the student must give the members of the supervisory committee the written portion of the qualifying exam (typed, double spaced). The purpose of the Oral Qualifying Exam is to evaluate the student's chemistry background and research skills to determine if the student will be able to complete a Ph.D. dissertation. The exam consists of a written component and an oral component. Two options are available for the content of the written material and the accompanying oral exam, as described below:

(Option 1) *Research report/proposal.* The written material consists of a research report on the progress of the student in his/her research and a proposal for future work on the project. The research report section will summarize the background of the project, describe the procedures used and the results obtained by the student, and discuss the results. The format of the report should adhere to the American-chemical Society style recommendations for manuscripts submitted to ACS journals (see the "ACS Style Guide"). The proposal will be a separate document suggesting future research directions related to the project. The proposal should reflect the student's view of important extensions of the research. More importantly, the proposed work should not be a simple derivative of the current research project or the next logical step in the project. It is expected for the research report that the student will initiate the first draft of the document and will be substantially responsible for its content. Although general discussions concerning future research may occur between the student and the research director prior to the preparation of the proposal, the proposal section should be written entirely by the student with no direct assistance or review by the research director. In the oral portion of the exam, the student will give a brief presentation on the research report and proposal. The oral examination will involve questions from the committee to determine the competence of the student in research and in the background needed to complete the proposed research.

(Option 2) *Research report/original proposal.* The research report requirement is the same as in option 1 above. The research proposal will be an original contribution different from the students' immediate area of research, on a topic chosen by the student and approved by the student's research advisor.

In all cases it is required by the division to list all committee members on the cover of the proposal.

CUMULATIVE EXAMINATIONS

The main goal of the UF Organic Division is to provide an education that takes professional students and transforms them into independent professional chemists. Cumulative exams are taken when the majority of the required coursework is complete and are designed to test the knowledge you have accumulated throughout your career. This is in contrast to coursework exams that are designed to test a specific set of assigned materials. You should expect to be tested on the fundamental knowledge that you have learned in your courses and to apply the concepts you have learned to new and often unfamiliar material found in the recent chemical literature. These exams will assess how well your critical thinking and problem-solving skills are developing with regard to organic chemistry.

Continuous critical reading of the primary literature is vital to your success for cumes!

Actively reading the literature on a daily basis will be excellent practice for encountering unfamiliar material, as you will when taking cumulative exams. You will also need to do this throughout your career, so starting these habits early will help you to excel. Additionally, this will help you to deepen your understanding of chemistry, increase your understanding at seminars, and help you to find subjects that you are personally interested in and may like to pursue in the future. You should also use this as a tool to identify areas where you are deficient and to explore them and teach yourself about them and constantly expand your knowledge base.

Cume Content

The organic faculty member giving the cume will select questions from two sources, the first source being the current literature (as assigned by the faculty member responsible for the cume) and the second source being the core first year organic curriculum (e.g., CHM 5224, CHM 6225, and CHM 6226) and fundamental organic chemistry concepts.

Students will be provided with a list of broad topics as a guide to help study the literature and prepare for each upcoming cume. *We do not expect that you will memorize all the information in the materials provided.* This is in fact discouraged as you will not be expected to recite obscure facts. It is instead suggested that you critically read and understand the material.

Here is a list of broad topics:

1. Kinetics	7. Reactive Intermediates	13. Organometallics & Metal-Mediated Reactions
2. Thermodynamics	8. Total Synthesis	14. Structure and Bonding
3. Stereochemistry	9. Organic Materials	15. Heterocyclic Chemistry
4. Pericyclic Reactions	10. Polymerization	16. Free Radicals
5. Photochemistry	11. Bio-organic	17. Synthetic Methods
6. Reaction Mechanisms and arrow pushing	12. Spectroscopy	

Regulations and Timing

1. All graduate students qualifying in the Organic Division, regardless of terminal degree expectations (non-thesis M.S., thesis M.S., Ph.D.) must take the cumulative exams.
2. At the beginning of the Fall semester, you will receive a schedule by email indicating the faculty responsible for the cumulative exams in the coming months.
3. Exams are on the first Wednesday of the month from 7:30–9:30 PM *except*: a) September, when the exam will be given on the second Wednesday; b) if the first Wednesday falls on a university holiday (including Spring Break), in which case the exam will be given the following Wednesday. Exams are administered in 340 Sisler Hall.
4. Exams are given in September, October, November, December (Fall semester) and February, March, April and May (Spring semester).
5. Grades of Pass, Half-Pass and Fail will be recommended to the cume committee, who will make final grade assignments.
6. A total of 4 passes out of a consecutive 8 exams are required to pass the written qualifying portion of the Ph.D degree in organic chemistry. Students with 3.5 cume passes must complete a Master's degree, typically by the end of the subsequent semester, but may then petition the division for readmission to the UF Chemistry Ph.D. program (upon recommendation of their advisor and the M.S. committee). Students with fewer than 3.5 passes will receive a terminal Master's degree.
7. A total of 2 passes out of a consecutive 8 exams is required to pass the written qualifying portion of the M.S. degree (thesis or non-thesis) in organic chemistry. Students who do not meet the cume requirement must petition the Division for exemption from the policy. In these rare cases, an additional written requirement may be imposed. *Note*: Terminal M.S. students, in principle, can stop taking cumes after meeting their two cume pass requirement; however, cumes may only be taken by students within their first four semesters. Prematurely terminating cumes is therefore not recommended and may preclude students from later entry to the Ph.D. track.
8. Students admitted in the fall must begin the consecutive 8 cumes no later than February of their 1st year. Spring admits must begin no later than September of their 1st year, although starting sooner is encouraged. Some students will enter our program with a master's degree or some previous graduate level coursework. If the student is well-prepared (regardless of admission semester) (s)he can start right away upon consultation with their research director. The student must also inform the graduate coordinator so that it may be recorded in their file.
9. A student is eligible to take one free organic cume **before** officially beginning the cume sequence to "sample" the cume system. If passed (half or full pass), the grade will count toward the total of 4 passes needed to complete the written qualifying exams. If failed, no

penalty is applied. For fall admits, the sample cume must be taken in the fall of the first year; the next cume, taken no later than February of the first year (in accordance with Regulation 8), initiates the formal cume sequence of 8 consecutive exams. For spring admits, the sample cume must be taken in the spring of the first year; the next cume, taken no later than September of the first year (in accordance with Regulation 8), initiates the formal cume sequence of 8 consecutive exams.

10. One cume can be taken from a division outside of organic as one of the 8 consecutive tests (i.e., after the cume sequence is initiated). This “out-of-division” cume (regardless of the student’s result) will count as one of the 8 possible cume attempts. A student **cannot** take more than 8 cumes total (outside of the free organic cume). If a student admitted in the fall takes the “out-of-division” cume and an organic cume *during the same month* (this is neither possible in the month of the final possible cume attempt nor recommended) OR the “out-of-division” cume in a month (e.g., January) that no organic cume is offered, the student’s cume sequence will end in November rather than December of his/her second year. This rule will be similarly applied to students admitted in the spring and those who initiate their cume sequence early.
11. Each exam will include questions from literature assigned by the professor responsible for the examination and related to the broad topic announced two weeks prior to the examination date.
12. A list of examiners and their exam months will be given to the students at the beginning of the school year (see above).
13. Students will use a code, instead of their name on the top of the cume. This code should in no way be traceable to the student (i.e., it should not be a social security number, student ID, birth date, etc.). The students will put their name and the code into a sealed envelope, give it to the faculty member and it should be turned into the cume committee later **unopened**.
14. Any new or further information from individual faculty about any upcoming cumes will be e-mailed to the organic students as it becomes available. It will also be posted outside of 429 Sisler Hall.
15. Results will be distributed by the Organic Division’s Administrative Assistant.

ORAL QUALIFYING EXAMINATION

OBJECTIVES AND PHILOSOPHY

The oral qualifying examination must be taken no later than the 7th semester of residence (i.e., the fall semester of the third year for a student who began studies in August), but may be taken at any earlier time provided that the student (a) is in good academic standing (GPA > 3.0) and (b) has successfully completed the written qualifying examinations (cumes). In cases where the oral

must be scheduled late, *students must petition the Division (with a supporting letter from their research advisor) for an extension; denial of the petition means that they will be eligible only for an M.S. degree.*

The qualifying examination will consist of two parts: (a) an original research proposal and (b) an up-to-date research progress report.

The objectives of the oral qualifying examination include:

1. To assess the student's progress on his/her independent research project.
2. To evaluate the student's ability to prepare and defend an independent research proposal in the area of organic chemistry.
3. To evaluate a student's understanding of the fundamental principles of organic chemistry, e.g. reaction mechanisms, common synthetic methods, theoretical principles of structure and bonding, etc.
4. To assess a student's ability to document their experimental (or theoretical) results in a manner consistent with publication in a peer-reviewed organic chemistry journal (e.g. *J. Org. Chem.* or *Org. Lett.*).
5. To assess the student's ability to think creatively "on their feet", answer questions, and defend their point of view.

Eligibility and Scheduling

Once a student has passed the written qualifying examinations and remains in good academic standing, he/she is eligible and encouraged to start planning for the oral qualifying exam. Typically a discussion with the student's Ph.D. mentor is sufficient to identify a time frame for when the event should occur, and again this should be no later than the 7th semester of residence (i.e., the fall semester of the third year for a student who began studies in August). In most cases the specific date will first vary depending on the student's research progress, Ph.D. mentor's travel schedule, and acceptance of the candidate's proposed research topic (see Section 2.5.3). Again, in cases where the oral must be scheduled late, *students must petition the Division (with a supporting letter from their research advisor) for an extension; denial of the petition means that they will be eligible only for an M.S. degree.*

Once a candidate's proposed research topic is approved, he/she should identify a date and time where all members of the supervisory committee can be present. The candidate should allow *two hours* for the examination and is responsible for booking the examination room (e.g. Sisler 340) and a projector/computer. There are several ways to approach the committee members to decide on a date/time, and here are two that are generally appreciated:

1. Visit the committee member *directly* to obtain his/her schedule for no more than a two week period surrounding the planned date for the exam.
2. Use a scheduling website (e.g. www.when2meet.com) in conjunction with e-mail contact. In this case the student would propose a two-week period and reasonable time slots (e.g. starting no earlier than 9 a.m. and ending no later than 5 p.m.).

The student should not send an e-mail to a committee member simply asking them to relay their daily schedules for a particular time period!

NOTE: The Organic Division provides a highly detailed set of guidelines and formats for the preparation of the oral proposal document. It is very important that you obtain the latest version from the division office before you begin preparations.

Physical

CUMULATIVE EXAMINATIONS

During the first two years of residence, Physical Chemistry students must pass four cumulative exams to qualify for the PhD degree. Two cumulative exams must be passed to qualify for the MS degree with thesis and three cumulative exams must be passed to qualify for the MS degree without thesis. Cumulative exams will be offered at least six times a year.

One full pass (or two one-half passes) can be earned from exams outside the division.

Students earning an average GPA of 3.70 or higher in their first three division courses will be awarded one full pass.

Students must make at least two tries to pass the cumulative exams in the first year, and can make a maximum of six tries in the second year.

ORAL QUALIFYING EXAMINATION

A student must take the oral qualifying exam within three months after passing the written exam or by the end of the fourth term of residence including the summer as one term, whichever is longer. The topic of the oral proposal may be of the student's own choosing and may be in the area of the student's doctoral research.

4.8. The Final Exam and Dissertation, Thesis or Report

MS THESIS, PH.D. DISSERTATION

Both the MS and Ph.D. degrees in chemistry at the University of Florida are research-based, which means that 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 (MS) or dissertation (Ph.D.) to be written by the student which 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 degree committee, is the capstone feature of both degree programs.

Some notable facts regarding the thesis or dissertation preparation and defense are given below:

A. The research advisor will determine the amount of work required for the thesis or dissertation.

B. A final corrected version of the thesis or dissertation will be given to each member serving on the degree committee at least two weeks before the oral defense.

C. An oral defense of the final version of the thesis or dissertation must be presented to the members of the student's committee.

MS (NON-THESIS)

The requirements for the non-thesis MS degree vary by division as outlined below:

Analytical: Students must pass 2 out of a maximum of 6 cumulative exams, plus give a literature seminar (registered for CHM 6190).

Biochemistry: Students must submit a term paper on a topic selected in consultation with their advisor. The term paper will be reviewed/approved by the advisor. Students must also pass 4 out of 8 biochemistry cumulative exams.

Inorganic: The completion of the seven courses required of inorganic Ph.D. students concludes the degree in this division.

Organic: Students must also pass a minimum of 2 out of the 8 cumulative exams.

Physical: Students must pass 3 out of a maximum of 6 cumulative exams.

4.9. Time Limits for Degree Programs

For students working toward an MS degree, the degree requirements must be completed by the end of the sixth semester of enrollment. For students working toward a Ph.D. degree, the final defense must be completed within five years. Support for enrollment beyond these limits may be provided for students in good academic standing upon petition to the graduate coordinator.

4.10 Overview of some relevant forms from the Graduate School.

Graduate School Forms need to be filled out by all graduate students as a way of keeping a record of the student's progress. Forms can be obtained from the program assistant in the Chemistry graduate office.

ADMISSION TO CANDIDACY FORM

This form should be filled out prior to the Ph.D. oral qualifying exam. This is for Ph.D. students only. You should see the program assistant in the graduate office to obtain this form one week prior to the oral exam.

FINAL DEFENSE FORM

This form must be prepared prior to the oral defense of the thesis (MS) or dissertation (Ph.D.). You should see the program assistant in the graduate office to obtain this form one week prior to the final exam.

5. Safety

The University of Florida Chemistry Department commits itself to ensuring that its students, staff, faculty members, visiting professors, and other researchers can perform their tasks in the safest environment and that all individuals have the proper safety equipment, sufficient training, and important information they need. To facilitate a safe working environment, everyone needs to take their responsibilities seriously. As a graduate student, your **responsibilities** include:

- taking **safety classes** (offered in the fall every year)
- wearing appropriate **protective equipment** (e.g. goggles, lab coats, closed shoes)
- **disposing of chemicals** in an appropriate way and leaving a clean lab space for others
- knowing how to act in an **emergency** (e.g. fire, burn)

If you have questions about safety procedures, please visit the UF Chemistry safety website:
<http://www.chem.ufl.edu/facilities/safety.shtml>



6. WORKING AT THE UNIVERSITY OF FLORIDA

Graduate students in good standing in the University of Florida chemistry program are normally supported as either teaching assistants or graders (TAs) or research assistants (RAs). Students supported on assistantships receive a stipend which provides for living expenses while the student pursues their degree. Funds for teaching assistantships and graders normally come from the University of Florida. Funds for research assistantships normally come from faculty research grants.

6.1 Florida Residency

The Department of Chemistry requires that non-international students apply for Florida residency. Immediately upon your arrival to the university, you should file your domicile form with the Alachua County Courthouse. *One month prior to the start of your second year*, you should submit your application for residency, along with supporting documents [e.g., apartment lease, employment contracts, utility and phone bills], to the University of Florida Registrar. The residency packet is available at 222 Criser Hall. Florida residency will not be granted until the packet has been submitted and approved.

6.2. Teaching Assistantships/Graders

Students supported as teaching assistants or graders will be assigned specific duties which may include one or more of the following: teaching laboratory sections, grading papers, maintain office hours and proctoring exams. It is important that these considerable responsibilities be taken

seriously. If illness, accident, or an emergency prevents you from meeting your commitment, you must inform your teaching supervisor and help make arrangements to cover that duty. For anticipated absences from your teaching duties (e.g., a talk at a conference), you must complete a leave of absence form (available on the departmental website) and submit it to the graduate coordinator. In the event of extraordinary circumstances (e.g., serious health problems, pregnancy) the Department will make every effort to provide a suitable TA assignment. However, it may not be possible to do so in every situation.

Teaching assistantships are always provided contingent upon satisfactory performance. Teaching evaluations are made each semester. A poor teaching evaluation will result in a letter of reprimand. *Students with two letters of reprimand will no longer be provided teaching assistantships.*

6.3. 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 supervising professor.

6.4. Summer Support

Graduate students at the University of Florida Chemistry Department are supported in the summer as either teaching assistants, graders or research assistants, as in the academic year. Graduate education in chemistry is considered to be a full time, 12 month per year engagement.

6.5. 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 (15 academic semesters), and a student pursuing an M.S. degree may be supported for no more than 3 years (9 academic semesters).

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

Finally, graduate education is primarily a research experience and as such, it is impossible to predict the outcome and time required to complete a degree. Situations arise in which the research demands more than the average time and for students in good standing, support will be provided beyond these limits whenever possible.

6.6. Payroll

All the University of Florida employees receive bi-weekly paychecks on alternate Fridays (26 installments every two weeks throughout the year). The departmental human resource office can inform you of the payday schedule. Direct deposit is required of all University employees.

6.7. Holidays

Graduate students are entitled to take as holidays the days on which the University is officially closed. In addition graduate students are allowed 5 sick days during the year. Any leave beyond the allotment requires approval of the research advisor and notification of the Graduate Coordinator. 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
Spring Break	5
Memorial Day	1
Labor Day	1
Independence Day	1
Homecoming	1
Veterans Day	1
Thanksgiving	3
Christmas	1

OF CRITICAL IMPORTANCE:

The chemistry department does understand that it is sometimes necessary for students to be away from campus. It is important that these be scheduled appropriately so as not to impose upon your teaching or research obligations. Students holding a research assistantship should discuss any extra leave in advance with their advisors. Students holding teaching assistantships must adhere to the departmental policies regarding absences. You are expected to be on campus for the entire semester in which you teach. You must be present on the day before classes begin and present for any training sessions and TA meetings held by your teaching supervisor. You must also be present for all grading and proctoring activities at the conclusion of the semester. If you cannot be here at any time during a semester, there is a strict protocol to follow. You must complete a "Leave of absence approval" form in advance which summarizes your travel and who will be covering your teaching duties while you are absent. The form must be signed in advance by your teaching supervisor, your research director and the graduate coordinator. Teaching assistants who neglect this procedure will automatically receive a letter of reprimand.

6.8. Outside Employment

The graduate assistantship (research or teaching) is expected to support the student during graduate studies. Therefore, it is the policy of the chemistry department to not permit students to hold outside employment. Exceptions to this policy include temporary consulting and tutoring. Graduate students may not be compensated for tutoring any student for whom they have a grading responsibility.

6.9 Maternity Policy

As soon as possible after becoming aware of a pregnancy, the student should visit the graduate coordinator to discuss an accommodation plan. If a graduate student becomes pregnant during a term, she will finish that term normally if possible. If a TA in a laboratory, arrangements can be made to provide a substitute for laboratory teaching duties. If an RA, it will normally be expected that she and her research advisor will reach agreement as to the conditions under which she will finish the current term.

A graduate student who is expecting a baby may request a TA appointment from the Department that is consistent with her condition of pregnancy. That is, she will be assigned non-laboratory-related responsibilities, either handling discussion/quiz sections or administrative duties, according to departmental needs.

A student who has been granted such a maternity-related TA will also be entitled to a total of eight weeks of paid maternity leave, which may commence at the student's discretion any time after the beginning of the eighth month of pregnancy.

Pregnant students may also choose to take an unpaid leave-of-absence from the chemistry graduate program, without prejudice, for a period of up to four terms.

6.10 Sexual Harassment Training

The University of Florida is committed to providing a workplace and academic environment which is free of harassing behavior. Completion of harassment prevention training is an expectation of employment for **all employees** at the University. New graduate students are expected to complete harassment prevention training within the first 30 days of employment and provide their certificate of training completion to the department HR office. Training is expected of all faculty and staff every two years. Details are available at the UF website:

<http://hr.ufl.edu/manager-resources/policies-2/sexual-harassment/>

All chemistry graduate students should review the University of Florida *Teaching Assistant Handbook*. It states, in part:

Since UF does not tolerate sexual harassment, the University strongly discourages employee-student interactions (including TAs in either role) which may lead to amorous relationships. A conflict of interest is created when an individual evaluates or supervises another individual with whom he or she has an amorous or sexual relationship. Such relationships, even though consensual, are likely to be exploitative, and they imperil the integrity of the education process and work environment. They also may lead to charges of sexual harassment. Thus, the University requires the resolution of any conflict of interest created by these relationships.

In regard to consensual relationships, the University of Florida Human Resources Services sexual harassment policy states, in part:

“Participation of a supervisor, faculty member, advisor, or coach in a consensual romantic or sexual relationship with a subordinate employee or student always creates a prohibited conflict of interest that must be reported to the appropriate hiring authority for proper disposition. A conflict of interest is created when an individual evaluates or supervises or has decision making power affecting another individual with whom he or she has an amorous or sexual relationship. Moreover, such relationships, even when consensual, may be exploitative and imperil the integrity of the work or education environment.”

In addition to these university policies, the Department of Chemistry requires that there be no dating between a graduate teaching assistant and any student who is taking a class in which they are an instructor.

7. DEPARTMENTAL OPERATIONS AND GENERAL INFORMATION

7.1. Student Offices

For the first semester, graduate students are normally assigned a desk in a research laboratory on the basis of available space. After the student has chosen a research advisor then he/she should move to office space in that professor's laboratory. Students should not move from their assigned desk until their selection of a research advisor has been approved by the graduate coordinator.

7.2. Building Security and Keys

An administrator in the department's Central Receiving will issue you the keys that you will need. Usually you will receive two keys, one that unlocks the external building doors and another that unlocks your office / lab. It shall be clearly understood by all those receiving keys that he or she shall:

- Exercise great care to prevent loss. Report any losses of keys immediately to the Chemistry Department Central Receiving.
- Not loan a key to anyone.
- See that the outside door used is locked when entering or leaving the building after regular hours.
- Under no circumstances allow anyone into the building after hours who is not a holder of a building key.
- Report to the University Police and to the Department chair any unusual or suspicious occurrence or persons found in the Chemistry building complex after the buildings are normally closed.

7.3. Mail, E-mail, IT services and FERPA

7.3.1 Mail

Graduate student mailboxes are located on the second floor of Leigh Hall. Delivery of US mail and University of Florida campus mail is made to these boxes. Although most official communications are made by email, you should check your box occasionally for departmental and university memoranda and notices. Note that most students will share a box with another student so please be respectful of each other's mail.

7.3.2 E-Mail

Each graduate student is required to have a departmental @chem.ufl.edu e-mail account which everyone generally forwards to their Gatorlink account (@ufl.edu). Check these frequently. The Chemistry department has designated e-mail as an official form of communication within the department. It is important that you check your e-mail frequently to stay informed.

7.3.3 Student Privacy

The University of Florida follows strict guidelines with respect to student privacy as dictated by the 1974 Family Educational Rights and Privacy Act (FERPA). Full details are available at the University web site: <http://www.registrar.ufl.edu/ferpa.html>

7.3.4. Chemistry IT Services

The departmental IT services shop is your source for all things related to computer, internet, software, poster printing.

What the IT Shop Provides:

- Network Access
- UF E-mail Support
- Research Group Web Space
- File Storage & Backup
- Helpdesk Support
- Purchase Consulting
- Security Oversight
- PC Repair & Installations
- Poster Printing Services
- Software License Management

See the IT Shop website for the latest information:

<https://itshop.chem.ufl.edu>

Need Assistance? Have a Question?

- Send e-mail to support@chem.ufl.edu
- Stop by the IT Shop (LEI 116-D) between 8am - 5pm
- Or call 352-392-7885

Policy Review

University of Florida's Acceptable Use Policy:

<http://www.it.ufl.edu/policies/aupolicy.html>

·A must read! Covers Your Rights & Responsibilities, General Rules, Enforcement, Security & Privacy, Commercial Use, E-mail Use, Web pages, etc.

Departmental Policies

Network Access:

<https://itshop.chem.ufl.edu/policies-and-guidelines/network-access>

Personally Owned Computers:

<https://itshop.chem.ufl.edu/policies-and-guidelines/non-university-computer>

·A must read! Network Usage, Personal Computer Responsibility.

For Your Personal Devices (includes laptops, phones, tablets, etc...)

Network Registration:

·If you own a desktop or laptop computer that you plan to use on the Department's network using an Ethernet connection, you need to register that computer with the IT Shop.

Security:

·All personal computers, in use on our network, need to run a current and self-updating antivirus scanning utility. All Operating Systems should be configured to auto-update to ensure that all patches are installed in a timely manner.

·McAfee Virus Scan Enterprise is available FREE to all UF faculty, staff, and students for both business and personal use.

Software:

Lists of software that UF and the Department of Chemistry license for you use can be found here: <https://itshop.chem.ufl.edu/services/software>

7.4. The Chemistry Department Stockroom

Many of the chemicals, supplies, gases and equipment needed in research labs may be purchased from the Department Stockroom. Stockroom purchases are recorded at checkout and are charged to a teaching or research grant account. Reports of purchases by each research group will be furnished to faculty members directing the research groups. Your research advisor will provide guidance on the account number to use for stockroom purchases.

7.5. Procedure for Work Injury

Worker's Compensation

433A Stadium West

Box 115008

workcomp@ufl.edu

Phone: (352) 392-4940

Fax: 392-8329

TDD: 1-800-955-8771

REPORTING A WORK-RELATED INJURY

If you are injured while performing your job you must:

1. Notify your supervisor immediately. You/your supervisor must then contact the UF Workers' Compensation Office (UFWC) at 392-4940. UFWC will complete a First Report of Injury or Illness form for you. Even if you do not think you need medical care, you should contact UFWC to discuss your injury.
2. If you require medical attention, contact UFWC prior to going to a medical care provider. UFWC staff will assist you in selecting an authorized medical care provider to treat your injury, thereby insuring that you do not incur any expenses.
3. Remember to seek treatment only from an authorized medical provider as set forth in the Workers' Compensation Employee Handbook. If you are uncertain as to what procedures to follow, please contact the UF Workers' Compensation office for assistance.

4. When you arrive at the authorized medical provider's facility, show the provider your copy of your First Report of Injury or Illness form.
5. Provide your supervisor and the UFWC office with medical documentation of your work status, and inform your supervisor and the Workers' Compensation office of any subsequent changes. The authorized medical provider must support all requests for time off due to an injury in writing.
6. Contact your supervisor daily or according to a schedule established by your supervisor in order to keep him or her informed about your treatment and recovery.
7. You must attend all of your scheduled medical appointments. Failure to do so may result in disciplinary action up to and including termination.
8. Read the modified duty program statement. Once your medical provider has released you to return to work (regardless of the limitations or restrictions the medical provider assigns), you must be willing and available to return to the workplace.

**University of Florida
Department of Chemistry
Faculty Research**

Alexander Angerhofer (352) 392-9489 / CLB 318A alex@chem.ufl.edu
Physical

Natural and artificial photosynthesis, electron paramagnetic resonance methodology, electron and energy transfer in macromolecular systems, utilization of ultra-high magnetic fields in spectroscopy.

Aaron Aponick (352) 392-3484 / SISLER HALL 328A aponick@chem.ufl.edu
Organic

Research in our group is directed at the development of new synthetic methodology to address difficulties in target-oriented synthesis. Our goal is to develop new small molecule catalysts that exhibit synthetically useful levels of selectivity in new chemical transformations and to apply these reactions in efficient total syntheses.

Rodney J. Bartlett (352) 392-6974 / NPB 2338 bartlett@qtp.ufl.edu
Physical and QTP

We are primarily responsible for pioneering many-body methods in quantum chemistry (many-body perturbation theory and its infinite -order coupled-cluster generalizations) for electron correlation.

C. Russell Bowers (352) 846-0839 / NPB 2360 bowers@chem.ufl.edu
Physical

We develop and apply new solid state NMR detection and sensitivity enhancement methods for semiconductor, catalyst and biomolecular materials.

Anna Brajter-Toth (352) 392-7972 / LEI 312 atoth@chem.ufl.edu
Analytical, Bioanalytical and Materials

My group is involved in the development of sensors, electroanalytical methods, including with mass spectrometry, and materials for bioanalytical applications.

Philip J. Brucat (352) 392-2006 / CLB 311E brucat@qtp.ufl.edu
Physical

We use high-resolution laser spectroscopy, molecular- and ion-beam techniques to study the chemical and electronic properties of metal ion complexes and clusters.

Steve Bruner (352) 392-0525 / LEI 404 bruner@chem.ufl.edu

The Bruner research group uses an interdisciplinary approach that incorporates synthetic organic chemistry, protein structural biology and mechanistic enzymology to investigate the mechanisms of natural product biosynthesis.

Rebecca Butcher (352) 846-3392 / LEI 340 butcher@chem.ufl.edu
Biochemistry

Our group is interested in how organisms use small molecules to communicate information. *Caenorhabditis elegans* (a small roundworm) is a genetically tractable organism that relies on a fine-tuned sense of smell and taste when interacting with other members of its species and with its

environment. Our group will use NMR-based small molecule structure elucidation, chemical synthesis, chemical genetics, and biochemical/biological assays to identify the chemical nature of these cues and their mechanism of action

Charles Cao (352) 392-9839 / LEI 226 cao@chem.ufl.edu
Analytical

Our research focuses on using hybrid biological and nanoscale materials to address current problems in materials design and biochemistry. Specifically, our research is devoted to mechanistic understanding of nanoparticle growth; anisotropically surface-functionalized nanoparticles; multi-functional nanocomposites for use as biological markers

Ronald Castellano (352) 392-2752 / SISLER HALL 201 castellano@chem.ufl.edu
Organic

Current research interests combine an appreciation of macromolecular design with the structural information that can be extracted from complex biological systems to design new functional assemblies.

George Christou (352) 392-6737 / CLB 408 christou@chem.ufl.edu
Inorganic, Bioinorganic, and Materials

Our research covers a variety of areas, but a unifying theme is that it all involves transition metal chemistry. We are interested in the synthesis and study of new metal complexes containing more than one metal ion.

William R. Dolbier, Jr. (352) 392-0591 / SISLER HALL 428 wrd@chem.ufl.edu
Organic

We study the impact of fluorine substituents on reactivity and use fluorine substituents to probe mechanisms of thermal homolytic and pericyclic reactions.

Gail E. Fanucci (352) 392-2345 / CLB 311F fanucci@chem.ufl.edu
Physical

Application of site-directed labeling and biophysical magnetic resonance (EPR and NMR) to study (a) the association and translocation of peptides/proteins with membranes, (b) protein-protein interactions, (c) membrane protein structure, dynamics, conformational changes and orientations on membrane surfaces, and (d) conformational changes in RNA and ribosome binding to mRNA.

Alexander Grenning (352) 392-9131 / SIS 328B grenning@chem.ufl.edu

The Grenning research laboratory aims to design new complexity-generating chemical reactions inspired by bioactive natural products. . We plan to utilize the reactions developed to prepare collections of natural product inspired molecules and gain insight into their biological activities.

Nicole Horenstein (352) 392-9859 / LEI 402 horen@chem.ufl.edu
Biochemistry and Bioorganic

We study the mechanisms of enzyme-catalyzed reactions, design enzyme inhibitors, then synthesize them.

Valeria D. Kleiman (352) 392-4656 / CLB 311B kleiman@chem.ufl.edu
Physical

We use ultrafast lasers to coherently control photochemical reactions in solutions. We study optical properties of macromolecules to understand energy transfer and investigate non-linear optical phenomena.

Lisa McElwee-White (352) 392-8768 / SISLER HALL 429 lmwhite@chem.ufl.edu
Organic and Organometallic

We are interested in metal-ligand multiply bonded complexes and their applications in materials science, organic synthesis, and catalysis.

Charles R. Martin (352) 392-8205 / CLB 218 crmartin@chem.ufl.edu
Analytical and Materials

Research at the interface between Analytical Chemistry and Materials Science: Developing new analytical methods and the new materials that make these methods possible.

Stephen A. Miller (352) 392-7773 / LEI 318A miller@chem.ufl.edu
Organic

We seek to develop innovative catalysts, especially those directed toward polymerization chemistry. Our targeted catalysts are often relevant to industrial applications, offering mechanistic insight, improved catalytic behavior, or altogether new pathways for catalytic bond formation.

Leslie Murray (352) 392-0564 / CLB 412D murray@chem.ufl.edu
Inorganic

Our focus is to design, synthesize, and evaluate inorganic complexes and protein scaffolds for the efficient reduction of carbon dioxide. Our strategy is inspired by the mechanism of molybdopterin-containing carbon monoxide dehydrogenase, in which metal centers and redox active cofactors are electron reservoirs and a ligand acts as the nucleophilic center. We carry out air-free chemical synthesis and protein engineering and employ a variety of analytical methods to evaluate our systems. By mimicking biology, we aim to produce catalysts that can be tuned for carbon dioxide with high turnover numbers and frequencies.

Nicolo Omenetto (352) 392-9853 / CLB 201 omenetto@chem.ufl.edu
Analytical

Our research program focuses on the development of sensitive and selective atomic and molecular spectroscopic methods of analysis using ultraviolet, visible and near infrared laser sources. Fundamental and applied topics are the diagnostics of laser induced plasmas, the detection of hazardous materials and the chemical characterization of particulate matter.

Nick Polfer (352) 392-0492 / CLB 311A polfer@chem.ufl.edu
Physical/Analytical

Research in our group focuses on increasing the structural information from mass spectrometry measurements for bioanalytical applications. We make use of physical chemistry tools, such as lasers, and develop methods and instrumentation that allow other physical parameters of the ions to be characterized (e.g. infrared absorption, collision-cross-section), so that “more than the mass” of the ions can be determined.

David E. Richardson (352) 392-6736 / CLB 410 der@chem.ufl.edu

Inorganic and Bioinorganic

Our research program focuses on the study of reactivity in transition metal chemistry, particularly in catalytic reactions of biochemical or industrial interest. We seek to identify the mechanistic principles that lead to efficient and selective catalysts for a variety of biochemical and industrial processes.

Adrian Roitberg (352) 392-6972 / LEI 428 roitberg@qtp.ufl.edu

Physical and Quantum Theory

Computational and theoretical biophysical chemistry and materials chemistry. We study complex systems using computational techniques. Current projects involve enzyme mechanisms, structure and dynamics, proteins and peptide folding and energy transport in nanostructured systems

Kirk S. Schanze (352) 392-9133 / SISLER HALL 428 kschanze@chem.ufl.edu

Organic and Materials

We study the photophysics and photochemistry of transition metal-organic complexes and polymers with an eye towards applications to optical sensing.

Jon D. Stewart (352) 846-0743 / LEI 102 jds2@chem.ufl.edu

Organic and Bioorganic

We are developing baker's yeast strains for chiral organic synthesis and using antibodies to solve problems in chemistry and biology.

Daniel R. Talham (352) 392-9016 / CLB 412 talham@chem.ufl.edu

Inorganic and Materials

Nanochemistry, including biominerals, biomaterials, molecular magnets and thin films.

Weihong Tan (352) 846-2410 / LEI 114 tan@chem.ufl.edu

Bioanalytical and Analytical

Development and application of optical and spectroscopic methods for ultrasensitive analysis of biologically important compounds and for molecular interaction and manipulation.

Adam S. Veige (352) 392-9844 / CLB 412 veige@chem.ufl.edu

Inorganic, Organometallic

The central theme of this research program is the synthesis and study of transition metal complexes that model or promote new industrial relevant catalysis. We aim to exploit the inherent coordination and electronic trends of the transition metals to elucidate new synthetic methodologies, activate small molecules, and further mechanistic principles

Kenneth B. Wagener (352) 392-4666 / LEI 318 wagener@chem.ufl.edu

Organic, Polymer and Materials

Polymer synthesis methodology, novel mechanisms of polymerization, organometallic catalyst structure characterization, and monomer structure/reactivity relationships are of interest to this research group.

David Wei

(352) 392-2050 / CLB 311D

wei@chem.ufl.edu

Physical

The goal of this team is to develop a vibrant and productive research program focusing on discovering novel electronic and optical properties of metallic and semiconductor nanomaterials and their implications for electronics, photonics, energy, and biomedicine.

Richard A. Yost

(352) 392-0557 / CLB 210

ryost@chem.ufl.edu

Analytical and Bioanalytical

We develop and apply mass spectrometric instrumentation (MS/MS, GC/MS, and LC/MS) to solve biomedical, environmental, and biotech problems.

Supervisory Committee

STUDENT'S NAME _____

UFID NUMBER: _____

CHAIR: _____	_____	_____
PRINTED NUMBER	SIGNATURE	UFID

MEMBER: _____	_____	_____
PRINTED NUMBER	SIGNATURE	UFID

MEMBER: _____	_____	_____
PRINTED NUMBER	SIGNATURE	UFID

MEMBER: _____	_____	_____
PRINTED NUMBER	SIGNATURE	UFID

EXTERNAL MEMBER: _____	_____	_____
PRINTED NUMBER	SIGNATURE	UFID

DEPARTMENT

FACULTY COMMITTING TO SERVE ON YOUR COMMITTEE MUST SIGN THIS SHEET

Note: Your committee should consist of two members of your qualifying division; one member from outside your qualifying division; and one external member from outside the Chemistry Department. The external member cannot hold a joint appointment with the department. The fifth member of your committee can be either from inside or outside the department.

Transfer of Courses

Transfer of equivalent Graduate Basic Courses

Name: _____

Matriculation Date: _____

Institute Previously Attended:

Date Attended: _____ Degree Granted: _____

Courses To Be Transferred

COURSE	NAME	HRS	GRADE	TEXTBOOK	UF EQUIVALENT	APPROVAL

Procedure:

1. Complete the course transfer form.
2. Obtain approval by an instructor of each requested course.
3. Attach transcript and syllabus to transfer form.
4. Submit approved form to the Chemistry Graduate Affairs office.