



UNCCHARLOTTE
HEMISTRY

Graduate Student Manual

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I. ADMISSIONS

A. Degree Students:

1. General admissions requirements are outlined in the University catalog.
2. Full standing vs. conditional standing.
 - a. An applicant meeting published admission requirements shall be admitted to full standing.
 - b. An applicant not meeting one or more published admission requirements shall be considered on an individual basis.
 - 1) If there is general agreement that the applicant has a positive predicted chance of success, based on definite tangible evidence, the student shall be admitted to full standing.
 - 2) If the student is to be admitted, but there is not such general agreement, admission is to be conditional.
 - 3) In addition to the University requirement of a TOEFL score of 220, foreign students must receive the endorsement of the Graduate Committee to be admitted to full standing.
 - 4) After removal of the conditions of admissions, the student is responsible for contacting his/her advisor. The advisor will make a recommendation to the departmental graduate committee, who will then notify the Graduate Office in writing concerning the change in the graduate student's admission status.

B. Placement Exams

1. Placement Exams are given to determine deficiencies in a student's background.
2. Graduate students, regardless of their alma mater, are required to take **ALL** placement exams immediately prior to their first and second semesters in residence.
3. All five exams must be taken the first time, but only exams in deficient areas the second.
4. All MS graduates must be non-deficient in Organic and Physical Chemistry and in 2 out of the remaining 3: Analytical, Biochemistry and Inorganic Chemistry.
5. Deficiencies can be removed by passing the relevant placement exam the second time.
6. Deficiencies can be removed by a grade **B** or better in the appropriate courses among e.g., CHEM 5111, 5121, 5133/5134/5135, 3141/3142 or NANO 8102 and 8103 as specified by the Graduate Committee.
7. Deficiencies are considered removed if a student passes (with a B or better) a 6000 level course which is relevant in subject matter, (*as determined by the Graduate Committee*), to the deficiency (e.g. CHEM 6082 for a deficiency in thermodynamics).
8. Deficiencies can be removed by mastering an assigned problem set in the area of the deficiency. The problem set option can only be used after a student has taken the placement exam twice and only by permission of the division and graduate coordinator.
9. Normally the length of time allowed for removal of deficiencies is one year or whenever the appropriate course(s) is (are) next offered.
10. The Graduate Committee may alter deficiency removal time requirements for special cases that fall outside the above timetable where progress toward the degree is being made by the student.

II. DEGREE REQUIREMENTS

A. General Semester Hour Requirements:

1. Minimum of 30 semester hours.
2. At least 15 semester hours must be taken in courses open only for graduate credit (>6XXX).
3. Graduate courses at the 5000-7000 level may be used for graduate credit. All non-chemistry courses must have prior approval of the Departmental Graduate Committee. Examples of subject matter, which would be considered favorably, are courses in Biology, Engineering, Mathematics, and/or Physics (Technical writing or Business courses will be considered on an individual basis).
4. Up to 6 hours of transfer credit from another institution or from non-degree status is allowed.

B. Specific Semester Hour Requirements:

1. Coursework: At least six semester hours which must include two of the following: CHEM 6069, 6082, 6101, 6115, 6125, 6126, 6135, 6138, 6145, 6146, 6147, 6155, 6165, or MEGR 6109 or OPTI 6105, 6205. CHEM 6060(G3) is allowed if approved by the department. NANO 8102 and 8103 are also allowed if approved.
2. At least one semester hour of seminar, CHEM 6681.
3. At least one semester hour of seminar, CHEM 6682
4. At least one hour of research and thesis credit, CHEM 6900, but up to sixteen semester hours may be taken for credit. This is a research-based degree, it is expected that most of your time will be spent in your research lab!

C. Specific Degree Requirements:

1. Coursework: A quality point average of 3.0 (A=4.0) is required in all courses taken for graduate credit after initial admission to the degree program. This means any C's must be balanced by A's. **Two C's on a student's graduate record results in dismissal from the graduate program.** One U on a student's graduate record results in automatic dismissal from the graduate program.
2. Selection of Research Advisor:
 - a. In order to aid in the selection of a research advisor, new graduate students will be provided with a handout summarizing the research interests of the graduate faculty. Additionally, each member of the graduate faculty will present a small talk discussing his/her research interests during the graduate seminar time slot each Fall.
 - b. Students should discuss possible research topics with at least three faculty members prior to choosing a research advisor.
 - c. Under normal circumstances, students must select a research director no later than the end of the first semester the student enrolls in the graduate program. The Research Advisor Selection Form (Appendix A) should be completed and returned to the Graduate Coordinator (Dr. Etkorn) once a research advisor has been selected.

3. Research:

a. General:

The M.S. degree is a research-based degree, which requires a substantial effort on a research project. The research project is chosen in conjunction with the research endeavors of one of the faculty members. Once the research project is chosen, the research director becomes the person's advisor.

After completion of the research work, the results are incorporated in the written thesis and the thesis defended before a thesis committee.

b. Thesis Committee:

After selection of a research advisor and the completion of the student's 1st mini seminar, students must submit a Petition for Topic Approval form (Appendix B) to the Graduate School. This form also requires that the chemistry department members of the Thesis Committee be chosen. Students should discuss candidates for the thesis committee with their advisors and should list a committee member as such only after asking permission of the potential committee member. This is submitted after your committee approves your topic at your 1st mini-seminar. Bring the completed form to the Graduate Coordinator for signature and leave a copy with the Assistant Graduate coordinator for your file.

The student's research advisor is the chair of the thesis committee. At least two other members of the chemistry department and at least one member from another department shall serve on the committee. The thesis committee will be appointed and hold its initial meeting with the student at the 1st mini-seminar (**by the end of second semester**).

4. Graduate Seminar:

Students will be required to present *three* seminars in order to earn the MS degree. These seminars include two "mini-seminars" (15-20 minutes long) and a Thesis Defense Seminar (35-40 minutes long). These seminars are outlined below:

a. Mini-seminar #1:

This seminar, normally given during the *second semester the student is enrolled in the program*, will consist of a 15 (minimum) to 20 (maximum) minute presentation based on the background literature of the student's thesis project as well as a brief discussion of the proposed research. A 5 - 10 minute question / answer period will follow. The audience will consist of the student's research advisor, the departmental members of the thesis committee, and perhaps graduate students from the advisor's and committee members' research groups as well as any other individuals wishing to attend. The student will write a paper, graded by his/her research advisor, and based on the seminar material. The combined presentation / paper grade will constitute the student's grade for 6681.

- Complete the Petition for Topic Approval form at the seminar, have the graduate coordinator sign it, then leave a copy with the assistant graduate coordinator and send the original to the Graduate School.
- After the paper is graded by your advisor, give a copy to the graduate coordinator.

b. If you do not complete the paper on time, you will need to request a change of grade for 6681

c. Mini-seminar #2:

The second mini-seminar should be presented during the *third* semester the student is enrolled in the program and will essentially consist of a 15-20 minute "progress report" of the research conducted thus far, plans for future research, plus a 5-10 minute question / answer period. The presentation will be made to the chemistry faculty and graduate student body. These presentations will be scheduled during the 4:00 PM time slot on Monday afternoons. The student will write a paper, graded by his/her research advisor, based on the seminar material. The combined presentation / paper grade will constitute the student's grade for 6682. There are two acceptable formats for your 2nd mini-seminar paper:

Format A: 10-20 page progress report written in thesis format

Format B: 1st draft of a journal format research paper, letter or communication

The journal paper should follow the style of a specific journal (selected by the advisor). The paper need not be publication quality; a well-written 1st draft is acceptable. Most of the paper should be written by the student (even if the final draft will have multiple authors).

- Contact the Graduate Seminar Coordinator to reserve your preferred time slot for the seminar
- Electronically mail your seminar time, place and title to the Graduate Coordinator several days before your second mini-seminar.
- The completed paper required for this grade of both mini-seminars must be submitted to the graduate studies committee and placed in the student's file.
- If you do not complete the paper on time, you will need the change of grade form for 6682.
- You should consider these papers as part of your thesis. The more you write at this point, the less daunting your thesis will seem later.
- If the student does not complete his/her mini-seminars at the appropriate time (2nd and 3rd semesters for the 1st and 2nd mini-seminars respectively) (s)he will receive a letter from the graduate coordinator advising the student that (s)he is not making timely progress through the graduate program. This letter will go in the student's file and could affect the student's funding.

d. Thesis Defense Seminar:

This will consist of a 35-40 minute seminar discussing the student's thesis. The seminar is open to the public.

- This is arranged through the Graduate seminar coordinator to whom you give the completed Thesis Defense Report (Appendix C) form and notification to the Graduate Coordinator as described above.

- a. Procedure on Thesis Draft: Once the student and his/her advisor has determined that the thesis draft is suitable for defense, the thesis draft will be submitted to the chemistry department members of the thesis committee. Guidelines for the thesis are in the Appendices.
- b. The committee members will read the thesis draft and comment on whether the work presented is suitable for defense. The committee members are to make judgements regarding the merit of the work for the degree, grammatical corrections, and substantive changes at the time the manuscript is reviewed.
- c. The committee member(s) who judge(s) the work of insufficient merit for the masters degree or who feels substantive changes must be made in order for the student to merit the degree must state so in writing to the thesis advisor and other members of the thesis committee ***within two weeks after receiving the draft.***
- d. Once the student has been informed that the committee has approved his/her thesis for defense, the student will ask the committee members for their availability and select a defense date and time. Once the date and time is determined the student should see the Graduate Coordinator to schedule the public thesis defense
- e. A public thesis defense seminar and closed room defense with the students committee members is a requirement for the degree. The Graduate Coordinator **MUST** be notified of the defense time. Electronically mail your defense time, place and thesis title to the Graduate Coordinator several days before your defense. After the successful completion of the student's defense each committee member must sign a Thesis Defense Report verifying the completion. This form will be turned into the Graduate School when the student submits their final printed copies of their thesis.

For Early-entry MS students Only

For Early–entry MS students who have been doing research that is related to their MS research AND who are giving their CHEM 4696 seminar in the semester of their admission to the MS program AND their seminar is on the research they have been doing then:

After the public seminar for 4696,

1. The student meets with graduate thesis committee for a discussion of their proposed research. This will count as their 1st mini-seminar (petition for topic approval).
2. The student's 4696 paper should be written in MS thesis format and count as their 1st mini-seminar paper. Students can register for 6681 and double count it for 4696 or they can register for both.

D. Admission to Candidacy:

Upon completion of a substantial amount of graduate work and approximately one month prior to the beginning of the semester in which the graduate student expects to complete all requisites for the degree, you should file for Admission to Candidacy. This form can be found online in your Banner Self Service. This application is a check sheet listing all course work to be offered for the degree (including transfer credit and courses in progress). See the school calendar for the exact deadline. Make sure a copy is given to either the Graduate coordinator or the assistant graduate coordinator for your file.

E. Application for the Degree: (This is typically done at the same time you file for Admission to Candidacy)

Each student should apply for his/her degree on the form supplied in their Banner Self-Service on their 49er student account no later than the filing date specified in the University calendar. The application must be accompanied by the appropriate filing fee in effect at the time of application. Degrees are awarded only at commencement exercises held at the end of the Fall and Spring semester; however, the diploma will reflect the term in which all requirements were completed.

F. Research Work:

1. No graduate research work will be allowed unless the student is enrolled in CHEM 6900. Exception may be made to individuals receiving summer teaching or research assistantship if approved by the Chair.
2. No graduate student will be permitted to do experimental work alone; at least one other person who is aware of his/her presence must be on the floor.
3. A potentially hazardous reaction should be performed only when the faculty advisor is present in the building.

G. Policy on Thesis Requirement:

1. It is expected that the student will complete the thesis defense before leaving the University.
2. The grade of IP will be given for CHEM 6682 and 6900 during your last semester in residence and will remain IP until the thesis is defended and submitted.

H. Policy on Access to the Resource Room

All graduate students who have obtained authorization are permitted to be in the facility when it is not open, i.e., staffed by a monitor. Authorization is generally given to all cases that are warranted by the nature of a student's research, and requests for authorization should be initiated by the faculty research advisor. The student's name is placed on file with Campus Police.

There is a six-year limit on completion of the requirements for the degree after enrollment as a degree candidate.

III. TEACHING ASSISTANTSHIP

A. General:

1. Duration of Assistantship: The assistantship will be made typically for a period of one year, with renewal for two more semesters given the student's satisfactory progress in our graduate program. In some cases, the assistantship may be terminated at the end of one semester, or at the end of one year for academic or teaching reasons. Normally a third year (or longer) appointment will not be made.
2. T. A. Workload: The Graduate Teaching Assistants' assignments will consist of 12 hours of assigned work. Being the primary instructor in a laboratory course will count as a six hour load for each three-hour laboratory session per week (this includes grading and office hours). When the assistant is in a secondary role, such as those in CHEM 2131 L, the assignment will count as three hours for each three-hour laboratory session per week. Grading, proctoring, monitoring in the Resource Room, and other assignments will count as one hour per hour of work per week. Your responsibilities will be kept to a minimum and you will not typically fill out the 20-hour contract. During special exam weeks your work load may increase.

B. Specifics:

1. Teaching Assistants are required to enroll in a minimum of 6 credits hours. (Beginning students normally will be required to enroll in more credit hours in order to make satisfactory progress toward the degree.) If only 6 hours are taken, at least one of these hours must be CHEM 6900.
2. Teaching Assistants (TAs) are under the direct supervision of the Chemistry 6150 instructor.
3. Teaching Assistants are expected to participate in CHEM 6150 each week (even if they have already taken the sequence). One credit for a three-hour laboratory course is consistent with credit given for other chemistry courses.

4. Graduate Students holding TA positions must be available for teaching duty assignments during the hours that laboratory courses or tutoring services are offered. Teaching Assistants are required to be available for duties between the first day of registration and the last grade report day, inclusive.
5. International TAs are expected to be able to be the primary instructor in laboratory sessions. Satisfactory progress in spoken English is the major determining factor.
6. The CHEM 6150 Instructor's Manual will be provided by the General Chemistry Laboratory Director.

IV. MISCELLANEOUS

A. Thomas Walsh Tuition Fellowships

The Thomas Walsh Tuition Fellowships are available for graduate students in the Department of Chemistry entering during the 1999-2000 academic year or later. The fellowships are to be used to cover the costs for up to 8 credit hours of tuition and fees for students enrolled in the Master's degree program in Chemistry and for students seeking an interdisciplinary Doctoral degree through a Chemistry Department faculty member. To be eligible for the fellowship, a student must be admitted in full standing by the Graduate School and be registered as a student. The student must also demonstrate satisfactory progress* towards the degree. If a student's program of study is interrupted due to various circumstances, i.e. medical, familial, he/she may be eligible for support upon returning. Students returning who have been suspended from the university for any reason are not eligible for support. The tuition fellowship is for a two-year period contingent upon the availability of funds, the student's progress towards the degree, and an evaluation by the Graduate Committee. Out-of-state students must also demonstrate progress towards seeking in-state residency status. An additional semester of support may be petitioned by the student and is subject to evaluation by the Graduate Committee and the student's Research Advisor. Approval by the Graduate Committee for a third year will depend on the availability of funds and the student's progress.

*Satisfactory progress towards the degree includes but is not limited to the student: being registered in appropriate courses, maintaining a 3.0 GPA, submitting satisfactory Graduate Student Semester Reports at the end of each semester, selecting a research advisor by the end of the first semester, completing the first mini-seminar by the end of their 2nd semester, submitting a Petition for Topic Approval form to the Graduate School, and submitting the Admission to Candidacy form after 18 credit hours have been obtained to the Graduate School.

B. Research Assistantships

Research assistantships may be available for a research project under the direction of one or more of the Chemistry Faculty. Normally, the stipend will be similar to that of a teaching assistantship. You are not eligible for a Walsh Tuition Fellowship if you are being supported, at any level, by a contract or assistantship. Your advisor should know that they should also provide for your tuition if you are going to take an RA.

C. Semester Reports

Graduate students are required to turn in semester reports. You will receive a form at the beginning of each semester (Fall and Spring), from the Graduate Coordinator. Use this form with the guidance of your advisor to register for courses. Update the form with the most current data and course selections. Submit this form to the secretaries in the main chemistry office for registration by the date provided. The report will summarize in one to two pages the courses taken, placement tests passed, research activities and other important information.

D. Office Space

Graduate students are assigned office space in 235 Burson. Graduate students are expected to meet undergraduate students in their TA office. Upon selection of a research advisor, graduate students will be assigned desk space in their research laboratory. **For safety reasons, graduate students should continue to discharge their teaching duties in their TA offices, not in their research laboratory. Do NOT tell your students they can “find” you in your research lab!**

E. Keys

Keys are issued by the Departmental Office.

1. All Graduate students receive a key to the building and another key for general access.
2. Research advisors will sign key request forms for specific research laboratories.
3. Possession of an unauthorized key or copying of a key by a non-faculty member will be considered as grounds for dismissal. Loaning a key to an unauthorized person for unsupervised use (e.g., overnight or over the weekend) will be considered a violation of this policy.
4. Any lost key must be reported immediately.
5. A person without continuing duties or who is not registered for the following Fall or Spring semester must turn in all their keys at the end of the semester.
6. All keys must be turned in before graduation. An appropriate mechanism for insuring that this is accomplished will be the responsibility of the research advisor.
7. Do NOT leave unauthorized students alone after operating hours.

F. Copy Machines

1. For copying involving the use of the Department copy card or identification number, graduate students shall get case-by-case permission from the research advisor, in the case of research, or from the full-time faculty member in charge of the course, in the case of class-related or instructional copying.
2. For copying in the library, ongoing library copying privileges will be authorized only with the permission of the research advisor.

G. Out-of-State Tuition Remission

Students holding out-of-state tuition remission are strongly encouraged to seek in-state residence status as soon as possible. Positive steps to achieve this are (1) establishing a banking account (2) registering to vote and voting in elections (3) obtaining a NC drivers license (4) registering an automobile in the state of NC, etc. The graduate committee will review each out-of-state remission case before a renewal of tuition fellowships is recommended. The Residency Manual is in the back of your Graduate Student Handbook. You could also visit their website for further information: <http://resdetermination.uncc.edu>

H. Professional Conduct

The issue of professional conduct is **extremely important** for your stay in graduate school and your entire professional life. Probably the most important guideline is what we commonly call “The Golden Rule” which undoubtedly exists in one form or the other in all cultures and religions:

“Do To Others As You Would Have Them Do To You”

We will however, address some issues of very specific concern to you. You will find very helpful discussion of science issues in the NRC Pamphlet On Being a Scientist.

1. Sexual, Racial and Religious Harassment: Derogatory comments (direct or indirect) and other actions which make a person uncomfortable on the basis of their gender, sexual orientation, race, religion or nationality are not consistent with proper professional conduct. In serious enough cases, they may be cause for academic dismissal.
2. Personal relationships between faculty and the students they instruct is forbidden by State and University Law. This applies, for example, to a relationship between a Teaching Assistant and a student in that Assistant's class. Even if a student is not in an Instructor's class, the possibility that they could be in the future is cause for extreme caution.
3. In light of items 1 and 2 it is extremely important to be even-handed with students. If, as an Instructor (or TA) you were to take an unusually helpful role with a student, this may be misinterpreted as a) unwanted affection, b) unintended affection and may be a source of embarrassment and even fear for the student (and the Instructor).
4. Cheating on examinations and other tests is forbidden.
5. Respect must be given to the apparatus, glassware, chemicals, etc. of other students and faculty. Glassware or chemicals should never be taken without the permission of the affected faculty and students. In general, the need to borrow items without permission can be avoided by good planning.

Serious or repeated violations can lead to dismissal from the research group or even from the Graduate Program.

6. WORK SAFELY. You have an ethical responsibility not to endanger others as well as not to endanger yourself.
7. Plagiarism is forbidden and can be punished by dismissal from the Graduate Program.

In its simplest form plagiarism is the copying or use of the work (data, writing, ideas) of another person(s) without indicating the source. If you copy a sentence or paragraph without referencing its source (even if you change some words around), this is plagiarism. If you take another person's idea and present it as your own (even if you have modified it a bit), this is plagiarism.

In writing a thesis, it is sometimes tempting for a student having difficulty writing to copy sentences, paragraphs and pages from other authors simply because things are stated so well and it is hard to do better. Although the student may not mean to cheat by doing this, it is plagiarism and can mean dismissal.

In general, it is best to write in your own words - this is the best way to learn - and properly reference your material. If you must take a direct quotation - try to take as little as possible (a sentence is typical, but a paragraph at most) place it in quotation marks (" ") and reference your source.

8. Be fair and honest in crediting the work of others.

In general, put yourself in the other person's shoes and ask yourself how you would feel in a given circumstance if you are not given credit for your contribution.

In general, to be an author (or co-author) on a paper or presentation the rule of thumb is that the person has done at least one of the following:

- a. Developed the idea and initiated the work.
 - b. Played a substantial role in obtaining the experimental data beyond being a mere technician.
 - c. Can present the work to a professional audience indicating a high level of scientific understanding and participation in the contribution.
9. Data Must Be Taken Honestly and Objectively and interpreted Honestly and Objectively.

If your instrument is working well, in general, you need to report all collected data. You need to assure yourself and others that the data are valid (calibrations, blanks, controls, tests for reproducibility and limits of detection). If the instrument is not working well then you should not really take data from it.

There are grounds for “tossing” data. If it becomes clear afterward that the instrument did not work well during data collection, then you can dismiss the data (all of it - not just the data you don’t like). Repair the instrument immediately so that you can take valid data.

Sometimes data taken can be “dismissed” as “outliers” if they correspond to two times or three times the standard deviation. If you choose to do this, you need to list the data and then inform your reader of your basis for not including it in your analysis.

“The only ethical principle which has made science possible is that the truth shall be told all the time. If we do not penalize false statements made in error, we open the way, don’t you see, for false statements by intention. And of course a false statement of fact, made deliberately, is the most serious crime a scientist can commit.” C.P. Snow

10. KEEP A GOOD LABORATORY NOTEBOOK

This will help your research and help you in your thesis writing. A good lab notebook should not be of the spiral type (where pages can be removed without obvious detection). Its pages should be consecutively numbered.

Although notebook styles differ from research group to research group (some are simple objective statements and procedures and observations, some may include the train of thought of the experimenter), there are certain common factors.

- a. It should accurately record what is done and observed on given dates.
- b. It should be legible to others. It is important that the book be understood by your advisor and some future researcher who might need to read the book five or fifty years into the future.
- c. It should allow an “orderly tour” through your research - clearly indicate the identities of chemicals synthesized (i.e., with clear names and/or code numbers), related charts, spectra and tables of properties.
- d. A notebook may be urgently needed in the future and in cases of patents or battles of primacy of a discovery, it may even be subpoenaed.

11. Be Alert to Unethical Practices of Others and Report Them

The purpose here is not to create a climate of fear and spying. If you were to become aware of an unethical practice by another scientist you should first try and discuss this problem non-confrontationally with that person. It may be that your fears were unjustified. However, if the problem is real and not corrected the next step is to talk with the person’s supervisor (e.g., Professor). Hopefully, the problem will be solved. Beyond that, there are no definite solutions - a report to another faculty member, the Graduate Director or the Chair if this appears to be the best approach. There are no formal directions in this unlikely case. However, do something!

12. Enjoy yourself and help others to enjoy their work. Demand as much of yourselves as you demand from others.

I. Checklist for completion of your Master's degree

Date of completion

- _____ Selection of your Research Advisor (graduate assistants must choose a research advisor no later than the end of their first semester in the program). Once you have chosen your advisor, please turn in your Research Advisor Selection Form to the Graduate or assistant graduate coordinator.
- _____ Semester Reports (each semester)
- _____
- _____
- _____
- _____ 1st mini-Seminar - background to research (2nd semester in program). Once your committee approves your topic fill out the Petition For Topic Approval form (Remember to make a copy for your student file before original goes over to the Graduate School)
- _____ 2nd mini-Seminar - work completed so far (3rd semester in program)
- _____ Admission to Candidacy Request (See the school academic calendar for the exact date). This form is online in your Banner Self-service. Remember to make a copy for your student file.
- _____ Application for Degree (same time as Admission to Candidacy form). This form is online in your Banner Self-service. Remember to make a copy for your student file.
- _____ Thesis Committee Meeting (2 weeks before term/summer of graduation) This is optional, but recommended. Show your thesis committee members the central data of your thesis with a brief justification and explanation. Can you tell your story?
- _____ Schedule a Thesis formatting appointment with the Graduate School.
- _____ Distribute thesis to committee 2-3 weeks before final defense date.
- _____ Thesis Seminar and Defense
 - Bring to Defense:
 - Thesis Defense Report form (After form is signed by all your committee members, remember to make a copy for your student file)
 - At least 3 copies of cover sheet on good paper
- _____ Submit final copy of Thesis to Graduate School

Congratulate Yourself!

UNC Charlotte Chemistry Department Master's Degree Timetable (Fall Admission)

Item	Semester	Desired Timeframe [Deadline (to remain in good standing)]
Orientation; Placement Exams	1	Week before classes start
Remove deficiencies (if any)	1-3	As soon as possible [Beginning of Semester 4]
Coursework (two 6000-level courses)	1-3	Depends on course offerings [Semester 4 with Advisor's approval]
Individual meetings with three or more potential Research Advisors	1	First six weeks [End of Semester 1]
Select Research Advisor; begin background reading	1	Mid-semester [End of Semester 1]
Begin independent laboratory research	1-2	[Start of Semester 2]
Select Thesis Committee	1-2	[Before first "Mini-Seminar"]
Present first "Mini-Seminar" (research background) to Committee	2	Depends on Committee scheduling [End of Semester 2]
SUMMER RESEARCH!		
Schedule second "Mini-Seminar" with Graduate Coordinator	2-3	Late Summer [Beginning of Semester 3]
Present second "Mini-Seminar" (research progress) to entire faculty	3	Depends on scheduling [End of Semester 3]
File for "Admission to Candidacy"	3-4	Last month of Semester 3 [See Academic Calendar for exact date]
Meet Committee members individually to discuss Thesis	4	[End of Semester 4]
SUMMER RESEARCH!		
Submit Thesis to Committee	4+	Immediately upon Advisor's approval [Two weeks before final defense]
Final Seminar and Thesis Defense	4+	Mid-July (leave time for revisions before Graduate School deadline)
Submit three copies of approved Thesis to Graduate School	4+	End of July [See Academic Calendar for exact date]

UNC Charlotte Chemistry Department Master's Degree Timetable (Spring Admission)

Item	Semester	Desired Timeframe [Deadline (to remain in good standing)]
Orientation; Placement Exams	1	Week before classes start
Remove deficiencies (if any)	1-3	As soon as possible [Beginning of Semester 4]
Coursework (two 6000-level courses)	1-3	Depends on course offerings [Semester 4 with Advisor's approval]
Individual meetings with three or more potential Research Advisors	1	First six weeks [End of Semester 1]
Select Research Advisor; begin background reading	1	Mid-semester [End of Semester 1]
Begin independent laboratory research	1+	[Start of Summer]
SUMMER RESEARCH!		
Select Thesis Committee	1-2	[Before first "Mini-Seminar"]
Present first "Mini-Seminar" (research background) to Committee	2	Depends on Committee scheduling [End of Semester 2]
Schedule second "Mini-Seminar" with Graduate Coordinator	2-3	End of Semester 2 [Beginning of Semester 3]
Present second "Mini-Seminar" (research progress) to entire faculty	3	Depends on scheduling [End of Semester 3]
File for "Admission to Candidacy"	3+	Last month of Semester 3 [See Academic Calendar for exact date]
SUMMER RESEARCH!		
Meet Committee members individually to discuss Thesis	3-4	[First month of Semester 4]
Submit Thesis to Committee	4	Immediately upon Advisor's approval [Two weeks before final defense]
Final Seminar and Thesis Defense	4	Mid-November (leave time for revisions before Graduate School deadline)
Submit three copies of approved Thesis to Graduate School	4	Beginning of December [See Academic Calendar for exact date]

**REMEMBER TO MAKE COPIES OF ALL FORMS FOR YOUR DEPARTMENTAL
STUDENT FILE BEFORE SUBMITTING TO THE GRADUATE SCHOOL**

**APPENDIX A
APPENDIX B
APPENDIX C
APPENDIX D**

- **Faculty Research Interests**
- **Selection Committee Form**
- **Petition for Topic Approval**
- **Report of Comprehensive Examination, Project, or Thesis Defense**

Originals of these forms may be obtained from
the Front Office of the Chemistry Department
or from the Graduate School Office or website

To access Graduate School forms please visit:
<http://graduateschool.uncc.edu/academics/forms.html>

RESEARCH ADVISOR SELECTION FORM

Completed form should be given to the chair of the Graduate Committee after completion.

1. After discussing potential research problems with

Dr. _____
(Signature)

Dr. _____
(Signature)

Dr. _____
(Signature)

has stated that he/she would be willing to serve as my M.S. research advisor. This is my formal notification to the Chemistry Department Graduate Committee that I,

Printed Name

elected to have Dr. _____ serve as my research and thesis advisor.

2. *Proposed research topic:

Date: _____ Initials of Student _____
Initials of Research Advisor _____

*Note: The Graduate School requires graduate students to submit a Petition for Topic Approval form after selection of a research advisor and research topic.



UNC Charlotte
Department of Chemistry
Graduate Faculty Research Interests

Brian T. Cooper, B.S. Purdue University (1989), Ph.D. University of Arizona (1994), NIH Postdoctoral Fellow, Iowa State University (1994-1997); Associate Professor.

Bioanalytical Chemistry-protein analysis by: Capillary/channel electrophoresis and capillary LC; Ultrasensitive fluorescence detection and imaging; Electrospray and MALDI mass spectrometry.

Bernadette T. Donovan-Merkert, B.S. Duke University (1983), Ph.D. University of Vermont (1988), Postdoctoral Fellow, Dartmouth College (1988-90), Postdoctoral Fellow, University of Texas at Austin (1990-92); Professor.

Electrochemically-induced reactions of inorganic and organometallic complexes. Synthetic and mechanistic organometallic chemistry. Electrochemically-promoted asymmetric hydrogenation Polymer-supported catalysis.

Markus Etzkorn, University of Freiburg / Germany: Pre-Diploma (1991), Diploma (1994), Dr. rer. nat. (1998); USC – Loker Hydrocarbon Research Institute: Postdoctoral Fellow (1999-2002), Senior Research Associate (2002-2005); Assistant Professor.

Synthetic organic chemistry: photochemical conversions, (fluorinated) cage hydrocarbons, unusual (radical) cations. New work will lead toward new materials.

Daniel S. Jones, B.S. Wake Forest University (1965), M.A. (1966), Ph.D. Harvard University (1971), Teaching-Research Associate SUNY-Buffalo (1970-71), Research Associate N.A.S. (1971-73); Associate Professor.

Determination of crystal and molecular structures by X-ray crystallographic methods.

Marcus Jones, B.A. Oxford University, UK (1997), Ph.D. Cambridge University, UK (2001), Postdoctoral Associate, National Renewable Energy Lab (2002-2005), Postdoctoral Associate, University of Toronto (2006-2009); Assistant Professor.

Spectroscopic exploration of electron transfer processes that generate separated charge carriers in nano-sized materials, with the aim of developing efficient methods for the capture and control of solar Radiation in next-generation photovoltaic's.

Joanna K. Krueger, B.A. Kalamazoo College (1985), M. A. (1988)/ Ph. D. (1991) Princeton University, NIH Postdoctoral Fellow, UT Southwestern Medical Center (1991-1994), Los Alamos National Lab (1994-1999); Associate Professor.

Visualization of biomolecular interactions, specifically between actin and its various regulatory proteins, through molecular modeling of small-angle X-ray and neutron solution scattering data with interpretation supported by an integration of numerous structural biology tools- such as selected-site mutagenesis, peptide mapping, spectroscopy (FTIR, CD, UV-VIS, FRET, MS) and available high resolution crystal and/or NMR structure information.

Craig A. Ogle, B.A. Otterbein College (1976), Ph.D. University of Arizona (1982), Research Associate, University of Lausanne (Switzerland) (1982-84); Professor.

Synthetic organic chemistry, particularly organometallics. Rapid injection NMR techniques for observation of reaction intermediates.

Jordan C. Poler, B.S. State University of New York at Brockport (1987), Ph.D. University of North Carolina at Chapel Hill (1993); Associate Professor.

Materials Chemistry, ultra-thin films, interfaces, surfaces including biological surfaces.

Daniel Rabinovich, B.Sc. Catholic University, Lima, Peru (1990), Ph.D. Columbia University (1994), Postdoctoral Research Associate, Los Alamos National Laboratory (1994-1996); Professor.

Synthetic, structural and mechanistic Inorganic and Organometallic chemistry; Bioinorganic chemistry: model compounds for metalloenzymes.

John M. Risley, B.S. Ball State University (1976), Ph.D. Purdue University (1980), Postdoctoral Research Associate, Purdue University (1980-85); Assistant Research Scientist, Purdue University (1986); Professor.

Biochemistry and Bio/physical organic chemistry; Mechanistic studies of Glycosylasparaginase. Applications of the ^{18}O -isotope effect in (particularly ^{13}C) NMR spectroscopy in various mechanistic and kinetic studies.

Tom Schmedake, B.S. Knox College (1994), Ph.D. University of Wisconsin (2000), Postdoctoral University of California at San Diego (2000-02); Assistant Professor.

Using synthetic chemistry to modify the properties of advanced materials and to study systems in which advanced porous materials incorporation photonic confinement effects are used to alter the chemical properties and reactivity of intercalated molecules.

Michael Walter, B.S. University of Dayton (2001), M.S. Portland State University (2004), Ph.D. Portland State University (2008); Postdoctoral Scholar California Institute of Technology (2008-2011); Assistant Professor.

Synthesis and charge-transfer properties of conjugated polymers and dye molecules for organic and dye-sensitized solar cells. Integration of organic photovoltaics for driving photoelectrosynthetic fuel forming reactions.

Juan Vivero-Escoto, B.S. National Polytechnic Institute of Mexico, M.S. National Polytechnic Institute of Mexico, Ph.D. Iowa State University (2009), Post-doc University of North Carolina at Chapel Hill (2012).

Synthesis of novel hybrid inorganic-organic materials for a wide variety of applications, redominantly in biomedicine, renewable energy, and catalysis.