Graduate Student
HANDBOOK

2020-2021

Department of Chemistry
University of Illinois at Chicago

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Welcome to the Chemistry Department of the University of Illinois at Chicago!

We are delighted that you have selected our Department for your graduate education, and we are confident that you will be pleased with your choice.

You are joining a Department which will afford you the opportunity to become involved in exciting and intellectually challenging research projects.

On a personal level, you are joining a family of nearly 150 graduate students from all over the world. You will form many new friendships, which will last the rest of your life. You will also develop a special relationship with at least one scientist, a faculty member whom you will select as your research advisor. This person will introduce you to the fascinating world of research. Later, he or she will become a senior colleague who will help you and share with you the joy of success as you become a scholar in your field.

The Administration of the Graduate College, the Head of the Department, the Director of Graduate Studies, the Associate Director of Graduate Studies, the Graduate Coordinator, and the entire staff of the Department want you to succeed and are ready to help you. I encourage you to contact them when you feel that you need assistance.

The years of graduate study will be the most important years in your life when you achieve the fastest rate of intellectual growth and maturation. Enjoy them and help your friends and colleagues enjoy them with you.

Wonhwa Cho, Head
Department of Chemistry

INTRODUCTION

This handbook is intended to orient you to the Department and to help you cope with your new life as a graduate student. We hope this handbook will be useful, and the Director of Graduate Studies (DGS) welcomes your comments, corrections and suggestions for improvements. This handbook supplements but does not replace the UIC Graduate Catalog which states the official rules followed by the Graduate College.

Experience shows that many students encounter situations which have not been predicted. The Graduate College is willing to consider individual petitions to accommodate specific requests that deviate from the standard guidelines. You need to consult with the Director or Associate Director of Graduate Studies (ADGS) and/or with your research advisor whenever you wish to request a change from the stated policies.

PLACEMENT EXAMINATIONS AND ADVISING

One of the requirements for an advanced degree in this Department is that students demonstrate proficiency in at least three areas of chemistry. Proficiency in an area is demonstrated either by passing the placement examination offered to all entering students or by successfully completing a lecture course at an appropriate level in that area.

Examinations. All entering students take placement examinations prepared by the American Chemical Society. Placement examinations are offered in five areas (Analytical, Biochemistry, Inorganic, Organic, and Physical). The level of the examinations is that of typical terminal college courses, which use texts such as those authored by Skoog and West for analytical chemistry, Cotton and Wilkinson for inorganic chemistry, Streitwieser and Klein for organic chemistry, Atkins for physical chemistry, and Stryer for biochemistry. The current modern textbooks used for UIC undergraduate courses include:

Organic Chemistry (2nd Edition) by David Klein

Quantitative Chemical Analysis (8th Edition) by Daniel C. Harris

Inorganic Chemistry (4th Edition) by Catherine Housecroft and Alan G. Sharpe

Physical Chemistry (10th Edition) by Peter Atkins and Julio de Paula

Principles of Instrumental Analysis (6th Edition) by Douglas A. Skoog, F. James Holler, Stanley R. Crouch

Symmetry and Spectroscopy: An Introduction to Vibrational and Electronic Spectroscopy by Harris & Bertolucci

Lehninger Principles of Biochemistry (6th Edition) by David L. Nelson and Michael M. Cox

M.S. and Ph.D. students are free to take between three and five placement examinations, but they need to show proficiency (a score of 50 percentile or greater) in only three areas.

The purpose of these examinations is to determine whether each student has an adequate undergraduate background to begin taking graduate courses immediately, or whether some review or remedial work is required.

These examinations are very important. If you do well on them, progress toward your degree will be accelerated.

Advising. Each new graduate student meets with the departmental Graduate Committee and is advised on a program of study based on individual interests, taking into account the results of the placement examinations. Until a student has selected a research advisor, he or she is required to meet with the committee in succeeding semesters during the announced advising period.

Deficiencies. A student who does not show proficiency in three areas of chemistry is considered to have deficiencies. The number of deficiencies corresponds to three minus the number of areas that a student shows proficiency. For each deficiency, a student is required to complete a lecture course at the 400 or 500-level and obtain a grade of B or better in the same subject. Either a 500-level lecture course in the area or the 400-level courses specifically mentioned below can be used to remedy a deficiency. A 500-level course taken to remedy a deficiency can also satisfy the distribution requirement for the Ph.D. degree. When the deficiency is judged severe, the student may be required to take two lower level courses. All deficiencies should be remedied by the end of the second semester. Chemical Education courses cannot be used to fulfill any deficiencies for any students seeking a Chemistry M.S. or Ph.D. No degrees will be awarded to students with outstanding deficiencies.

Courses to make up deficiencies.

Analytical

A deficiency in analytical chemistry is made up by taking CHEM 421 (for 4 credits), if an equivalent course was not taken as an undergraduate. If student did not take any instrumental analysis course prior to entering the program, then they should take CHEM 522, 524, 528, or 529.

Biochemistry

A deficiency in biochemistry will normally be remedied by taking CHEM 551. Students with no background in biochemistry will be required to take CHEM 452.

Inorganic

A deficiency in inorganic chemistry is normally remedied by taking CHEM 514.

Organic

A deficiency in organic chemistry is normally remedied by taking CHEM 432 or 532. A student with a very weak background may be required to take either one or both of the introductory courses CHEM 232 and 234.

Physical

A deficiency in physical chemistry is normally remedied by taking CHEM 444. A student with a very weak background may be required to take CHEM 342 and 346.

GENERAL RULES AND REQUIREMENTS

Grades. A grade point average (GPA) of at least 3.00 (4.00 = A) is required by the Graduate College. Students who fail to maintain this GPA are placed on probation. They must then bring up their GPA to the required value within two semesters to remain in the Graduate College. A student who is continually on and off probation will be viewed as making insufficient progress toward a degree.

Course Load. The Department of Chemistry requires Teaching and Research Assistants to register for a minimum of 16 semester hours during the Fall and Spring semesters. Students who have started their Ph.D. thesis research are expected to register for enough hours of CHEM 599 to maintain a 16-semester-hour registration. First-semester students normally register for 12 hours of lecture and seminar courses and 4-6 hours of CHEM 599 with the Director or Associate Director of Graduate Studies. Some international students who fall within a category (based on incoming TOEFL iBT Speaking and Listening scores) will be required to register for 3 credit hours of GC 509 (Advanced Pronunciation for ITAs) or GC 510 (Communication and Teaching Methods for International Teaching Assistants). The Chemistry Department semester hour requirements are more stringent than the minimum requirements of the Graduate College.

Students who register in CHEM 599 with the Director or Associate Director of Graduate Studies are expected to do the following: (a) become acquainted with the research activities of the faculty and graduate students in the Department, beyond what they learn in CHEM 500; (b) attend all departmental seminars on Tuesdays and all of those Thursday seminars in their research discipline as well as gain greater understanding of the specific and/or general topics introduced in these seminars; (c) read regularly the general interest publications, such as *Science*, *Nature, Accounts of Chemical Research*, *Scientific American*, as well as the key journals in their specialty, in addition to the *Journal of the American Chemical Society*; (d) review the files of old cumulative examinations on the Department website (http://www.chem.uic.edu) and use them as starting points to prepare for these important examinations; (e) reflect upon ways to contribute creatively to the field of chemistry. Identify areas that excite you, learn about them on your own, even if no faculty members are presently involved in them, and try to formulate a sensible research proposal.

Registration. You must register every Fall and Spring semester as long as you are in the graduate program of the Department of Chemistry. In special circumstances, particularly in cases of medical emergencies, a leave of absence can be arranged. Students who are on campus and have an appointment in the Department should be registered as full-time students in the Fall and Spring terms. Although the Graduate College does not normally require that graduate students register during the Summer semesters, first-year students should be registered in CHEM 592 (Introduction to Chemical Research Methods) for 3 semester hours of credit during the Spring semester. Although students are expected to do thesis research every Summer, second-year students and beyond need not be registered for the Summer session. However, it is mandatory that

students maintain their health insurance coverage at all times. For students who are not registered to have coverage for the Summer semesters, they must continue their Campus Care Insurance coverage by accessing the Campus Care website at https://grad.uic.edu/health-insurance-health-services/ and submitting a Summer continuation form.

DEGREE REQUIREMENTS

See the Graduate Catalog for a full description of the degree requirements. Note that *the M.S. degree is a terminal degree which is not a prerequisite to the Ph.D.* However, students who have completed their M.S. degree here are welcome to apply for admission to the Ph.D. program.

COURSE REQUIREMENTS

Ph.D. Degree

The M.S. degree from UIC is not a prerequisite for the Ph.D. degree in Chemistry.

Most graduate students in the Department have been admitted into the Ph.D. program. These students can earn and receive an M.S. degree by satisfying the requirements for that degree along the way to earning their Ph.D. degree, but this procedure is not encouraged by the Department. *The Department will not approve transfers from the Ph.D. to the M.S. program unless the Department recommends termination from the program. Note that M.S. students do not normally receive any financial support from the Department.*

A minimum of three lecture courses at the 500-level in the field of specialization (analytical, biochemistry, inorganic, organic, or physical chemistry) and one lecture course in Chemistry at the 500-level in an area outside the field of specialization are required. With departmental approval, two 400-level lecture courses, each carrying at least 3 credit hours, may replace the outside course at the 500-level. Also, all course deficiencies must be accounted for.

There is no formal limit on the number of courses that students may take to gain the breadth of knowledge that will help them in their future scientific careers. Students are encouraged to seek this knowledge both in and outside the Department. However, it is important for students to begin their research as early as possible. It is for this reason that students are advised to not invest too much valuable time in courses which are not formally required by the degree program or suggested by their research advisor. Students should regularly consult with their research advisor on curriculum matters.

Area requirements and recommendations for the Ph.D. are as follows:

Analytical Chemistry students must take a total of five 4XX/5XX courses, three of which must be CHEM 522, 524, 528, or 529 (note that Chem 526 is not currently offered). Each of these courses is typically offered every other year and they may be taken in any order. Students who did not take instrumental analysis as an undergraduate must also enroll in CHEM 421 in their first year. They can fulfill their other requirements from CHEM 444, 452, 542, 543, 551 or as suggested during advising. All students must take three semesters of the seminar course CHEM 520 in their first two years.

Biochemistry students must take three of the following courses: CHEM 551, 552, 554, 555, 557, 558, 559. They must also take four semesters of the Biochemistry Seminar, CHEM 550.

Chemical Education Research (CER) students must complete a minimum of three chemical education lecture courses from CHEM 571, CHEM 573, CHEM 574, and CHEM 579. With the approval of their advisor, students may substitute one chemical education graduate course with one of the following methods courses from outside of the department: LRSC501, ED502, or ED503. Students are also required to complete one 500-level course and are recommended to complete one additional 400- or 500-level course from another chemistry division(s). In addition, students must complete two semesters of the CER seminar, CHEM 570.

Inorganic students are recommended to take the graduate-level survey, CHEM 514. Students are also encouraged to take CHEM 517, 519, and/or 529, when offered. Students with an interest in physical aspects of inorganic chemistry should consider CHEM 542 and 543, while those with interests in organometallic synthesis should consider CHEM 532 and 531. The literature seminar, CHEM 510, must be taken in Spring.

Organic Chemistry students must take CHEM 531, 532, 533, 534, and four semesters of the Organic Seminar, CHEM 530, including two 20-minute and one 40-minute formal presentation to the class to be judged satisfactory by a minimum of three faculty members present.

Physical Chemistry students must take the sequence CHEM 542 and 543, as well as one of CHEM 541, 548, or 549. CHEM 540, a seminar-discussion course, is required of all physical chemistry students who have not completed their cumulative examinations. All students are required to take four semesters of seminar courses (CHEM 540, or when not offered, CHEM 520).

M.S. Degree

The M.S. degree is not required for obtaining a Ph.D. degree in Chemistry. However, students registered in the Ph.D. program may receive a M.S. degree if they have taken the required courses.

The M.S. degree will not be awarded to anyone with outstanding deficiencies. Full-time students who take more than three semesters to complete the M.S. degree must satisfy the cumulative examination requirement (see page 10). Part-time students must make specific arrangements with the Director or Associate Director of Graduate Studies.

Of the 32 semester hours required for the degree, 24 hours must be taken within the Chemistry Department, among which four lecture courses must be taken at the 500-level. Only 8 hours total from CHEM 592 or 598 and seminar courses can be applied toward the M.S. degree. To credit CHEM 598 toward a M.S. degree, a written thesis must be submitted and defended.

The distribution of courses leading to the M.S. degree is not specified. Therefore, the M.S. degree is awarded without mention of specialization in any area(s) of chemistry.

Registration in Courses in Other Departments

Many courses offered in other departments can enrich the education of graduate students in Chemistry and attendance in some of these may be quite beneficial. Auditing or registering under the Pass/Fail option allows students to learn about the material without the pressure of having to get an A or a B in the course. ***Note that registration for credit in all courses outside the Department of Chemistry must be approved by the Director or Associate Director of Graduate Studies, who will seek out the advice of the student's research advisor.*** Except in unusual situations, students are discouraged from attending more than one outside course a semester.

Transfer of Graduate Level Credit

After at least one semester of study in the Department of Chemistry, a student in good standing may petition to receive credit for graduate courses taken at another institution in the United States. Credit for a graduate course in any area will only be given if the student has not shown a deficiency in the placement test in that area. Regardless of the amount of transfer credit received, Ph.D. students must take at least two 500-level lecture courses in this Department. See the Director or Associate Director of Graduate Studies for further details.

The Graduate College will accept transfer credit to a degree program of up to three courses taken by a non-degree student who later enters one of our degree programs.

Transfer of graduate credit from an international university is not granted as it has proven to be impractical. After at least one semester of study in the Chemistry Department, an international student with a very strong background may petition for the Department to waive up to two of the three courses required for the Ph.D. degree in their area of specialization.

RECOMMENDED COURSES FOR FIRST-YEAR STUDENTS

All entering students must register for CHEM 500 in the Fall. This course begins as a lecture series in which all faculty discuss their research interests to facilitate your selection of a research advisor. In the latter section, there is additional instruction on good teaching assistant practices.

The following is a list of recommended first-year graduate courses in the various areas of Chemistry. The list applies primarily to Ph.D. students with no deficiencies. The courses are described in detail in the Graduate Catalog.

Analytical: Students interested in analytical chemistry should take one each of CHEM 522, 524, 528, or 529 in the Fall and Spring (each is only offered every other year). Students who have never passed an instrumental analysis course must enroll in CHEM 421 (for 4 credits) in either the Fall or Spring. The literature seminar, CHEM 520 must be taken in the Spring.

Biochemistry: Biochemistry students should take one or two courses from the following set in both the Fall and Spring semesters: CHEM 551, 552, 554, 555, 558 and 559.

Chemical Education Research (CER): CER students should take one of CHEM 571, CHEM 573, and CHEM 574 as well as CHEM 579, depending upon the courses offered. CER students are normally accepted into the Chemical Education Division after completing a M.S. in Chemistry, either at UIC or in another program and they should fulfill all of their deficiencies as soon as possible.

Inorganic: The graduate-level survey, CHEM 514, is recommended. Students are also encouraged to take CHEM 517 or CHEM 519, when offered. Students with an interest in physical aspects of inorganic chemistry should consider CHEM 542 and 543, while those with interests in organometallic synthesis should consider CHEM 532 and 531. The literature seminar, CHEM 510, must be taken in Spring.

Organic: Organic chemists must take CHEM 531, 532, 533, and 534. The literature seminar, CHEM 530, which will also be taken in subsequent years, must be taken in Spring.

Physical: Physical chemistry students should take the quantum chemistry sequence CHEM 542 and 543. The literature seminar, CHEM 520 (or 540), must be taken in Spring.

CHEM 592: All students will register for 3 hours of CHEM 592, Introduction to Chemical Research Methods, under their advisor in their second and third semesters of residence. An advisor's approved report of activities completed during registration in CHEM 592 is submitted to the Director of Graduate Studies at the conclusion of the second time the course is taken. No CHEM 592 credit may be applied toward the M.S. degree without the completion of a Director of Graduate Studies approved CHEM 592 report.

ACADEMIC INTEGRITY

Graduate TAs are often in a position to witness students' actual work in the laboratory, the discussion section, and on tests and other written work. Therefore, TA's are at the forefront of the battle to maintain academic integrity on the campus. Below are provided a summary of UIC's official guidelines for your review. The internet address on the page links to the Student Judicial Affairs page, where more detailed Student Disciplinary Procedures are listed.

What should you do if you suspect a student is not doing his or her own work in a course? In some cases, simply indicating your concerns may be enough to get the action to stop. But if you feel that the student is not responsive, you should not act alone. First, try to get another person, preferably the person in charge of the course, to be aware and to witness the behavior. Second, document very carefully what is wrong. Finally, arrange for the person in charge of the course to confront the student about the behavior.

If you feel the person in charge of the course is not sensitive to your concerns about a particular student, you can instead approach another Department official – the General Chemistry Coordinator or the Department Head.

In any case, students are expected to comply with the UIC Guidelines for Academic Integrity can be downloaded from go.uic.edu/AcademicGuidelines. *Any student shown to have engaged in academic dishonesty will be subject to the UIC Academic Disciplinary Policy*. This policy includes the following:

UIC "is committed to providing an environment in which research, learning, and scholarship can flourish and in which all endeavors are guided by academic and professional integrity. All members of the campus community… share the responsibility of *…(upholding these guidelines)*. Instances of academic misconduct by students,… shall be handled pursuant to the *Student Disciplinary Policy*."

1. "Violations of the UIC Guidelines for Academic Integrity include, but are not limited to:
    a. **Cheating**: Either intentionally using or attempting to use unauthorized materials, information, people, or study aids in any academic exercise; providing to, or receiving from another person, any kind of unauthorized assistance on any examination or assignment.
    b. **Fabricating Academic Materials**: Unauthorized reproduction, falsification, lack of attribution, or invention of any information or citations in an academic exercise.
    c. **Facilitating Academic Dishonesty/Plagiarism**: Intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise.
    d. **Offering Bribes, Favors, or Threats**: Bribing, attempting to bribe, promising favors to, or making threats against, any person, with the intention of affecting a record of a grade or evaluation of academic performance; any conspiracy with another person who then takes, or attempts to take action on behalf, or at the direction of the student.

e. **Examination by Proxy**: Taking or attempting to take an exam for someone else is a violation by both the student enrolled in the course and the proxy or substitute.
f. **Grade Tampering**: Any unauthorized change, attempt to change, or alteration of grades.
g. **Submitting Non-original Works**: Any unauthorized submission or attempt to submit any written work, written in whole or part, by someone other than the student."

2. "Other applicable policies, rules, guidelines or procedures established by the University, college, academic unit, or instructor (e.g., in a course syllabus) related to academic integrity. The following may be considered violations of those standards:
   a. **Professional Standards:** Conduct which violates any commonly recognized or generally accepted professional standards…
   b. **Fabrication of Research:** Manipulating or making up research materials, equipment or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.
   c. **Unauthorized Collaboration:** Working with others without the express permission of the instructor on *(a)* submission, whether in draft or final form, to meet course requirements (including a paper, project, take-home exam, computer program, oral presentation, or other work). Unauthorized collaboration also means using any work submitted from a previous semester of a course by another student to meet course requirements…
   d. **Abuse of Academic Materials:** Destroying, defacing, stealing,… library… or other resource(s).
   e. **Participation in Academically Dishonest Activities:** …any action taken by a student with the intention of gaining an unfair advantage over other students…
      i. Misrepresenting oneself or one's circumstances to an instructor;
      ii. Purchasing a pre-written paper(s) or assignment(s);
      iii. Selling, loaning, or otherwise distributing materials intended for the purpose of cheating, plagiarism, or other academically dishonest acts;
      iv. Destroying, altering, stealing, or forging someone else's work, library materials, laboratory materials, academic records, course syllabi, or … grades;
      v. Misrepresenting academic documents, including forgery, alteration, or knowing misuse of graded examinations, quizzes, grade lists, or official records of documents, including, but not limited to, medical excuses, transcripts…, letters of recommendation,… change of grade slip*(s)*, examinations,…"

CUMULATIVE EXAMINATIONS

General Principles

Cumulative examinations, which are offered monthly during the Fall and Spring semesters, are designed to test your knowledge of chemistry and your familiarity with the current scientific literature. They are also aimed at developing life-long habits of following important new developments in the entire field of chemistry and within your area of specialization. Students are expected to follow the current chemical literature, are required to attend at least seven Tuesday departmental seminars at 4:00 PM for each Fall and Spring semester, and Thursday seminars that are generally related to their field of research (Note: The seminar requirement was waived for the Spring 2020 semester and may continue to be waived during the coronavirus crisis.)

The exams can be expected to test general knowledge, including recent concepts that find a prominent place in the literature, and information presented at departmental seminars. A student should have a broad knowledge of the various research areas represented in the Department. However, each examination is constructed so as not to give an undue advantage to students in the author's research group. Similarly, while the exams may cover several general concepts presented in various advanced courses, they do not focus on any specific course or final examination.

Grading

The examinations are graded on a pass/fail basis. Because they require a great deal of general knowledge of chemistry and a considerable effort in keeping up with recent developments, many students find it difficult to pass these examinations during their first few tries. However, with sufficient experience and effort devoted to following the literature and seminars, and reviewing notes of the major courses in the discipline, most students eventually succeed in meeting the departmental requirements.

Experience has shown that, in taking the examinations regularly, students garner skills and insights that enable them to pass later examinations more readily. All students are strongly encouraged to start taking cumulative examinations as soon as they join the program; you cannot pass these exams if you don’t take them.

If a student receives a “fail” grade on a cumulative exam, he or she may choose to have the failed exam reevaluated. Requests for a copy of the exam and a reevaluation must be submitted in writing to the Director or Associate Director of Graduate Studies within two weeks from the date that a student is notified of the examination grade. The request should indicate the basis for the reevaluation with any supporting information. The Director/Associate Director of Graduate Studies will forward the request to the faculty member(s) who graded the exam and transmit the result of the reevaluation to the graduate student.

Requirements

All graduate students must take cumulative examinations beginning in their first semester in residence. However, analytical students follow a different requirement from their second semester.

Doctoral students are required to pass four cumulative examinations by the end of the fourth semester in residence (excluding Summers) including semesters registered as an M.S. student. Doctoral students must pass a minimum of three of the four required examinations in their chosen area of specialization. Doctoral students are also expected to pass at least one cumulative exam by the end of the second semester in residence (excluding Summers) to remain in good standing.

Students registered for the M.S. degree are expected to complete the M.S. degree requirements by the end of the third semester (excluding summers). Should they fail to meet these conditions, they must pass at least two cumulative examinations by the end of the fourth semester in residence (excluding Summers). M.S. students who transfer to the Ph.D. degree program before completion of the M.S. degree or who enter the Ph.D. degree program before completion of the M.S. degree are also required to pass four cumulative examinations by the end of their fourth semester.

Students pursuing Chemical Education Research must pass two cumulative exams offered by the Chemical Education division and two from other divisions.

The Analytical Chemistry division does not require analytical Ph.D. students to pass written cumulative exams. Rather, analytical chemistry students fulfill this requirement by taking an additional 4XX/5XX course and completing extra assignments of a committee presentation on an external topic which is included in CHEM 520 during their second year (to be completed in advance of their second year committee meeting). Nevertheless, students are strongly advised to take cumulative exams during their first semester until they are accepted by a faculty advisor who is willing to supervise them as an analytical chemistry Ph.D. student. Students who entered in Fall 2019 or Fall 2020 can choose to pass four cumulative exams instead of taking an extra course.

Procedures

During the school year, eight cumulative examinations are given in each of the areas of biochemistry, inorganic, organic and physical chemistry, and their schedule is announced every Fall. A file of past cumulative examinations is available on the Department website at https://chem.uic.edu/. Click on "Graduate Studies", then "Cumulative Exam Archive". Students should familiarize themselves with these examinations to learn about the different formats that have been employed in the past as well as the topics that have been covered.

Cumulative examinations are normally offered on the first Thursday of the month from 6:00 to 8:00 PM during the academic year. The exceptions are at the beginning and end of the semesters. In general, topics are not announced ahead of time, but some divisions of chemistry do post the topic as much as one week in advance. The identity of the authors of the exams is usually held in strict confidence until Monday of exam week.

GRADUATE RESEARCH

Selection of a Research Advisor and a Research Problem

Ph.D. candidates should select their research advisor as soon as possible, but no later than the conclusion of classes for their first semester. All students are required to begin graduate research (3 hours CHEM 592) in their second and third semesters in residence and is required to remain in good standing.

Students who enter in the Fall must participate in the faculty research seminar (CHEM 500), in which individual faculty members present a brief introduction to their current research activities and interests. In the Fall semester, students must make an appointment and discuss in detail available research problems with the faculty members in their general area of interest. This is called routing. Students are also encouraged to talk to faculty members in other areas (do not be afraid to visit with professors, they love to discuss their research!). Each student should obtain a Routing Sheet from the Associate Director of Graduate Studies who will identify the minimum number of faculty members (usually four to five) who must be consulted. Others may be added. At the conclusion of each interview, the faculty member must sign the routing sheet to certify that an interview took place. The completed Routing Sheet must be returned to the Associate Director of Graduate Studies along with the choice of the faculty member selected. The proposed research advisor will then be asked to sign a document formalizing acceptance of the student into his or her group. It is the faculty members' final decision to accept any student into his or her group.

Excluding the first semester, no graduate student may register for CHEM 592, 598 or 599 before an approved Routing Sheet has been returned to the Associate Director of Graduate Studies. No credit towards a Master's degree will be given for CHEM 592, 598 or 599 courses without completion of the Routing Sheet.

Interviews with faculty members is one of the most important activities of your professional lives and should be taken very seriously. Choosing your research advisor has both short- and long-term consequences. In the short-term, this choice will determine the actual thesis research that you will carry out, the co-workers you will interact with on a daily basis and, most importantly, the faculty member who will become your instructor for several years. You have come to UIC to learn and grow in chemistry, and most of your learning during your Ph.D. studies will come directly or indirectly through your advisor. In the long-term, your future career in research or teaching will depend less on the specific facts that you will have learned in your Ph.D. research than on how you approach a new research problem and how you deal with colleagues.

When you have decided on a field of research and have chosen a research advisor, make sure that you understand the style of work which you will have to develop. Academic research is seldom, if ever, a typical nine-to-five job. Some experiments require attention long into the night. Others,

which may depend on an instrument that runs around the clock, could require that you to start collecting data in the middle of the night. Experiments sometimes must be run on weekends or holidays. Are you willing to engage in this type of schedule? It is best to discuss these practical matters with your prospective research advisor before starting your research.

There are other important matters to consider. You should inquire about the eventual publication of your research results, as this will play a major role in influencing prospective employers when you search for a job. Will your research be part of an effort which will lead to patents and remain unpublished until these have been secured? Will you be likely to be the sole coauthor on at least one publication describing your own results by the time you start looking for a job, or will your research be part of a major project which will lead eventually to a single publication with perhaps many different coauthors, in which it will be impossible to pinpoint your own contribution?

As you try to come to a final decision concerning your choice of a research advisor, do not hesitate to discuss your concerns with more advanced graduate students, other professors, the Director/Associate Director of Graduate Studies, and/or the Department Head.

A student may register for the specific research course, CHEM 599, provided that:

a. he/she has discussed research opportunities with all the faculty members selected on the routing sheet by the Director/Associate Director of Graduate Studies,
b. the professor is willing to accept the student, and
c. the professor can financially support the student's research.

A student who is not ready to embark on thesis research immediately or who wants to explore more areas may enroll on a trial basis in a research group before committing himself/herself to a specific group and/or thesis research topic. However, some faculty will not be agreeable to such an arrangement. CHEM 598 is used for "temporary" research problems.

Registration in CHEM 598 and first registration in CHEM 592 and 599 must be approved by the research advisor and the Director of Graduate Studies, who will verify that the above requirements have been met. *Registration in CHEM 592 or 598 without approval will not be credited towards a Master's degree.*

Note that the selection of a research advisor is not an irreversible process. If you discover, preferably early on, that your initial decision was not in your best interest, you may be allowed to change it, after consultation with the Director of Graduate Studies who will guide you on how to proceed.

Research and Dissertation Committees

Every graduate student enrolled in CHEM 599 (Ph.D. Thesis Research) must have a Research Committee selected by the end of their second year in residence. The committee is composed of the graduate student's research advisor and at least two additional faculty members approved by the DGS, ADGS, or Department Head. The research advisor chairs the committee. If a student has two research advisors, only one may serve as the committee chair. It is assumed that the members of the Research Committee will also serve on the student's Dissertation Examination Committee (the Dissertation Committee, appointed by the Graduate College, is composed of four members of the Department faculty and one outside member). The Research Committee will meet with the student to review their progress toward the Ph.D. degree. The committee is designed to serve the best interests of the student by providing valuable comments at an early stage of the Ph.D. work and by ensuring that the majority of the members of the final Dissertation Examination Committee are familiar with the work, thus helping avoid "unpleasant surprises" at the thesis defense. Perhaps just as importantly, the committee members may be the only faculty members qualified to write meaningful letters of recommendation near graduation time, when students seek employment.

Although flexibility exists, the general rules for committee meetings are as follows:

- All Ph.D. candidates are required to have a committee meeting, also known as a preliminary or candidacy exam, at the end of their fourth semester in residence (excluding summer). At the meeting, the student will present the plan for their thesis work. The committee will submit a report to the Director of Graduate Studies with a recommendation that the student should or should not be advanced to candidacy for the Ph.D.

- Ph.D. candidates are additionally required to have a committee meeting at the end of their fifth year and every subsequent year until they graduate. This requirement will be waived for students who will be scheduling their Ph.D. thesis defense within six months of that year’s committee meeting.

- Additional committee meetings may be held at the request of (a) the student, (b) the advisor, or (c) the Director of Graduate Studies.

Publication of Results and Ownership of Research Materials

The Department has an expectation of publication of the work presented in a Ph.D. thesis. At minimum, this should represent three papers in journals that best match the student's research, and that are designated as first-tier in quality by one of the divisions of the Department. The student should be the first author in at least one of the three papers (primarily dependent on the student’s work and analysis). Exceptions to this guideline can be requested by the advisor, who must state in writing the rationale for proceeding with the thesis dissemination to the Graduate Committee before a defense is scheduled.

While most of the experimental work eventually leading to a thesis is obtained in the laboratory by individual graduate students, under the guidance of faculty members, the resources necessary for their work are provided by the Department of Chemistry, using funds from Federal and/or State sources. Consequently, graduate students may not publish their experimental results without the approval of their research advisor. Traditionally, the names of all the students involved in a project, as well as the advisor's name, are included in publications. There are no general rules defining when a manuscript is ready for submission for publication, or whether it is more appropriate for an advisor to submit shorter manuscripts describing the experimental results of individual graduate students, or larger papers which group the results obtained by several students and which, usually, have a greater impact on the scientific community. Such determinations are traditionally made by the research advisor.

Students may not claim ownership of any spectra, laboratory notebooks, data, or chemicals used or made during their research, which will remain the property of the University of Illinois. Furthermore, these materials must remain in the Department at all times for reference and for use in subsequent investigations.

SAFETY

Graduate students are required to follow all safety regulations, including those involving chemical and radiation safety, in both research and teaching laboratories. The Department is committed to providing a safe environment for graduate education and provides safety training for all graduate students, in collaboration with the Department's Director of Laboratories and the University's Environmental Health and Safety Office (EHSO). Every research and teaching laboratory has a safety manual, including a UIC Chemical Hygiene Plan, that students are required to become familiar with and follow. These manuals and plans have been developed by research advisors, the General Chemistry Stockroom, and/or teaching laboratory instructors/departmental staff, then approved by EHSO. Vigilance is required by students in the course of all research and teaching activities. The failure by any single student to follow safety regulations can create dangerous working conditions for many others and as a result, can result in his or her dismissal from the graduate program.

There should be a UIC Chemical Hygiene Plan available in every laboratory. For updated information regarding the policies of UIC's environment and health care safety standards, please access the website of the Environmental Health & Safety Office at https://www.ehso.uic.edu/. The following books, which are available on campus in the Science Collection on the third floor of the Richard J. Daley Library, are recommended by EHSO:

- *Bretherick's Handbook of Reactive Chemical Hazards* (Butterworths, London, 1990)
- *Prudent Practices for Handling Hazardous Chemicals in Laboratories* (National Academy Press, Washington D.C., 1981)

- *Hazardous Laboratory Chemicals Disposal Guide* (CRC Press, Boca Raton, 1991)
- *CRC Handbook of Laboratory Safety* (CRC Press, Boca Raton)

No experimental work should be conducted unless all safety aspects have been considered. You should always consult your research advisor and the literature concerning any experiment that you wish to perform. For example, you may be concerned with (a) the handling of the starting materials and/or reaction products, (b) whether a reaction may be exothermic and thus require special cooling arrangements, (c) whether large volumes of gas may be released, demanding provisions for rapid pressure relief, (d) whether reagents may be water or oxygen sensitive, requiring special purification of all solvents and reagents as well as provision for an inert atmosphere, (e) whether starting materials, reaction intermediates, or products may be explosive, requiring the use of the high pressure laboratory or other special facilities for protection, (f) whether scaling up a known procedure might create special problems, (g) whether very high vacuum must be maintained in an instrument, requiring careful manipulation of valves and knowledge of their function, (h) whether reactions involving radioactive isotopes have been carried out with non-radioactive reagents from beginning to end on the same scale, and whether you know all the guidelines relating to the handling, monitoring, and disposal of radioactive materials. Also note that chemical instrumentation can present other hazards, including (but not limited to) high electrical voltages or currents, high magnetic fields that can impact medical devices, cooling water, and/or high gas pressures.

In general, it is not advisable to work alone in the laboratory when anything even remotely hazardous is to be undertaken.

It is *never* foolish to take precautions for situations that do not actually materialize. When in doubt, it is always preferable to be on the safe side: discuss those concerns with your research advisor or the course instructor for teaching laboratories. Wear disposable gloves always when handling chemicals, wear safety glasses in the laboratory, place reaction vessels behind shields and in hoods, and do not contaminate your chemical bench or common areas in the laboratory. Open-toed shoes and shorts are never allowed in chemical laboratories: this is not a moral directive, it is driven by safety. Also, avoid storing chemicals in fume hoods and glove boxes; place them in cabinets, away from potentially hazardous operations, and minimize the number of chemicals in the work area; each additional chemical complicates the clean-up and disposal process after an incident.

Many kinds of chemical reactions and instruments are known to be dangerous and accidents in the laboratory can occur. If you feel that the environment in which you or other students must work is not safe, or if you have any doubts about this, it is your responsibility to notify your research advisor, the Director of Graduate Studies, or the Head ***immediately***.

In an emergency, you must ***immediately*** alert the University Police (5-5555) or dial the city 911 system (9-911 from a campus phone).

DEPARTMENTAL SEMINARS

The Department has a seminar program designed to present current developments in many areas of chemistry and to allow personal interaction with leading scientists from around the world. The seminars are an integral part of graduate education. You obviously will find it easier to follow seminars in your own area of specialization. Chemistry, however, is not a subject with neat divisions. The traditional areas of analytical chemistry, biochemistry, inorganic chemistry, organic chemistry or physical chemistry overlap widely. It is essential that you strive to become familiar with the research going on in fields remote from your current specialized research interest. Your ability to remain flexible and versatile and, if necessary, to switch fields will depend on your awareness and understanding of other areas of chemistry and related fields. Your interest in seminars should not cease when you have completed your set of cumulative examinations, on which knowledge of seminar topics is often assumed, but should increase as you become more expert and a professional in your own field.

Tuesday at 4:00 PM is the time for the main departmental seminar, to which speakers with the broadest appeal across all divisions of chemistry are invited. *All graduate students are required to attend at least seven Tuesday seminars for each Fall and Spring semester*. The seminar host will check and report the attendance to the DGS immediately following the seminar. This requirement will be excused for those students whose teaching hours overlap with the seminar time (see below).

The Thursday seminars at 4:00 PM are more focused on specific disciplines and while graduate student attendance is not required, it is highly encouraged for seminars in each student's discipline.

The time of the seminars at 4:00 PM on Tuesdays and Thursdays has been set aside in the timetable to minimize conflicts with other courses or obligations. Those few students whose teaching hours overlap with the Tuesday seminar time are excused and are encouraged to attend Thursday seminars.

FINANCIAL SUPPORT FOR CONTINUING GRADUATE STUDENTS

The official departmental guidelines for appointing graduate students as teaching and research assistants can be found at https://chem.uic.edu/graduate-studies/. A few summarizing comments on this topic are made here regarding financial support of graduate students:

1. Support for any first-year student s specified in the offer letter from the Department of Chemistry that you signed upon arrival at UIC.

2. Continuing Ph.D. candidate students can generally expect support in the form of teaching or research assistantships at a 50% appointment level for the first five years of their studies, provided that they (a) have been unconditionally certified by the ITA (International TA) program for oral English proficiency (for international students), (b) are not on academic probation, (c) are making

satisfactory progress (defined below) towards a Ph.D. degree under the supervision of a Chemistry faculty member, (d) have carried out teaching duties satisfactorily in previous TA appointments, and (e) have made satisfactory research progress in any prior RA appointment.

NOTE: An international student is required by Illinois law to have sufficient English skills to function efficiently as a teaching assistant. It is the student's responsibility to enroll in English language courses, as necessary, to acquire and maintain the necessary language skills.

3. There is no guarantee of support for M.S. students. Sometimes there is a shortage of teaching assistants and M.S. students might be offered a position at various levels. Often tuition and fee waivers are available for M.S. students.

4. Tuition and fee waivers are also often available for graduate students in good standing who are in their final year of the Ph.D. program and have not been granted (or have declined) an TA or RA.

5. A normal course load for graduate students is 16 hours each semester. First-year students normally enroll in 12 hours of lecture and seminar courses and 4→6 hours of CHEM 599 with the DGS or ADGS. In the second semester, students normally enroll in two lecture courses and CHEM 592 with their selected thesis advisor.

Satisfactory progress towards the M.S. degree implies that a student earns at least 12 hours of credit each semester, not be on probation, begin research in the second semester in residence, and accumulate at least 32 hours of credit by the end of the third semester in residence. At this point, the student has earned enough credit for a M.S. degree and is expected to graduate and leave after completing the thesis research.

Because the M.S. degree is not a prerequisite to the Ph.D., a student must request permission to change from the M.S. to the Ph.D. program to remain in the Department.

Satisfactory progress towards the Ph.D. degree means that the student has made up all deficiencies, is not on probation, has completed all the required coursework, has made good progress toward the cumulative examination requirement, and is making satisfactory progress in research. When in doubt, this last requirement is satisfied by a report of the student's thesis research committee. Thus, students in their third semester of residence and beyond must be enrolled in CHEM 599 and making progress in research. Students may register in CHEM 592, 598 or 599 as early as their second semester in residence and are *required* to begin research by their third semester (including summers). *All students must begin taking cumulative exams in their first semester in residence.*

Occasionally, a student in the Ph.D. program may wish to obtain a M.S. degree based on the coursework completed. This is acceptable, but it must be noted that an international student who

received an I-20 document for a Ph.D. course of studies is not considered to have completed their program upon receiving a M.S. degree. In other words, *a student in the Ph.D. program who receives an M.S. degree before completing the Ph.D. is not eligible for practical training.*

5. Students should be enrolled in courses appropriate to the chemistry graduate program. *Students may take courses outside the Chemistry Department, but only with the approval of the DGS or ADGS.* Students who take a significant number of courses in other departments or colleges such that their progress toward a degree in Chemistry is in question may have their financial support lowered or withdrawn.

Graduate students beyond the first year are expected to register in CHEM 599. Any additional courses should be at the 500-level. Advanced graduate students who wish to take a course at the 400-level (or lower) must obtain permission from the DGS or ADGS.

6. The students' progress is reviewed every semester by the DGS and the Graduate Committee. These reviews determine whether or not each student is making satisfactory progress towards a degree. Each student is also required to submit an **Annual Report** of their course and research activities. The report should be signed by the student's research advisor and submitted to the Graduate Coordinator. **It is due each year in May**.

7. Besides supervising all the assigned laboratory and quiz sections and keeping regular office hours (or serving in the Freshman Center), Teaching Assistants are expected to be well acquainted with the material of the course and to cooperate with the professor in charge of the course and/or the laboratory. Professors are asked to certify that each teaching assistant has met their responsibilities.

8. The professor in charge of a research grant or contract is referred to as the principal investigator. The principal investigator has the responsibility of assigning research assistantships on that grant and determining whether a research assistant is carrying out their duties satisfactorily.

9. Students who do not meet the requirements stipulated above should expect to have their financial support lowered or even terminated. Students who do not make satisfactory progress towards a degree may be dropped from the program. Individual decisions on the level of support are made by the DGS in consultation with the Department Head.

10. The Department expects students to complete their Ph.D. in no more than five years, and students in good standing can expect financial support for this period. *Students are encouraged to work at a pace that will ensure their graduation by the end of their fifth year.* Support beyond this period is not guaranteed as it depends on funding availability and special circumstances. Requests for additional support are considered on an individual basis.

GUIDELINES FOR THE ASSIGNMENT OF TEACHING ASSISTANTS

1. All graduate students are assumed to be competent to assist in introductory chemistry courses. An effort will be made to assign duties in more advanced courses and laboratories to students in their field of specialization.

2. Since the ability to communicate orally is of utmost importance in quiz sections (CHEM 100, General Chemistry, 200-level Organic courses, and Biochemistry), every attempt will be made to assign only students with a good command of the English language to these courses.

3. Students with severe language problems will be used during the first year preferably in areas not requiring direct contact with undergraduates, e.g., grading, assistance in storerooms, etc. They are required to register in **GC 509** or **GC 510**, every semester until their improved language ability allows them to perform normal TA duties. Financial support for non-teaching activities may be reduced below the normal 50% level. Students beyond their first year with unsatisfactory English can expect to lose part, or even all, of their TA support.

4. *Continuing students who expect to teach must submit their course and seminar schedules to the Assistant to the Head at least four weeks prior to the beginning of classes. If failure to submit a course schedule results in a conflict between classes and teaching assignments, it becomes the teaching assistant's responsibility to resolve the conflict, if necessary by dropping the course or forfeiting the teaching assistantship.*

5. New students must submit their course schedules immediately after the advising which follows the placement examinations. Initial assignments are tentative and subject to change at the last minute because the exact number of sections to be taught is unknown until registration has been completed and because new students' schedules are not available until after they take their placement examinations.

6. If the number of TA positions is insufficient to support all the qualified graduate students' requests, preference will be given to students making the best academic progress.

7. Teaching Assistants are *not allowed to take leaves of absence from their teaching duties*, even if they find other students willing to replace them, *without the prior approval of the instructor in charge of the course. All arrangements for substitutions should be made in writing to the instructor in charge of the course and copied to the DGS.*

GRADUATION

Thesis Preparation

The Graduate College has established a format for the dissertation which must be followed before it can be approved. Thesis preparation guidelines can be found at http://grad.uic.edu/thesis. It is also recommended that students read a thesis prepared by a former student to obtain a sense of what is expected. Bound Ph.D. theses from the Department of Chemistry as well as electronic copies can be found on campus in the Science Collection on the third floor of the Richard J. Daley Library. The thesis should be prepared in consultation with the student's thesis advisor who should review each major revision of the thesis prior to approving it for presentation to the other committee members. Good writing requires multiple revisions and refinement. With modern word processors, examination committees expect polished grammar, correct spelling, and, above all, scientific logic in the theses that they are asked to read. The advisor should indicate their approval by signing the Thesis Review Form. The thesis must be presented to the other committee members at least ten days prior to the scheduled defense.

The Graduate College has strict deadlines for submitting dissertations and placing your name on the graduation list. An important component is that you must declare your intention to graduate when you register in your last semester. Do not wait until the last minute.

Three things that will require your immediate attention are the:

- Committee Recommendation Form *(submit 4 weeks prior to defense)*
- Declaration of Intent to Graduate *(apply by Graduate College deadline)*
- Payment of Publishing fee *(any time prior to defense)*

Committee Recommendation Form

This form MUST be typed (click the down arrow in the top right corner to make the form a fillable pdf) and can be accessed online and downloaded to obtain your advisor's signature and the signature of either the Department Head, DGS, or Associate DGS. It should then be photocopied for your departmental file and given to the Graduate College directly or via the Graduate Coordinator of the Department of Chemistry. It must be submitted no later than four weeks before the date of your thesis defense. You and your research advisor propose the names of the five members who will serve on your committee, the Head must approve your choices, but it is the Graduate College which formally appoints the Committee and releases the forms to be signed upon completion of the oral defense. One committee member must be from outside the department. If this person is not a member of the Graduate College, their Curriculum Vitae must be submitted with your form. In this case, there may be a delay in getting the approval of the Graduate College. This is why it is very important not to wait until the last minute to request the appointment of your Dissertation Committee.

Declaration of Intent to Graduate

To declare your intention to graduate for a certain term, you must complete the online *Intent to Graduate*. Students should go to the University portal, https://my.uic.edu, and log in. In the "Academics" tab of the student part of the portal (you may also have staff and faculty sections if you work on campus and/or are a teaching assistant) go to the "Records" sub-tab. Choose links, and then the link to Declare your Intent to Graduate. Read the information carefully, and follow the instructions given. Be sure to review all the information that you enter to confirm that it is correct before you submit it. Once you submit the *Intent to Graduate,* a confirmation will appear on the screen, which you may print. You need to wait for that confirmation to appear, as that is the only notice you receive of successful submission. If you submit an *Intent to Graduate* successfully and you later try to submit another one for the same term, the system will not allow you to do so. You will also be able to submit a diploma mailing address. Diplomas are typically mailed two or more months after the end of the term of graduation.

There are strict, non-negotiable deadlines posted in our departmental mailroom and in the office of the Graduate Coordinator for filing for graduation and submitting your defended and approved thesis to the Graduate College. If you miss these deadlines, you will not graduate at the end of the semester. Please advise the Graduate Coordinator of your intention to graduate.

Publishing Fee

This is a service fee ($37.50) charged by University Microfilms International, which publishes doctoral dissertations. It includes the $25 ProQuest fee and a $12.50 library publishing fee. Use the following University-sanctioned secure link to pay the publishing fee online: https://quikpayasp.com/uillinois/qp/login/loginDispatcher.do. American Express, Discover, Mastercard, and Visa are accepted. There is no additional charge to pay by credit card.

Before agreeing to issue your degree, the Graduate College asks that our Director of Graduate Studies checks that all the departmental requirements have been met.

It is now possible to submit your defended and corrected thesis to the Graduate College online by uploading your thesis as a pdf file from the Graduate College website. Please access the following websites for current information regarding ETD (Electronic Thesis and Dissertation) submission and information regarding your responsibilities as well as the responsibilities of your Committee Chairperson and the Department of Chemistry: http://grad.uic.edu/electronic-thesisdissertation and http://grad.uic.edu/etd-responsibilities-student-thesis-chair-program. Your Publishing Agreement Form will still be required in paper format to be submitted in one manila envelope.

Note that you must be registered during the semester in which you defend your thesis. You do not need to be registered for the following semester if you defend your thesis between semesters. You must file for graduation by the posted deadline of the Graduate College for the semester in which

you choose to graduate, which is typically the semester in which you defend (or the following semester if you defend between semesters). You will receive the degree at the end of that semester. You will receive your diploma approximately two months after the end of the semester in which you graduate.

If you have any questions regarding the Thesis Manual, forms, or requirements relative to your thesis, the submission of your thesis, and graduation, contact Dr. James Kollenbroich (jkolle1@uic.edu) who is the Thesis/Dissertation Specialist in the Graduate College.

Most students spend about 4-5 years in the department to complete their course requirements, their cumulative examinations, and their research. The end of their stay, particularly the last few weeks, can be quite stressful. They must worry about the next step in their professional career while taking care of the last requirements in the department and in the Graduate College, such as completing the thesis, reserving a room for the oral presentation, publicizing the oral presentation, submitting the approved thesis, and asking the DGS and/or the Head of the Department to sign a variety of forms. To assist you, the Graduate Coordinator will do all the above except for course, complete and submit your thesis. For them to do this, they will need:

- the abstract or summary of your thesis via e-mail attachment (preferably as a Microsoft Word document) and
- the date and time selected for your public presentation and the oral defense.

The combination of your advanced planning and this procedure will ensure a quality consistency in the steps to the thesis defense and help to relieve you of last-minute stress.

DISMISSAL FROM THE PROGRAM

The vast majority of the students who join our program leave it either because they have completed their degree requirements or because of compelling personal reasons. Occasionally, unfortunately, some students are dismissed from the Program. The most common reasons are:

a) **Poor academic performance (Part 1).** The Graduate College requires all students to maintain a 3.0 GPA or B average. Students falling below this level are placed on probation and allowed additional time to raise their GPA to the required value. Should they fail to do so, they are dismissed by the Graduate College.

b) **Poor academic performance (Part 2).** Some students are admitted on conditional status. This means that they must meet specific conditions to gain full status. These conditions are spelled out in the letter of admission. Failure to meet the terms of the conditional admission leads to dismissal.

c) **Failure to pass the required number of cumulative examinations** within the prescribed time.

d) **Poor research performance.** As stated in the letter of admission and in all the documents describing the Chemistry Program, research is the centerpiece of the graduate education leading to the Ph.D. degree. Failure to make satisfactory progress in research is ground for dismissal from the Program. Please note that satisfactory progress is defined here in terms of research efforts as judged by the research advisor, not in terms of experimental results. A student who fails to come to the laboratory, who does not work diligently, who does not want to use appropriate and safe experimental techniques, who damages equipment, or who does not respect the constraints placed upon individual students by the needs of the other graduate students can expect to receive an Unsatisfactory grade in the specific research course (CHEM 599) from the research advisor. The Director of Graduate Studies will review all cases of students receiving Unsatisfactory grades. If a student's performance has been substandard for more than one semester and/or the performance in a given semester is sufficiently poor, the Director of Graduate Studies will recommend to the Graduate College that the student be dismissed from the Program.

e) **Failure to make adequate progress toward a degree.** All the previous pages have suggested normal timelines to move through the various stages toward a Ph.D. To make an original contribution in science, the work must be timely and relevant. The Ph.D. in Chemistry is not an open-ended process, and the Department will judge all students by the timeliness as well as the quality of their overall academic work.

f) **Failure to follow established safety regulations.**

It is important to note that, occasionally, a graduate student may not be satisfied with the initial choice of advisor or project. The Director of Graduate Studies must be consulted immediately, preferably early during the first semester of research. There is no penalty associated with the first change of research advisor, but additional changes are not recommended. When requested, these changes are reviewed by the Graduate Committee, which passes judgment on whether they should be permitted.

GENERAL INFORMATION

The Graduate Coordinator

The Graduate Coordinator has dedicated a great deal of time to assisting you and other graduate students directly or indirectly before you arrived. Now that you are here, Graduate Coordinator is your prime source of information and directions and will give you advice on how to find a solution to your specific problems. Furthermore, she possesses all the documents necessary to communicate with the Graduate College, which accepts petitions on a variety of topics. All these petitions must be approved by your advisor and/or the Director of Graduate Studies before they are submitted to the Graduate College.

Director of Laboratories

Initially, you will probably find that most questions dealing with academic matters can be answered by the Graduate Coordinator, the Director or Associate Director of Graduate Studies. You are likely to discover, however, that other persons in the Department are also very important. The Director of Laboratories (DL), Dr. Randy Puchalski, controls many matters that affect your daily life. The DL deals with maintenance and construction matters for the Department. He interacts with the Facilities Management personnel and performs tasks which are essential for our teaching assistant space and the operation of our laboratories. Departmental keys are also distributed through Dr. Puchalski. His office is in room 4507 SES.

Associate Director of Administration

In addition to her administrative responsibilities to the Head of the Department of Chemistry, Ms. Jen Kazin is responsible for your employment contract as a Teaching or Research Assistant. Any matter related to your employment status, salary, or tuition waiver should be directed to Jen. Her office is in Room 4505 SES.

Housing

The University of Illinois at Chicago has new modern residence halls near the Department. Some have meals served in an adjoining cafeteria while others offer mini apartments with shared bath and cooking facilities. A wide range of recreational and social opportunities are available within the residential complex and in the Student Recreation Facility at 737 South Halsted Street. Unfortunately, since most of the students residing in these dorms are undergraduate, the services offered are geared to their needs. In previous years, these dorms were closed when the undergraduate students were on vacation, particularly during the break at the end of the Fall semester and during Summer, when graduate students invest most of their time in their research. Ask specific questions before signing any contract and *get all the specifics in writing*.

Rooms without meal plans are available on the West and South sides of the campus. A free shuttle bus connects the East and West side of the campus. Most graduate students living on campus find this arrangement preferable. The West Side has more graduate student residents. For further information, contact: Campus Housing, 818 S. Wolcott, Chicago, Illinois 60612, Tel: (312) 355-6300. Note that they are usually very reluctant to return any deposits, should you decide not to use their services after making initial contacts.

If a University Residence Hall is not for you (e.g., the University does not have suitable facilities for couples), try the UIC Housing Service Office. Notices of apartment vacancies, roommates wanted, etc., are posted on the bulletin board on the first floor near the main entrance of the Student Center East (SCE). Students are encouraged to check the local papers, particularly the *Chicago Tribune*, the *Sun-Times*, and the *Reader* (which is free and appears on Thursday afternoons) for further housing information.

Transportation

The University of Illinois at Chicago is well served by public transportation. However, a free shuttle bus operates between the West (medical) side of the campus and the east side of campus. This Intercampus Shuttle (white bus with a red and white sign) stops on Taylor Street at the main entrance of SES. To use it you must show your University I.D. card. Information regarding the bus routes and schedules can be found at http://fmweb.fm.uic.edu/Trans/intracampus.aspx .

If you drive to school, you can park in one of the several university parking lots for a fee of $361 per semester for the Fall and Spring ($207 for the Summer); see here for the latest rates. You would pay for this standard parking at the Parking Office in Room 2620 SSB (312-413-9020) and insert your university I.D. card in the mechanical valet to enter. Also, be sure that you carry proper insurance for your car; it is mandatory in Illinois.

The Chicago Transit Authority (CTA) has a rapid-transit station just north of the campus, on the median strip of the Eisenhower Expressway. The trains are on the Congress-O'Hare (Blue) line,

and the CTA boasts that they can have you in downtown Chicago in three minutes. They can take you to more distant parts of town, most conveniently north, south, and west. The CTA is the most reliable way to go to O'Hare Airport. The "orange" line (change trains at State and Lake Streets) also allows easy access to Midway Airport. There are four bus routes that serve the campus, on Harrison, Halsted, and Roosevelt Road.

Many commuter trains stop at Ogilive Transportation Center (Clinton at 500 W. Madison) and Union Station (Clinton and Jackson). Both stations are within walking distance to the campus. It is also possible to take the subway from the Clinton Street subway stop and get off at the next stop, which is UIC/Halsted. Information regarding UIC's commuter bus services can be found at http://transportation.uic.edu/buses-and-shuttles/. Finally, there is a Greyhound bus station on Harrison Street, just two blocks east of Halsted Street.

Red Car Service

The "Red Car" is a safety escort service available to University faculty, staff, students, hospital patients or their visitors, and other authorized individuals. The "Red Car" operates from 11:00 PM to 7:00 AM seven days per week (including holidays) within the following general boundaries: Halsted Street on the east, Western Avenue on the west, Eisenhower Expressway on the north, and Roosevelt Road on the south. Services are also extended to include the Chemical Engineering Building and the Access Living location at 614 W. Roosevelt Road. Their website is https://police.uic.edu/Red%20Car%20Service.htm. General inquiries may be submitted by e-mail to Rides@uic.edu. To request Red Car service, call (312) 996-6800. To ride in a Red Car, you will need to present your university I.D. card. Escort vehicles are radio equipped and dispatched by University Police. After-hours police escort service is available by calling the University Police at 996-2830. A patrol car unit will be assigned to observe your route of travel to your vehicle or to public transit. The Student Patrol may also provide escort service on campus.

Libraries

The University is fortunate in having excellent library collections and a very supportive staff. The Science Collection, located on the third floor of the Richard J. Daley Library on the east side of campus, has holdings in Biology, Chemistry, Geology, and Physics. The most recent volumes of most scientific journals are available in the Science Collection, however, to accommodate the availability of a larger number of journals and books, many volumes can be found only online by accessing https://library.uic.edu/. Journals with heavy emphasis on biochemical or health topics, and those dealing with natural products are likely to be housed in the Library of the Health Sciences, located on the West side of campus at 1750 Polk St. This is a stop on the Campus Shuttle bus route. This library, which is quite spacious and has comfortable seats, is a pleasant place for studying.

Many new issues of journals with heavy readership on both sides of the campus are displayed successively in both libraries (there are no duplicate subscriptions). If you are in search of a recent issue of such a journal and do not find it in the library where it is usually shelved, inquire whether it might presently be in the other library. The Main Library on the East Campus (Richard J. Daley Library) contains Math and Engineering books and journals as well as the campus Humanities and Social Science holdings. An efficient interlibrary loan service with the Urbana collection and other area libraries makes even the most obscure publications readily available. They may be requested at the Circulation Desk at the interlibrary loan desk in the Main Library, or directly from an appropriate computer terminal either in a library or in the Department.

Disability Accommodations

Students with disabilities who require accommodations for access and participation in this course must register with the Office of Disability Services (ODS). Please contact ODS at (312) 413-2183 (voice) or (312) 413-0123 (TTY). Notification of this issue to the professor must occur within the first week of the course.

Religious Holidays

Students who wish to observe their religious holidays must notify the ADGS by the tenth day of the term that they will be absent unless their religious holiday is observed on or before the tenth day. In such cases, you must notify the ADGS at least five days in advance of the date when he or she will be absent. Properly submitted requests will be honored.

Grievance Procedures

UIC is committed to the most fundamental principles of academic freedom, equality of opportunity, and human dignity involving students and employees. Freedom from discrimination is a foundation for all decision making at UIC. Students are encouraged to study the University's "Nondiscrimination Statement". Students are also urged to read the document "Public Formal Grievance Procedures". Information on these policies and procedures is available on the University web pages of the Office of Access and Equity: www.uic.edu/depts/oae.

Health Services, Counseling, & Insurance

All students attending UIC must have insurance coverage. The graduate student health insurance fee for the Fall 2018 and Spring 2019 semesters is $570 for each semester. (Summer is approximately $377). Check here and here for latest rates. This is for coverage by UIC's Campus Care plan. Please access https://campuscare.uic.edu/ for complete Campus Care insurance information.

Outpatient services can be handled at either the Family Medicine Center **Family Medicine Center University Village** at 722 W. Maxwell St, 2nd Floor, Chicago, IL 60607; Ph: 312-996-2901 **(**for appointments**)**, or **Family Medicine Center Outpatient Care Center** at 1801 W. Taylor St. 2nd floor Ste 2A, Chicago, IL 60612; Ph: 312-996-6816 **(**for appointments**)**. For detailed information

regarding UIC's health service coverage, please check their website which is https://chicago.medicine.uic.edu/departments/academic-departments/family-medicine/. If you already have insurance coverage through a parent or spouse or your own personal insurance, you may waive UIC's insurance. Waiver forms may only be submitted electronically by accessing https://campuscare.uic.edu/. Be prepared to present proof of any alternative insurance that you may have. It is important that it is equal to the coverage offered by UIC.

The Student Counseling Service, Room 2010, Student Services Building (SSB), provides personal counseling and various specialized services–including educational and vocational counseling–for all students. Relatively few students make it through undergraduate and graduate school without suffering an emotional problem at some time. The Counseling Service is there to help you at such a time. Your tuition helps pay for it, and the Chemistry Department urges you to use it if you need it. The Speech, Language, and Hearing Clinic, located in Room 2075 SSB, provides free services to students with speech and language problems.

The Graduate Assistant Dental Program (GADP) is a dental benefit plan that provides coverage for preventative care and treatment for eligible participants. Appointments can be scheduled by calling the Faculty Dental Practice at (312) 355-1401. Further information on eligibility and benefits can be found at https://www.hr.uic.edu/labor_relations/labor_agreements/ga_dental_and_vision/.

Athletic and Recreational Activities

The Student Center East (SCE) has an art gallery, a crafts workshop, a music lounge and television rooms, as well as facilities for table tennis, bowling, and other activities. Across the street at 737 S. Halsted Street is the new Student Recreational Facility (SRF) which has a huge array of fitness equipment, gyms, a track, handball courts, a rock-climbing wall, pool, Jacuzzi, and a lazy river. For information on recreational activities call 312-413-5150 or visit their website at http://recreation.uic.edu/facilities/facility_srf/.

If you are interested in more organized activities, there are intramural programs in badminton, basketball, bowling, fencing, handball, racquetball, softball, squash, swimming, tennis, touch football, track, volleyball, and water polo. Information is available from the Student Recreational Facility. The Intercollegiate Athletic Program is in Division I, does well in various sports, and wishes to have your support.

Bookstores

The main University bookstore is on the ground floor of the SCE building. There is also a small shop in the basement of the Behavioral Sciences Building (BSB). Medically oriented books can be obtained at the bookstore at the Health Sciences Illini Union. General scientific books are also available in a variety of city bookshops. It is usually cheaper to order books directly from the publishers.

Miscellaneous Useful Information

Check Cashing

Check cashing is provided by Credit Union 1 for all students, faculty, and staff. Also, automated teller machines (ATMs) are everywhere in town, as well as in University Hall and in SCE on the East side of the campus. They provide a convenient way to secure cash once you have established an account. The UIC Bookstore in SCE sells postage stamps, tickets for Great America amusement park, and discounted movie tickets.

Day Care

The UIC Children's Center, located at 1919 W. Taylor Street (Room 128), provides day care for children (ages 3-6 years) of students, faculty and staff members, for a subsidized fee. For further information, visit their website at http://childrenscenter.uic.edu/

Duplicating

There are departmental photocopying machines in the Room 4500 SES. The machines should be used only for teaching and research activities. Personal use and duplication of whole books is not allowed.

ID Card

All students must obtain a UIC photo ID card. The ID Card Office is in Room 1790 SSB and is open Monday-Friday from 8:30 AM to 5:00 PM. The ID card is free, but if you lose your card, the replacement cost is $20.

Interest Groups

Graduate Student Council Representative
Chemistry Graduate Student Association Executive Committee
Graduate Employee Organization (Graduate Student Union)

Lost & Found

Second floor, north wing of Student Center East. Also, you should check with the Chemistry Department Office personnel.

Notary Public

Shirley Simmons in the accounting section of the Chemistry Office.

Office Supplies

Office supplies necessary for fulfilling teaching duties are available in the Chemistry Dept. front office (room 4500 SES).

CHECKLIST TO Ph.D. GRADUATION

FALL 2020

- ☐ Take placement examinations.
- ☐ Receive advising by the Graduate Committee.
- ☐ Sign up for the courses recommended by the Graduate Committee. Deficiencies, if any, are usually made up during this semester.
- ☐ Attend CHEM 500, the Faculty Research series.
- ☐ Take cumulative examinations.
- ☐ Begin and complete routing and then join a research group.

SPRING 2021

- ☐ Register for 3 hours of CHEM 592.
- ☐ Continue taking required courses. Make up any remaining deficiencies. *Remember that you need to successfully complete at least three 500-level lecture courses in your area and one outside your area.*
- ☐ Sign up for seminar course in your area, if appropriate.
- ☐ Continue taking cumulative examinations.
- ☐ Prepare and submit your annual report by the deadline in May.

SUMMER 2021

- ☐ You must have joined a research group.
- ☐ Sign up for 4 hours of CHEM 592 and 12 hours of CHEM 599, unless otherwise directed by your thesis advisor.

FALL 2021

- ☐ Sign up for courses as directed by your research advisor.
- ☐ Sign up for the seminar in your area, if appropriate.
- ☐ Keep taking cumulative examinations until you have passed four.

SPRING 2022

- ☐ Sign up for courses as directed by your research advisor (remember that you must successfully complete at least three 500-level lecture courses in your area and one course outside your area).
- ☐ Sign up for the seminar in your area, if appropriate.
- ☐ You must have passed all four of the required cumulative exams by the end of this semester.
- ☐ Prepare and submit your annual report by the deadline in May.
- ☐ Prepare a presentation of your research and meet with your Research Committee.

SUMMER 2022

- ☐ Sign up for 16 hours of CHEM 599, unless otherwise directed by your thesis advisor.

FALL 2022

- ☐ Sign up for courses as directed by your research advisor.
- ☐ Sign up for the seminar in your area, if appropriate.

SPRING 2023

- ☐ Sign up for courses as directed by your research advisor.
- ☐ Sign up for the seminar in your area, if appropriate.
- ☐ Prepare and submit your annual report by the deadline in May.

SUMMER 2023 up to SPRING 2025

- ☐ Complete thesis research! The department does not provide financial support for longer than five years.
- ☐ Consult with the Graduate Coordinator about the paperwork required when you are within one semester of graduation.

Important Contacts

Graduate Coordinator. Please contact Ms. Gloria Torres, gtorre33@uic.edu, (312) 996-3161

Prof. Wonhwa Cho, Department Head, wcho@uic.edu, (312) 413-2454

Prof. Daesung Lee, Director of Graduate Studies, dsunglee@uic.edu, (312) 996-5189

Prof. Ksenija Glusac, Associate Director of Graduate Studies, lhanley@uic.edu, (312) 413-8867

Prof. George Papadantonakis, Assistant Head and Acting Director of Undergraduate Studies, gpapad3@uic.edu, (312) 996-2790

Dr. Rita Hatfield, CHEM 122 Discussion Coordinator, ritahat@uic.edu, (312) 413-1516

Dr. Greg Jursich, General Chemistry (CHEM 123/125) Coordinator, jursich@uic.edu

Dr. Randy Puchalski, Director of Laboratories, rfp@uic.edu, (312) 996-996-5823

Mr. Tom Frueh, Safety Officer, tfrueh2@uic.edu, (312) 413-2456

Ms. Loredana Huma, Director of Undergraduate Labs, lhuma2@uic.edu, (312) 996-2416

Ms. Jennifer Kazin, Assoc. Director of Administration, jkazin@uic.edu, (312) 996-9590

For Faculty Directory - see Chemistry Department website

Chemistry Department Office, (312) 996-3161

Chemistry Undergraduate Laboratory Stockroom, (312) 996-2987