



CHEMISTRY

at Illinois

ESTABLISHED 1868

GRADUATE MANUAL

DEPARTMENT OF CHEMISTRY

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

<https://chemistry.illinois.edu/grad-manual>

Fall 2017

The policies in this manual were applicable at the time the manual was created. Other policies not explicitly included in this manual may also be applicable. Should departmental requirements be revised, continuing students may choose whether they wish to fulfill the requirements in effect when they began graduate study or the revised requirements. In a few cases, however, specific policies may be superseded for all students by later decisions or by other documents, such as official offer letters. Please consult the department office regarding all detailed policies and requirements.

Fall 2017
Graduate Manual
Department of Chemistry
University of Illinois at Urbana-Champaign
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Urbana, IL 61801

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Welcome and Overview of the Ph.D. Program

Welcome to the Department of Chemistry at the University of Illinois! This Graduate Manual has been prepared to outline the general policies that govern the graduate program of the department. With this knowledge, you can adapt the program to fit your individual needs and ensure a more successful graduate experience. Below is a brief chronological summary of the program requirements.

Upon arrival: During a two-week orientation program, incoming graduate students are introduced to the program, to the Department of Chemistry, and to the University of Illinois. The program includes a campus teaching symposium for all first-year teaching assistants. Registration exams are given in the inorganic, materials, and physical areas. Each student's results are evaluated with a faculty advisor who will help the student register for the correct courses for their first semester of study.

First year: Graduate students begin to take a total of twenty hours of graduate-level courses, not including a literature seminar course; the courses depend upon their chosen area of specialization. Each student will also teach in their first year in independent positions that allow the kind of discretion essential for effective learning. Each student will choose a thesis advisor during the first semester. We require our students to discuss possible research projects in depth with several faculty members before selecting an advisor.

Second year: Students are generally supported by research assistantships during their first summer and continue in their research during the academic year. During the second year, they complete their coursework and teaching requirements and present a literature seminar.

Third year: Students will concentrate on their research. Before the end of the fifth semester, a written report of research progress will be presented to a thesis committee (chosen by each student in consultation with their advisor) as part of the preliminary exam. This exam involves an oral presentation designed to provide a perspective on the student's progress, which is helpful in focusing on completion of the thesis.

Final years: Before the end of the seventh or eighth semester, students will write an original research proposal. Research will be progressing through its final stages. When the research project has reached completion, a thesis is written, and a final open seminar on the research is presented. Ph.D. degrees in chemistry typically take a little over five years to complete. The final year is also the beginning of the interviewing process to find employment or to investigate postdoctoral opportunities. The staff of the Career Counseling and Placement Services Office of the School of Chemical Sciences will be happy to assist in resume production and interview preparation.

The University of Illinois has a long tradition of excellence in chemistry and in the development of Ph.D. chemists. Many of our students have become preeminent in their fields, and we are committed to continuing this tradition. We wish you every success in your endeavors!

Specific questions concerning these policies and programs should be addressed to the department's Graduate Program Coordinator.

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1. Degrees Offered

Through the Graduate College of the University of Illinois, the Department of Chemistry offers the following degrees:

1. Doctor of Philosophy in Chemistry
2. Doctor of Philosophy in Chemical Physics
3. Joint M.D./Ph.D. in Chemistry
4. Master of Science in Chemistry
5. Master of Science in the Teaching of Chemistry
6. Joint J.D./M.S. in Chemistry

Graduate students in some of the degree programs above may also elect to complete the following “add-on” specializations, options, and certificates:

1. Ph.D. Concentration in the Teaching of Chemistry
2. Ph.D. Concentration in Astrochemistry
3. Ph.D. Option in Computational Science and Engineering (CSE)

1.1 Doctor of Philosophy in Chemistry

Doctoral programs are offered in six technical specialties (areas): analytical chemistry, chemical biology, inorganic chemistry, materials chemistry, organic chemistry, and physical chemistry. Students typically complete the degree requirements in approximately five years. A total of 96 hours including thesis credit is required; details on formal coursework requirements are provided in Section 5. Students also are required to give a literature seminar, pass an oral preliminary examination, write and defend an independent research proposal, and submit a dissertation (thesis) based on original research, which is defended at an oral final examination.

There also are “add-on” specializations as well as various other options and certificates, as described in Sections 1.3 and 1.6-1.10.

1.2 Doctor of Philosophy in Chemical Physics

Fundamental research on properties of molecular and solid-state systems often requires an understanding of chemistry, physics, and mathematics that can best be obtained by training in more than one department. A Chemical Physics program leading to the Doctor of Philosophy degree makes it possible for students to gain the necessary background and perform original research in this interdisciplinary field of science. Upon fulfilling the program requirements listed below, students receive a Ph.D. in Chemical Physics. There also are “add-on” specializations as well as various other options and certificates as described in Sections 1.6-1.10. For further information, contact Prof. Prashant Jain, 217-333-3417, jain@illinois.edu.

1.3 Joint Degree Program – M.D./Ph.D. in Chemistry

In past years, a joint M.D./Ph.D. program (called the Medical Scholars Program, or MSP) has been available for those wishing to combine medical training with doctoral research in chemistry. Because of the changes that are taking place regarding the creation of a new College

of Medicine on the Urbana campus, MSP admissions have been temporarily suspended until the application window for the entering class of 2018.

The primary objective of the M.D./Ph.D. program is to train students for careers in academic medicine and research. To enter the M.D./Ph.D. program, students must apply to and be accepted by both the College of Medicine and the Department of Chemistry.

Students usually declare a clinically related theme by the end of their second year, and they will have both a thematic and departmental affiliation. M.D./Ph.D. students have multiple advisors. The thesis advisor oversees the student's particular research project. Advisors from the medical school provide guidance and advice about medical practice issues related to the student's career and issues unique to future physician-scientists. All advisors are selected by the student.

Typically, students begin medical school studies and chemistry coursework during the first two years of the program. Students are expected to fulfill all the degree requirements of both the College of Medicine and the Department of Chemistry. Credit toward both degrees is given for the same coursework, and repetition is avoided. An intensive period of original research follows, usually for three years, under the direction of a member of the graduate faculty appointed to the M.D./Ph.D. Training Program. Students in this phase of the program work side-by-side with Ph.D. students in the basic sciences and meet all of the necessary departmental requirements for the Ph.D. degree.

For the final two years of the program, the M.D./Ph.D. candidates work with other medical students in clinical clerkships in a medical specialty area. Both the M.D. and Ph.D. degrees are awarded at graduation. The time limit for completing the Ph.D. is ten years, or nine years if the student has received a master's degree elsewhere. M.D./Ph.D. students receive a tuition waiver and salary for each year of the Chemistry graduate program as long as the student continues to make satisfactory progress.

There also are "add-on" specializations as well as various other options and certificates as described in Sections 1.6-1.10.

1.4 Master of Science in Chemistry

There are two tracks leading to the Master of Science in Chemistry. Currently the department does not directly admit students seeking the master's degree via either track. The coursework master's degree program is designed to be completed in one year of full-time study by students entering without deficiencies. For this track, 32 hours of formal coursework is required. The thesis master's degree program requires 20 hours of formal coursework plus the submission of a thesis based on original research; the research component usually takes an additional year. Details of the coursework requirements for both tracks are provided in Section 4.3.

1.5 Master of Science in the Teaching of Chemistry

The Master of Science in the Teaching of Chemistry (MSTC) at University of Illinois provides advanced studies for those interested in teaching chemistry at the secondary or community college level. The program serves two different audiences:

- Those who already have a teaching certificate or will teach in situations which do not require a certificate;
- Those who wish to obtain a master's degree and a teaching certificate simultaneously.

The MSTC degree (without certification) can be completed in one year. The MSTC degree (with certification) requires two years. Details of the coursework requirements are provided in Section 4.3.3. Questions concerning the Master of Science in the Teaching of Chemistry Program should be addressed to Dr. Don DeCoste, 217-244-5959, decoste@illinois.edu.

1.6 Joint Degree Program – J.D./M.S. in Chemistry

This joint degree program is intended principally for law students who desire to specialize in an area of law in which expertise in chemistry would be a clear asset. Students electing the joint degree option will select a major area of emphasis within chemistry that complements their chosen area of legal emphasis. Each student must develop and gain approval of a coherent, focused plan of study that draws upon related coursework in both law and chemistry.

The J.D./M.S. program involves interdisciplinary work and a flexible plan of study. Students earn an M.S. in Chemistry upon completion of 32 hours of coursework. Students will also complete 90 hours of Law coursework, up to 12 hours of which may be fulfilled by coursework taken in chemistry or otherwise pursuant to a course of scientific study leading to the M.S. degree in Chemistry. Students will consult with a faculty advisor in selecting courses. While enrolled in the Department of Chemistry, students may have the opportunity to hold an assistantship with a tuition and service fee waiver. It is possible that joint degree students may accelerate their programs by attending summer sessions over one or more summers and complete the requirements for both the J.D. and M.S. degrees in three years.

In order to enter the joint program, students must be admitted separately to both departments. Each program's application requirements and deadlines for admission must be met.

For information about the J.D./M.S. in Chemistry program, contact Dr. Don DeCoste, 217-244-5959, decoste@illinois.edu. See also <http://www.law.illinois.edu/academics/joint-degrees>.

1.7 Ph.D. Concentration in the Teaching of Chemistry

The Ph.D. in Chemistry with a concentration in the Teaching of Chemistry at University of Illinois is intended to provide additional training in teaching and education to those interested in an academic career and whose primary focus will be on instruction. The program is particularly well-suited to those interested in a career at a primarily undergraduate institution.

The program involves the same requirements as the Ph.D. program (see Section 5 of the Graduate Manual). As part of the concentration in teaching, 12 hours of graduate coursework in education must be taken beyond the 8-12 hours in the student's technical area in chemistry.

During the first year of graduate work, students in the program will receive in-class, formal mentoring from accomplished instructors in the Department of Chemistry. Additional

opportunities to gain teaching experience will be available during subsequent years in the graduate program.

Following completion of the formal Ph.D. requirements, students in the program will be required to organize and teach two general chemistry courses for one year under the supervision of an experienced instructor.

Questions concerning the Ph.D. program in chemistry with a concentration in the Teaching of Chemistry should be addressed to Dr. Don DeCoste, 217-244-5959, decoste@illinois.edu.

1.8 Ph.D. Concentration in Astrochemistry

Graduate students in the Chemistry Ph.D. program may elect to pursue a simultaneous concentration in Astrochemistry. Details and requirements for this concentration are at <http://chemistry.illinois.edu/astrochem>. Students may also contact the Astrochemistry graduate concentration faculty advisor, Prof. Ben McCall, at 217-244-0230 or bjmccall@illinois.edu.

1.9 Ph.D. Option in Computational Science and Engineering (CSE)

A student must fulfill the following requirements to be eligible for the CSE option in chemistry:

- Satisfy all of the regular Ph.D. requirements for one of the six technical specialization areas within the Department of Chemistry (analytical, chemical biology, inorganic, organic, materials, physical).
- Two core CSE courses (CSE 401: Numerical Analysis, CSE 402: Parallel Programming, CSE 510: Numerical Methods for PDEs, or CSE 527: Scientific Visualization)
- Two CSE courses offered in chemistry (CHEM 576: Computational Chemical Biology, CHEM 550: Advanced Quantum Dynamics, or CHEM 548: Molecular Electronic Structure) or in other departments.
- Relate the Ph.D. thesis to computational science as well as to chemistry, as judged by the thesis committee.
- Include on the thesis committee at least one faculty member affiliated with the CSE program.

The student must satisfy the 20 hour coursework requirement for one of the six specialization areas within the Department of Chemistry; the core CSE and the CSE courses in chemistry may count toward this total where appropriate. The following courses do not count as CSE courses in chemistry but do contain a significant computational component: CHEM 540 and CHEM 544/546. For further information, see <http://cse.illinois.edu/admissions/chem> or contact Prof. Zan Schulten, 217-333-3518, zan@illinois.edu.

2. Admissions Policy

2.1 Contact Information

You can obtain information about applying to our graduate programs in the Department of Chemistry by contacting the Chemistry Graduate Admissions Office at chemadm@scs.illinois.edu, 217-244-6245, or 800-516-0276 (U.S. only). Departmental information about the admissions process and application forms are also available at the website:

<https://chemistry.illinois.edu/grad-adm>

2.2 Deadlines for Applying

There is no firm deadline for submission of applications to our Ph.D. program; we strongly encourage early applications because there are a limited number of graduate student positions available. Those applications received before December 15 will receive full consideration for fall admission and are most likely to earn fellowships.

2.3 Admissions Requirements

The requirements for admission are an undergraduate degree with at least 25 semester hours in chemistry (suitably distributed) and a grade-point average of 3.0 or higher (4.0 scale). A student's academic record and recommendations must be a strong indicator of their fitness to pursue advanced study and research in chemistry.

Application materials to our Ph.D. program in chemistry should include:

- A completed online application form
- Personal statement
- Resume
- Three letters of reference
- Official transcripts of all previous undergraduate and graduate work (one transcript from each institution attended)
- Official Graduate Record Examination (GRE) general test scores
- **Optional but highly recommended:** Official GRE chemistry subject test score
- Official English Language Proficiency test scores for applicants whose native language is not English; see Section 2.4 for more details

Students applying to the Master of Science in the Teaching of Chemistry Program should also submit a completed supplemental application form for Graduate Admission to Teacher Education Programs, including an essay and resume (contact the College of Education for information).

Candidates for admission to the MSTC plus Certification Program must have passed the Illinois Licensure Testing System (ILTS) content area test for their intended teaching major and the ILTS Test of Academic Proficiency (TAP). Information for the ILTS content area and Test of Academic Proficiency can be found at www.il.nesinc.com. Candidates' credentials will also be evaluated to assure that they have a broad, general education background. Any deficiencies noted will need to be satisfied before the candidate will be recommended for certification.

2.4 English Proficiency

All students who are not native speakers of English are required to fulfill certain requirements established by the University to receive admission with full graduate standing. Non-native speakers are normally required to take the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) before admission to the University. Our average departmental TOEFL score is above a 105 for the TOEFL iBT. The minimum departmental IELTS overall score is a 7 (with no score on any subsection less than 6, except for speaking subscore which must be at least 8). To be valid, TOEFL or IELTS scores must be less than 2 years old from the first day of class at the proposed term of entry.

The ESL Placement Test (EPT) is given to new international students whose TOEFL scores are 102 or below for the TOEFL iBT. The University of Illinois at Urbana-Champaign establishes this requirement. Students will not be allowed to register without satisfactorily completing the EPT requirement. Students will be placed into or exempted from ESL courses based on the results of the test.

Teaching is a requirement in the Chemistry Graduate Program, and there are special requirements for applicants whose native language is not English. The requirement can be met in one of two ways. The university requires a minimum TOEFL iBT speaking subscore of 24, or a minimum score of 8 on the speaking section of the IELTS. Any applicant whose native language is not English is required to provide TOEFL iBT or IELTS scores in order to receive full consideration for admission and financial aid. Exemption from the TOEFL does not give exemption from the speaking section of the TOEFL iBT or the speaking section of the IELTS. If a student has not passed the TOEFL iBT or IELTS they will need to pass the University's English Proficiency Interview (EPI). Students who do not receive a passing score after three attempts to pass the EPI may not be eligible for departmental financial support beyond the first year.

The department's Graduate Program Coordinator will make arrangements for students who need to take the EPI examination prior to their arrival on campus, and will provide all pertinent information in advance of the examination.

2.5 Office of International Student and Scholar Services (ISSS)

The Office of International Student and Scholar Services (ISSS) is the campus office devoted to international students and provides a variety of services and advising. International graduate students must check in with ISSS when they arrive on campus to have their employment eligibility verified (Form I-20). ISSS provides such services as transportation assistance, orientation to campus and community life, housing assistance, and information about social opportunities. They also advise on such issues as income tax, immigration regulations and documents, optional practical training (OPT), and job search strategies. Their address is 400 Turner Student Services Building, 610 E. John Street, Champaign, IL 61820, and their office hours are 8:30 am-5:00 pm Monday-Friday. Their telephone number is 217-333-1303, and their website is <http://iss.illinois.edu>.

3. Course Grades, Credit, and Registration

3.1 Grades

To receive graduate credit, graduate students should enroll in 500-level or approved 400-level courses. At the University of Illinois, letter grades correspond to the following grade points:

| | | | | | | | | | | | | | |
|--------------|-----|-----|------|------|-----|------|------|-----|------|------|-----|------|---|
| Letter grade | A+ | A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- | F |
| Grade points | 4.0 | 4.0 | 3.67 | 3.33 | 3.0 | 2.67 | 2.33 | 2.0 | 1.67 | 1.33 | 1.0 | 0.67 | 0 |

Although A, B, C, and D are passing grades, **no course in which a student has earned a C or D may be applied to any graduate degree.** In graduate school, grades of C are given for substandard work and are roughly equivalent to grades of D for undergraduates. Grades of C are particularly serious when earned for courses in the student's specialty area. See Section 5.2.8 for more information.

3.2 Credit

Graduate credit at the University of Illinois is measured in hours. Courses in the 500 series, with the exception of some courses such as the 500 and 501 language courses, carry graduate credit and are restricted to graduate students except under special circumstances. Most courses at the 400-level carry graduate credit as well as undergraduate credit. Each course description indicates the credit available.

3.3 Required Credit Loads

To maintain full-time student status, graduate students with assistantship appointments falling between 25 and 67% must register for a minimum of 12 hours each semester and 6 hours each summer. (Note: almost all graduate students have 50% appointments, and we recommend that graduate students register for 14 hours – 2 more than the minimum – so that full-time status is maintained even if a 1 or 2 credit hour course is dropped.) It is general practice to register for CHEM 599 (Thesis Research) under an advisor's course registration number (CRN) to raise the course load to the required amount of credit. See Section 5.2.6 for coursework requirements.

There are many reasons to maintain full-time student status: to fulfill the requirements of the program, student loans, fellowship and traineeship appointments, and certain types of non-University medical insurance policies. In addition, graduate students not registered for at least a half-time load are subject to Social Security and Medicare deductions. International students may be required to maintain full-time status for purposes of Student Exchange and Visitor Information System (SEVIS) reporting.

3.4 Transfer Credits and Course Waivers

Graduate coursework taken at an accredited institution within the last five years with grades of A or B may be counted toward a graduate degree at UIUC, if approval is granted. There are two options: the coursework can be transferred (in which case it appears on the UIUC transcript), or UIUC course(s) equivalent to the one(s) taken elsewhere can be waived.

For a transfer of credit, the coursework must not have been used toward another degree. In addition, the student must first successfully complete at least 8 hours of graduate work on the Urbana-Champaign campus before requesting the credit transfer.

For a waiver of coursework requirement(s) at UIUC, there is no requirement to complete coursework at UIUC. Instead, students can apply for a waiver at any time, including before their first semester.

Generally, a maximum of 8 hours of coursework may be transferred or waived. In both cases, the student should fill out a petition form, attach any official transcripts if such are not already available in the student's file, and provide a syllabus of the course taken at the previous institution. Approval of the petition requires endorsement by the student's advisor, an appropriate faculty member in the area of the coursework, the department head, and (for transfer credit only) the Graduate College.

Note: Students in the coursework master's program are ineligible to receive course waivers, and any waivers they may previously have received (for example, while enrolled in the Ph.D. program) are cancelled. Transfer credit, however, may be applied to a coursework master's degree.

3.5 Obtaining Certification of Full-time Student Status

If certification of full-time student status is required (for example, for loans, immigration, or fellowships), the student must be registered for at least 12 hours per semester. International students should check with the International Student and Scholar Services office for details. Certification for full-time student status is obtained from the Registrar's Office, Transcript Section; 140 Admissions and Records Building, 901 W. Illinois St., or at <https://registrar.illinois.edu/student-enrollment-degree-verification>. For further information on credit loads, see Section 3.3.

3.6 Limited Status

Limited status indicates that a student has not satisfied a mandatory departmental or university requirement and is ineligible to receive a degree. Limited status can be imposed for a variety of reasons, most commonly for failure to maintain a 3.0 GPA, failure to supply final undergraduate transcripts, or failure to complete required ESL courses (international students only). A student can be removed from limited status by satisfying the requirement or by the intercession of the department head.

3.7 Registration for Courses

Class registration is done via the UI Integrate computer system. The University Identification Number (UIN), which is assigned through the Admissions and Records Office, is required for registration. Directions for accessing and using UI Integrate are found at <http://www.registrar.illinois.edu/registration-procedures>. All graduate students must use the NESSIE system (<https://nessie.uihr.uillinois.edu/>) to record their appointment in order to assure proper application of tuition and service fee waivers.

3.8 How to Add/Drop Courses

A student may add or drop a course each semester until the deadline listed in the Graduate College Calendar available at <http://www.grad.illinois.edu/general/calendar/current>.

The graduate student should discuss any intent to add or drop a substantive course with his or her advisor before the action is taken. The course instructor should be consulted if appropriate, but in many cases this is not necessary. *Before* the add/drop deadline, students may add and drop courses themselves online. *After* the deadline, the student must ask the Graduate Program Coordinator for assistance.

Generally, students who drop a course should increase their hours in CHEM 599 in compensation so as to maintain the required credit load (see Section 3.3).

4. The Master's Degree in Chemistry

4.1. Admission to a Master's Degree Program

The Department of Chemistry does not admit students directly into a coursework or thesis master's program, except for service academy (e.g., Air Force) master's students. In certain circumstances, continuing students in the Ph.D. program may transfer out of that program and obtain a master's degree.

4.2 Transferring from the Ph.D. Program to a Master's Degree Program

In order to transfer from the Ph.D. program to any of the master's degree programs, please see the Graduate Program Coordinator. Students must fill out a petition to change degree programs and have it approved by their advisor and the Department of Chemistry before it is forwarded to the Graduate College. Students who wish to transfer into the Master's of Science in the Teaching of Chemistry program must be accepted into that program by the head of the department. Additional paperwork may be required depending on the M.S. program the student enters.

4.3 Department of Chemistry Requirements for the Master's Degree

There are three ways to fulfill the requirements for a master's degree in the Department of Chemistry: a coursework master's, a thesis master's, and a master's degree in the teaching of chemistry. The specific requirements for these degrees are detailed below.

Should the departmental requirements for these degrees be revised, continuing students may choose whether they wish to fulfill the requirements in effect when they began graduate study or those specified in the revised policy, unless otherwise stipulated.

4.3.1 Coursework Master's Degree

The minimum requirement for the coursework M.S. is 32 hours of formal coursework in chemistry or a related discipline at the 400-level and above. Of these hours, 12 must be at the 500-level, 8 of which must be in chemistry. Students who plan to graduate with a coursework M.S. should present a coursework outline to the Graduate Program Coordinator and the Director of Graduate Studies before registering. Students should also be mindful of the following:

- Application for graduation should be made before the appropriate deadline (see Graduate College Calendar).
- A minimum GPA of 3.0/4.0 must be maintained.
- Credit/No Credit Courses do not count toward an M.S.
- A grade lower than a B-minus in a graduate course (including a 400-level course taken for graduate credit) will not count toward the required hours.
- CHEM 440, 442, and 444 do not count as graduate courses, except in the event that the student has not taken undergraduate physical chemistry.
- "S" graded courses may count, subject to the provisions above.
- CHEM 590 Special Topics can be used for up to 4 hours of the 500-level requirement.
- Students who began their studies in the Ph.D. program may be allowed to convert up to 4 hours of CHEM 599 to CHEM 590 (this is in addition to up to 4 hours of CHEM 590 Special Topics credit obtained as regular coursework). The student should see the Graduate Program Coordinator for assistance in filing the appropriate Graduate College petition.

- Deferred grades. The Graduate College does not allow deferred (DFR) grades to remain as such on a student's permanent academic record. All students graduating with a coursework M.S. need to file a petition with the Graduate College to request an exception to this policy. The Graduate Program Coordinator can assist with this process.
- Update your address information on UI Integrate. Your diploma will be mailed to your permanent address.

4.3.2 Thesis Master's Degree

The coursework requirement for the thesis M.S. is the same as the Ph.D. in Chemistry (see Section 5.2.6; note that the literature seminar, CHEM 5x5, is NOT required for the thesis M.S. degree). Students should also be mindful of the following:

- Application for graduation should be made before the appropriate deadline (see Graduate College Calendar)
- Title Page Check in the Graduate College Thesis Office (204 Coble Hall)
- Departmental Format Review (Graduate Program Coordinator)
- Format Review in the Graduate College Thesis Office (204 Coble Hall)
- Upload thesis to the Graduate College before deadline. Additional items required:
 - One original Thesis/Dissertation Approval form, signed by the research advisor and the department head
 - Completed format review by the Graduate Program Coordinator
 - \$15 deposit fee will be charged to the student's account
- Update permanent address information on UI Integrate. Your diploma will be mailed to this address.

4.3.3 Master's Degree in the Teaching of Chemistry

There are two options for students in the M.S. in the Teaching of Chemistry (MSTC).

- MSTC degree, no teaching certificate. Candidates must earn 16 hours of credit in chemistry (400 or 500 level), 8 hours in education (400 or 500 level) and 8 hours of electives in either education or physical science. Of the 32 hours, 12 must be in 500 level courses, and 8 of these must be in chemistry. The specific courses are selected in consultation with the graduate advisor for the program (Dr. Don DeCoste, 109 Chem Annex, 217-244-5959; decoste@illinois.edu). CHEM 495, Teaching Chemistry at the Secondary Level, is recommended for everyone completing the MSTC degree.
- MSTC degree, with certification. Both the requirements for MSTC degree and the requirements for certification must be completed. The 400 and 500 level courses required in education to complete certification can be counted toward the requirements for the MSTC degree. Candidates must earn 16 hours of credit in chemistry (400 or 500 level), 8 of which must be at the 500 level, and 16 hours in education, 4 at the 500 level of Curriculum and Instruction and 12 hours of certification courses at the 300 level or higher.

In each option, the MSTC students must show proficiency in teaching as evaluated by Instructor and Course Evaluation (ICES) forms completed by the undergraduate students, teaching

evaluations made by the course directors for whom the MSTC student works, and teaching evaluations made by the MSTC program director.

A recommended sequence of courses is as follows. Please note that these recommendations are current as of the date of preparation of this Graduate Manual, but the recommendations may change as courses in various units, especially outside Chemistry, are changed.

Semester 1 (Fall): CI 401 (3 hours), EOL 440 (1 hour), CI 335 (1 hour), CHEM course (4 hours), CHEM course (4 hours)

Semester 2 (Spring): CI 402 (3 hours), CI 473 (1 hour), EPSY 430 (2 hours), CHEM course (4 hours), EPS 400 level course (choose from among EPS 400, 403, 404, 405, 410, 411, 420, 423, and 426)

Semester 3 (Fall): CI 403 (3 hours), EPSY 485 (2 hours), SPED 205 (1 hour), SPED 405 (2 hours), CHEM 495 (4 hours), CI 500-level (4 hours)

Semester 4 (Spring): CI 404 (3 hours), EDPR 442 (8 hours)

4.4 Transferring from a Master's Degree Program to the Ph.D. Program

Students in the Master's Program can petition to enter (or re-enter) the Ph.D. program. To initiate the process, a Graduate College petition must be filled out and approved by the student's faculty advisor. Upon receipt of the form, the Department will normally appoint an ad hoc committee of three faculty members, not including the faculty advisor, to make a recommendation. The ad hoc committee may ask to meet with the student or to request additional written material from the student or the student's advisor or take other actions needed to reach a decision. If the committee makes a favorable recommendation, then it will also specify new deadlines for any degree requirements that remain to be satisfied. Ph.D. requirements completed at UIUC do not normally have to be repeated, but they are subject to Graduate College time limits (see Section 5.2.22).

5. The Doctoral Degree in Chemistry

5.1 Graduate College Requirements for the Ph.D. Degree

5.1.1 Credit and Residence

Doctoral programs are divided into three stages, as described below, and must include a minimum of 96 hours of credit. At least 64 hours, including thesis credit, must be earned in courses meeting on the Urbana-Champaign campus, at the Chicago campus, or in other locations approved by the Graduate College for graduate credit. After the residency requirement has been fulfilled, a student who plans to leave campus may file a petition with the Graduate College (via the Graduate Program Coordinator) for permission to register *in absentia* for thesis credit. Such registration is uncommon but may be appropriate when collaboration requires a student to work for extended periods away from the Urbana-Champaign campus or when a research advisor moves to another academic institution.

Stage I. A doctoral student is considered to be in Stage I from initial enrollment in the Graduate College to completion of a master's degree or its equivalent. Transfer credit can only be applied to Stage I. In the Department of Chemistry, students who did not enter directly into Stage II are advanced to Stage II when they have completed their coursework requirements.

Stage II. Additional coursework and research in preparation for the preliminary examination. Passing the preliminary examination marks the end of Stage II. In the Department of Chemistry, 20 hours of coursework and presentation of a literature seminar are required to complete Stage II.

Stage III. Research and other activities culminating in an approved dissertation and final oral examination. Registration in CHEM 599 (Thesis Research) is required for the entire academic term in which a student takes the final examination, regardless of when the thesis will be deposited with the Graduate College or when the degree will be conferred.

5.1.2 Time Limit

Doctoral candidates must complete all degree requirements within seven years after their initial registration in the Graduate College. A student entering directly into Stage II, with a master's degree from another university or with a significant lapse of time since earning a master's degree on this campus, has six years in which to complete degree requirements. For more information on the time limit policy, see <http://www.grad.illinois.edu/gradhandbook/2/chapter6/time-limits>.

5.1.3 Preliminary and Final Examinations

Preliminary examinations are taken at the end of Stage II of doctoral programs. Final examinations are oral and public. The Dean of the Graduate College appoints committees at departmental request to administer preliminary and final examinations. These committees must be composed of at least four voting members, including at least three members of the graduate faculty, two of whom must be tenured. The decision of the committee for the preliminary examination must be unanimous. Decisions of the committee for final examinations may include

one negative (fail) vote. See the Graduate College website for details of committee composition and voting requirements.

5.1.4 Thesis

All candidates for the Ph.D. degree are required to write a thesis. In addition, all completed theses must be acceptable for deposit in the Graduate College; a thesis that fails to meet Graduate College standards will be rejected. The thesis must be the work of a single author.

If thesis research involves the use of human subjects, warm-blooded animals, or hazardous materials or procedures, the student must comply with the University's policies and procedures governing such work. See <https://www.oprs.research.illinois.edu/>.

Because all theses are made available to the public, a thesis containing classified material, i.e., material deemed non-publishable under federal security regulations, cannot be accepted. However, theses may be withheld temporarily from public release under certain circumstances (for example, to protect a patent application). See <http://www.grad.illinois.edu/forms> and click the link to Thesis Withholding Request Form.

For more information about theses, see Sections 5.2.20, 5.2.22, and 5.2.23.

5.2 Department of Chemistry Requirements for the Ph.D. Degree

Should the department requirements be revised, continuing students may choose whether they wish to fulfill the requirements in effect when they began graduate study or the requirements specified in the revised policy, unless otherwise stipulated.

The primary activity of Ph.D. candidates is research. The specific requirements in our Ph.D. program constitute a series of steps in professional development, which leads to an individual who is prepared for an independent career. The first step, learning the techniques and concepts of a field, which provides the fundamental basis for a student's research and for future growth, occupies the first two years. The second step, passage to candidacy, certifies that an individual has acquired the basic skills, critical capacity and independence that are needed for Ph.D. research. Successful completion of this step is assessed at the preliminary examination, which is normally completed by the end of the fifth semester. The third step, the submission and defense of a thesis based on the student's original experimental and intellectual work, represents the individual's creative contribution to new knowledge and usually requires about two or three additional years. The mean time to a degree in the program is 5.25 years.

5.2.1 Deadline Extensions and Department Requirement Waivers

Any extension of a department graduate program deadline (e.g. for literature seminars, preliminary examinations, or research proposals) or waiver of a department graduate program requirement must obtain the approval of the faculty advisor, the area faculty members (if appropriate), and the department head (or his/her designee). Normally, area-specific issues will be discussed by the area faculty and the recommendation transmitted to the department head by the appropriate Budget and Operations Committee representative.

5.2.2 Orientation Program for Incoming Students

Before the beginning of the fall semester, an orientation program introduces incoming graduate students to the Department of Chemistry and its faculty, the operation of the graduate program, and the department's facilities. During this time, new Teaching Assistants attend a week-long orientation program and a campus-wide teaching symposium. Contact the department's Graduate Program Coordinator for more information about the orientation program.

5.2.3 Registration Exams

A registration exam is given during orientation and is a part of the initial advising and registration process in physical chemistry. Students admitted in the inorganic, materials, and physical areas are required to take the registration examination in physical chemistry, which tests for knowledge of basic principles in thermodynamics, kinetics, and quantum mechanics. Students are encouraged to prepare for this exam by studying notes and textbooks from courses they took before coming to the University of Illinois. The area office can provide more detailed information about the subject matter covered by this examination.

The physical chemistry registration examination is closely modeled after the standard ACS examination in physical chemistry. Students who do not pass the thermodynamics/kinetics portion will be required to take either CHEM 440 or CHEM 444. Students who do not pass the quantum mechanics section will be required to take either CHEM 440 or CHEM 442. Students who fail both sections will be required to take CHEM 440, or both CHEM 442 and 444. Students who take these courses must receive a grade of B or higher to satisfy the physical chemistry proficiency requirement. Normally, these courses are not counted toward degree coursework requirements.

5.2.4 Department Areas and Enrolling in Classes

The department has six technical areas of specialty: analytical chemistry, chemical biology, inorganic chemistry, materials chemistry, organic chemistry, and physical chemistry. Incoming graduate students are provisionally assigned to a particular area during the admissions process, on the basis of the content of their application (e.g., their personal statement and research experience). During orientation week, incoming graduate students will have the opportunity to attend meetings that provide information about the six areas. At the end of orientation, incoming graduate students will meet with the incoming student advisor in their area to determine which courses they should take during their first semester. Advisors in other areas may also be consulted upon request. For information about how to add or drop courses, see Section 3.8. If an incoming student wishes to be formally part of a different area than assigned during the admissions process, then the student is required to consult with the Budget and Operations Committee representatives of both areas before any final decision about the change is made. For more information about changing areas within the department, see Section 5.2.14.

Throughout their graduate careers, students are expected to regularly attend the seminars in their area of specialty.

5.2.5 English Proficiency

Teaching is a requirement for most students in the Chemistry Ph.D. program, and the ability to communicate clearly in English is necessary for the students to provide effective instruction. Illinois state law and the University require all students who will teach and who are not native speakers of English to demonstrate competence in spoken English. These students must either pass the “Test of English as a Foreign Language” (TOEFL) with a score of 24 or greater before they arrive on campus or receive a score of 5 on the “English Proficiency Interview” (EPI) after they arrive. The EPI is given on campus.

The EPI typically is held during the first days of orientation, and non-native English speakers who have not obtained the required scores on the TOEFL (see Section 2.4) must arrive on campus in time to take this examination. The department’s Graduate Program Coordinator will schedule your appointment and notify you in advance of the date, time, and location of your interview.

Students are expected to pass the TOEFL or EPI before the beginning of their second year. Students who do not pass may be denied departmental financial support beyond the first year. In addition, they can only be given appointments that do not involve spoken interactions with students, such as serving as graders or as helpers for departmental personnel.

To improve spoken English skills, students have several options. They may enroll in graduate-level English as a Second Language (ESL) courses such as ESL 404, 406, or 410. Another option is to receive ten hours of private tutoring from a tutor approved by the Center for Teaching Excellence (CTE).

5.2.6 Coursework Requirements

The selection of courses is to a large extent an individual matter, with the student’s research interests and long-range plans as the major factors in determining the selection. Courses both within and outside the Department of Chemistry can be selected. A grade-point average of 3.0 must be maintained for the student to remain in good standing in the department. All Ph.D. candidates in the Department of Chemistry are required to complete the following coursework requirements before the preliminary examination is taken. The specific courses to be taken are to be chosen in consultation with the student’s advisor.

- a) CHEM 492 “Professional Development for Chemists” (1 hour, for students who started in Fall 2014 and later).
- b) Eight hours of 500-level coursework within chemistry, excluding the literature seminar course. For area-specific information about this requirement, see Section 6.
- c) The literature seminar course, which must be completed before the student takes the preliminary examination.
- d) Additional hours of graduate coursework in chemistry or in a physical, mathematical, or biological science to make a total of at least 20 hours, excluding the literature seminar course. The additional hours are to be chosen from among any of the following options:
 - i. CHEM 420, 421, 423, 439, 472, 480, 482, 483, 492, or 494, provided these courses are not counted toward the declared area requirement.

- ii. Any 500-level course in chemistry except the following, which cannot be used to satisfy the 20 hour requirement: the literature seminar CHEM 5x5, CHEM 599, and any 500-level credit associated with the Graduate College's Summer Pre-Doctoral Institute (SPI) or its equivalent. CHEM 590 Special Topics courses may or may not count toward the 20 hour requirement; consult the Budget and Operations Committee representative of the area in which the student is specializing.
 - iii. Any appropriate 400- or 500-level course in natural science or engineering departments other than the Department of Chemistry, e.g., Biochemistry, Ceramic Engineering, Computer Science, Electrical Engineering, Geology, Mathematics, Metallurgy, Microbiology, Physics, etc. The area's Budget and Operations Committee representative should be consulted to ascertain whether any such course is appropriate.
- e) Up to eight hours of credit toward the coursework requirement can be given for graduate-level work done at another accredited institution within the past five years. See Section 3.4 for details.
 - f) At most 2 hours of the 20 hours may be from 1 hour courses. CHEM 492, CHEM 494, and other such courses (including some CHEM 590 courses, if approved) can count toward the 20 hours.
 - g) A grade lower than a B-minus in a graduate course (including a 400-level course taken for graduate credit) **will not count toward the required 20 hours.**
 - h) CHEM 599, Thesis Research, is taken every semester. It is general practice to register for the appropriate number of credits for CHEM 599 to raise the course load to the required amount (see Section 3.3). The course reference number (CRN) for CHEM 599 is different for every research advisor; the area offices and the Graduate Program Coordinator can provide these course reference numbers. Note that graduate students (including Chemical Physics students) whose advisor is outside Chemistry still must enroll in CHEM 599, not any equivalent course in their advisor's home department. Graduate students who have an "advisor of record" should register for CHEM 599 under the advisor of record's CRN.
 - i) Students who elect the "add-on" specialization in chemical education must complete requirements for the MSTC degree and requirements for certification. For more information, see Section 4.3.3.

The above requirements are minima, not targets. Additional courses can be taken if they are beneficial to the student's career, even if they do not count toward the requirements.

For first-year graduate students, the recommended course load consists of two courses in each of the first two semesters (not counting CHEM 599). No graduate classes are offered over the summer. Students are expected to complete their coursework requirement by the end of their fourth semester in residence.

In addition to the formal coursework requirements, regular attendance at at least one of the area seminar series is required for all graduate students. A list of the seminars in the Department of Chemistry is available on the department's website at <https://chemistry.illinois.edu/seminars>.

5.2.7 Foreign Language Requirement

There is no foreign language requirement for the Ph.D. degree in chemistry. Individual research group directors may request particular foreign language competence for their students.

5.2.8 GPA Requirement and Good Standing in the Department

Students are making reasonable progress towards degree completion if they maintain a GPA of 3.0 or greater, find a research group by the end of the first semester in residence, and do not receive a grade lower than B-minus in any course. Such students are in good standing in the department.

Students who have a GPA below 3.0, who receive a grade lower than B-minus in any course, who have been in the graduate program for more than ten semesters, or who are otherwise not making satisfactory progress toward the Ph.D. degree, including but not limited to insufficient efforts devoted towards research, may be allowed to continue in the program, be placed on probationary status, be transferred to the Master's Program, or be asked to leave the department, depending on the recommendation of the Director of Graduate Studies and the decision of the department head. A student placed on probation is provided a specified time window, by the end of which the student must have met certain criteria for remaining in the program. If the criteria are met, then there are no further consequences.

As mentioned in the previous paragraph, reasonable progress toward the Ph.D. degree involves accomplishing research. If a student is not in a research group after one semester in residence, or if research progress is inadequate as judged by the research advisor, then in consultation with the department head, withdrawal of support or termination of registration may ensue. It is not the intent of this rule to dissuade anyone from tackling challenging research, but rather to highlight the necessity of continuing effort and accomplishment.

Any support withdrawal, change in degree status, or termination may be appealed as described in Section 8, Appeal and Grievance Policy.

5.2.9 Graduate Student Annual Reviews

Each graduate student in the Department of Chemistry will undergo a mandatory performance review by his or her research advisor at the end of each academic year. Students are required to evaluate his or her progress to date, and the research advisor will provide comments on the student's self-evaluation. Based on the nature of the review, students have the option to agree with the review, disagree with the review, or disagree with the review and request a meeting with a departmental representative. The process is entirely electronic and is initiated by a notice to the student from the Graduate Program Coordinator.

5.2.10 Teaching Requirement

Unless there is a compelling circumstance (see below), each student in the Ph.D. program is required to teach for at least 1.0 FTE-semester, typically two semesters each at half-time (0.5 FTE). Many students teach for three or four semesters; any teaching past the second year requires prior approval by the Associate Head of Budget and Operations. See Section 7 for more information about appointments to teaching and research assistantships.

Under certain conditions, the teaching requirement may be reduced. Holders of multi-year fellowships may be able to have the teaching requirement deferred, reduced, or waived if the fellowship declares that the holder is not expected to teach or receive any funds in addition to those provided by the fellowship, or if the fellowship award amount meets or exceeds the department's normal salary. Students whose multi-year fellowships pay more than 75% of the normal salary may have their teaching obligation reduced, and students with fellowships that pay 100% of the normal salary will generally have their teaching obligation waived.

5.2.11 Choosing a Faculty Advisor/Joining a Group

During the first semester of graduate studies, students will make what is probably the most important decision in their graduate careers: choosing a faculty advisor and joining a group. To make the right decision, it is absolutely vital to learn who is in the department. Students must speak with professors and with other graduate students at length. Every research group is different; for each group of interest, the student must find out what projects are available, how the faculty advisor interacts with the graduate students in the group, what funding is available, and any other factors that are of interest to the student. Ultimately, faculty advisor selection is a mutual agreement between faculty member and graduate student.

Questions students may pose when deciding on a research group:

- How interested am I in the research?
- Is there a trend in the career path of recent graduates, and is the career path I am thinking of entering after graduate school consistent with this?
- Is the group culture one in which I feel comfortable working for an extended period of time?
- Is the advisor's personality and philosophy on education and achievement consistent with my own?
- Is the advisor's style (e.g., "hands-on" vs "hands-off") consistent with my needs and preferences?
- Is the graduation rate consistent with other groups in the department, i.e., rate of attrition, length of time to Ph.D. degree?
- Do the comments of new and senior students within a single research group conflict with one another?
- Do descriptions and opinions of a research group by members of another group conflict with those of the members of that group?
- How well-funded is the group, and how often are graduate students appointed to TA positions after their first or second year?
- How do I rank the importance of the issues in these questions?

Graduate students who begin the Ph.D. program at the beginning of the spring semester may join a research group at any time after they have spoken to six faculty members (including all the assistant professors in at least one area). Graduate students who begin the Ph.D. program in the fall or summer may not join a group until the fall group-joining date. If they carry out summer research, then it is without any obligation to join that group in the fall.

Graduate students who begin the Ph.D. program in the summer or fall semester must adhere to the following policy in choosing a research advisor:

- a) Each student must interview, either individually or by attending a group presentation, a minimum of six faculty members. These six faculty members must include all assistant professors in at least one specialty area (analytical, chemical biology, inorganic, materials, organic, or physical chemistry). The Department of Chemistry provides a form to be initialed by the faculty with whom the student meets.
- b) A list of faculty with their area interests will be provided to all students. Students may interview any faculty members in the department, regardless of area. Students in interdepartmental curricula may substitute faculty members from other departments.
- c) Faculty will arrange and widely publicize formal research presentations or alternatively arrange to meet with interested students individually. Times and places of faculty presentations will be posted on the departmental website.
- d) The student should plan to have more in-depth discussions and ask questions of those faculty members in whom a student has significant interest. It is also appropriate to have discussions with as many graduate students as possible in the research groups of those faculty members in which the student is interested.
- e) Although students are encouraged to begin interviewing faculty members early, no student will be allowed to join a research group before the departmental group-joining date, which is set by the department head. This date is typically Monday of the tenth week of instruction, which is usually but not always the last Monday in October.
- f) Once the department's interview form is completed and the group-joining date is reached, students may join a group. The student speaking with the selected faculty member and securing their consent constitutes the formal commitment. Although students do not have to join a group on the group-joining date, such action should be taken as soon as possible after the group-joining date, and no later than the end of the first semester. This action will ensure that the student will receive good advice about second-semester courses from their research advisor and will have the opportunity to begin research during the second semester.

Students may choose two advisors who will jointly supervise the thesis work. Such an arrangement, however, should be entered into only after all parties involved have defined the nature of the work to be done and the remedies to be implemented should problems arise.

The department strongly encourages students to select an advisor by the end of the first semester in residence. If this is not accomplished, then the head may elect to withdraw department support until the student selects an advisor. Several resources are available for students who are experiencing difficulty with the advisor selection process. The Director of Graduate Studies, the student's area faculty advisor, the Director of Graduate Diversity, and the Graduate Program Coordinator are ready and willing to provide guidance.

Faculty members are under no obligation to accept any particular student into his/her group. In the event that a student cannot find a group to join, they should either complete a coursework master's degree or leave the program.

5.2.12 Choosing a Faculty Advisor from Outside the Department

Graduate students are welcome to choose any tenured or tenure-track member of a department in a chemistry-related discipline. When a graduate student in the Department of Chemistry wishes to earn a Ph.D. degree in Chemistry in which more than 50% of the work will be carried out under a faculty member who is not a member of the department, the following policy applies.

- a) The student's research under the prospective Ph.D. advisor must have a significant chemistry component. The head of the Department of Chemistry will determine whether the prospective Ph.D. research meets this criterion, seeking advice from faculty members in the Department of Chemistry when warranted.
- b) If the prospective Ph.D. research does not have a sufficient chemistry component, then the student may work for the non-chemistry faculty advisor only if the student transfers out of the chemistry graduate program.
- c) A member of the tenured Chemistry faculty (zero-time or greater) must be appointed as the advisor of record. The advisor of record should be familiar in general terms with the area of research that the student will perform and will serve as the chair of the preliminary examination and final examination committees. The choice of the advisor of record is made by the student, in consultation with the prospective Ph.D. mentor, and requires the approval of both the faculty member who will serve as the advisor of record and the head of the Department of Chemistry. The advisor of record must agree to check at least twice a year (and more often if appropriate) that the student is making good progress toward completing a Ph.D. degree with a significant chemical component and fulfilling all the Chemistry graduate program requirements.
- d) The preliminary examination and final examination committees must have at least two faculty members who hold at least 50% appointments in the Department of Chemistry, including the advisor of record.

5.2.13 Changing Faculty Advisors/Switching Research Groups

Occasionally, a student and faculty advisor develop problems in their working relationship, or a student's research interests may change, and a student may consider changing research advisors. This option is always available; students are members of the Chemistry Ph.D. program and only by mutual agreement are members of a particular research group. Students who are dissatisfied with their current faculty advisor are strongly encouraged to ask one or more of the Department of Chemistry Graduate Student Advisory Committee (DCGSAC), an unbiased faculty member (one whose group the student is not interested in joining), the Director of Graduate Studies, and the Graduate Program Coordinator to serve as the student's advocate and counselor. It may turn out that a satisfactory working relationship can be reestablished with the original advisor, or it may be that a change in research groups is the best course of action. In either case, the student will benefit from the support and advice from a third party.

Because dissatisfaction with a faculty advisor can be stressful, graduate students are encouraged to contact the campus Counseling Center for personal support and help (see Section 11.13).

A student who (after all above discussions) wishes to change research groups must meet with the Director of Graduate Studies, who will coordinate with the relevant area faculty, the department head, and the Graduate Program Coordinator. The Director of Graduate Studies will manage any discussions about changing deadlines for degree requirements as a consequence of the timing of the change in research groups. The Graduate Program Coordinator has the “Change of Advisor” form, which must be signed the original advisor and the new advisor.

If a student leaves one research group, then another group must be joined within 30 days to maintain “reasonable progress” status, i.e., for the student to remain in good standing in the department.

An advisor who wishes to discontinue support of a graduate student must do so in writing. Once an advisor notifies a student in writing of the intention to discontinue financial support at any point during a particular semester (Fall/Spring/Summer), and the student wishes to continue in the Ph.D. program, then the advisor must agree to provide the student with at least one month of further support into the subsequent semester, as necessary to ensure that the student has at least 30 days from the time of written notification to find a new advisor.

5.2.14 Changing Areas within the Department

A student who is already in a research group and is interested in changing areas within the department (e.g., from inorganic to materials) should first discuss the merits of this action with their advisor. If student and advisor wish to proceed with a change of area, then the student must present the request to both the original and new areas’ Budget and Operations Committee representatives. If the request is approved, then the student should see the Graduate Program Coordinator to obtain a “Change of Area” form, which must be signed by the original and new Budget and Operations Committee representatives. Any additional requirements and their deadlines will be sent to the student in writing along with the approval of the change in area.

5.2.15 Safety Examination

Before students are issued keys to their research laboratories and begin research, the department requires that students pass an online safety examination proctored by the School of Chemical Sciences.

5.2.16 Professional Ethics Training

The Graduate College under university guidelines requires that all graduate students receive training in professional ethics. The Department of Chemistry fulfills this requirement through a course, CHEM 492 “Professional Development for Chemists,” which is offered every fall. All first-year graduate students are required to enroll in this course. See also <https://ethics.uillinois.edu/>.

5.2.17 Literature Seminar

Each student must present a seminar on a topic from the current literature, distinct from the student’s developing topic of thesis research, and prepare a written abstract for this seminar. The

seminar must be given before the end of the fourth semester, but some areas (inorganic, materials) have earlier deadlines (see Section 6). For possible exceptions to this deadline, see Section 5.2.1. The literature seminar course must be completed before the student takes the preliminary examination. The literature seminar course in all areas confers 1 hour of credit, which does not contribute to the required 20 hours of credit for the Ph.D. degree.

Students who intend to give a literature seminar during a particular semester must register for one hour of credit in the seminar course corresponding to their area (CHEM 515: Inorganic Chemistry Seminar; CHEM 525: Analytical Chemistry Seminar; CHEM 535: Organic Chemistry Seminar; CHEM 545: Physical Chemistry Seminar; CHEM 575: Chemical Biology Seminar; or CHEM 585: Materials Chemistry Seminar). The seminar topic should be approved by the faculty advisor and by the faculty member in charge of the seminar course. See the individual areas for information about the format for the abstract and other information about the literature seminar. Faculty and graduate students attend these seminars.

5.2.18 Choosing a Thesis Committee

The Graduate College distinguishes between the Preliminary Examination Committee and the Final Examination Committee. The universal practice in the Department of Chemistry is that the membership of these two committees is identical, although strictly speaking this is not required. For this Graduate Manual, the generic term “thesis committee” is used to refer to both committees.

The thesis committee consists of at least four faculty members. The student’s advisor must be a member of the committee, and the other members are chosen by the student in consultation with their advisor, subject to the approval of the area faculty and the department head (or his/her designee). The Graduate College places some restrictions on the constitution of the committee (see Section 5.1.3). In addition, the department requires that the thesis committee must have at least two faculty members who hold at least 50% appointments in the Department of Chemistry. If the student's advisor is outside of Chemistry, then see Section 5.2.12 for additional considerations.

At least three committee members must be chosen by the end of the first year and their names submitted to the appropriate area office. This maximizes the time available for student and committee members to interact. The names of all four committee members must be submitted to the area office staff at least three weeks in advance of the preliminary examination, so that the appropriate forms can be obtained from the Graduate College.

Usually, the thesis committee continues to monitor the student’s progress after the preliminary examination, for example by reviewing the fourth-year original research proposal and constituting the final examination committee. Under appropriate circumstances, members of the committee can be changed. If committee member(s) are changed, then it is the student’s responsibility to find a replacement(s). This final examination committee attends the final defense, approves the thesis, and signs the Thesis/Dissertation Approval form.

5.2.19 Oral Preliminary Examination

By the last day of instruction of the fifth full semester in residence, each student in the Ph.D. program must pass an oral preliminary examination, which is a requirement of the Graduate College. (**Exception:** Those who enter the chemical education specialization at the beginning of their graduate studies must take their preliminary examination by the end of their seventh semester in residence.) For possible exceptions to this deadline, see Section 5.2.1.

The preliminary examination assesses the student's basic knowledge of the thesis area, including relevant literature. Normally, the exam lasts between one and two hours. The student is ultimately responsible for choosing the exact day and time of the exam, although the area office staff will be happy to consult faculty schedules and provide possible prelim times. The student should ensure that the faculty members are reminded of the exam, either the day before or on the morning of the exam.

The examination is designed to answer two questions:

- Is the student sufficiently knowledgeable about science to warrant admission to candidacy for a Ph.D. degree?
- Has the student accomplished enough in their thesis research and thought enough about the direction their research should take (and why) to warrant admission to candidacy?

The examination will have one of three outcomes:

- **Pass** The candidate may proceed to Stage III, independent dissertation research.
- **Fail** The student may or may not be granted another opportunity to take the examination after completing additional work. The decision will be made by the department head in consultation with all relevant people as necessary.
- **Defer** The committee will reconvene within 180 days of the exam and determine the outcome (pass or fail).

The Preliminary Report. At least a week in advance of the examination, the student must present to the examination committee a written progress report, which summarizes the salient background literature as well as research progress and plans. The specific form of both the written document and the oral examination vary among specialty areas, but the following is typical.

- In five single-spaced or ten double spaced pages (including figures but not including literature references), give the background to your thesis topic, describe in detail your thesis research to date, and briefly outline your plans for completing your thesis research. Literature citations need not be encyclopedic; cite only the most relevant work. Include article titles in the citations. Supporting information (e.g., detailed experimental procedures) and preprints or reprints may be included as appendices if appropriate.

5.2.20 Original Research Proposal (ORP)

Each Ph.D. student must prepare an original written research proposal (ORP) on a topic distinct from the student's thesis research (see Section 6). Area requirements for this benchmark vary; student should seek assistance from their advisor or the Budget and Operations representative. The departmental deadline is the last day of instruction of the eighth semester, but some areas have earlier deadlines. (**Exception:** Those who enter the chemical education specialization at the beginning of their graduate studies must turn in their original research proposal before their ninth semester in residence.) Under extenuating circumstances, time extensions can be requested by submitting a suitably endorsed petition to the department office via the Graduate Program Coordinator. The Preliminary Examination must be passed before the ORP may be completed. The ORP must be completed before the Final Examination may be held.

The original research proposal is designed to give students experience in one of the critical activities expected of all professional leaders: to identify (largely on your own) an important area for future endeavor and convince others to provide the resources necessary to carry out that endeavor. Industrial Ph.D. chemists – as well as academicians – are expected to prepare proposals; in industry, proposals often influence the expenditure of millions of dollars of company assets.

The specific format of the original research proposal varies somewhat among the area specialties (see Section 6). The physical, organic, and chemical biology areas require that a pre-proposal be submitted for approval, in order to ensure that the idea is sufficiently removed from the student's thesis research, and that it is of appropriate scope and originality. In addition, the organic and chemical biology areas require an oral defense of the proposal. The student should consult the area office for deadlines.

The original research proposal should identify a significant problem within the broad field of the student's area of specialization. It should be significantly distinct from the student's thesis research in that the student:

- Must read a portion of the literature unconnected with the student's own research.
- Must devise scientific questions unlikely to be proposed by their research advisor(s).

The report should follow the general format below:

- The abstract, not to exceed 250 words, should present the scientific objective, the route to that objective, and the potential significance of the prospective results.
- The body, not to exceed 1500 words, should cover the following points:
 - **Specific Aims** (1 page). List the long-term objectives and describe concisely what the research project is intended to accomplish.
 - **Background and Significance** (2 pages). Evaluate existing knowledge and specifically identify gaps that the project is intended to fill.
 - **Research Design and Methods** (6 pages). Outline a two-year plan for key experiments, explain any new methodologies and their advantages over existing approaches, discuss potential difficulties, and summarize contingency plans and

alternative approaches should obstacles be encountered. Discuss whether special resources are needed (e.g., supercomputer time, national laboratory facility beam time).

- The literature references, not to exceed one page, should be relevant and current.

Model proposals may be available from faculty advisors, and students may use them for guidance on format and style. As students prepare the proposal, they are welcome to seek advice from and discuss ideas with their advisors or other professors, as long as the ideas in the finished proposal are the student's own.

The report will be evaluated according to the following criteria:

- **Significance** (Is the problem important and how will scientific knowledge be advanced?)
- **Approach** (Are the design, methods, and analyses adequately developed, well-integrated, and appropriate?)
- **Innovation** (Does the project employ novel concepts, approaches, or methods?)

Feedback will be given to the student with one of the three grades:

- **Acceptable:** The proposal is of sufficient quality to satisfy the requirement.
- **Revise and Resubmit:** The general tenor and topic of the proposal is adequate but there are specific areas where the committee would like to see improvement which will be outlined in the committee's feedback comments. The student should then modify and redo the proposal, incorporating the committee's feedback. The report will also provide a time scale for revising the proposal.
- **Unacceptable:** The student should develop a new topic for the proposal involving a completely new proposal. The committee will then reevaluate the new proposal.

5.2.21 Ph.D. Thesis

All candidates for the Ph.D. degree are required to submit theses. The Ph.D. in Chemistry is given for making an original and significant contribution to chemical science as evidenced by a thesis on original research, which must be defended in the final oral examination. The choice of the thesis topic is a decision mutually agreed on by the student and the advisor.

5.2.22 Final Examination/Thesis Defense

During the last year of residence, each Ph.D. student is required to take a final examination (thesis defense) on the student's research. See the individual area office for information about the format for the abstract and other information about the final examination.

At least three weeks before the date selected for the final examination, the student should contact the appropriate area office to schedule the final examination and ask that the required documents be obtained from the Graduate College.

The final examination can be no sooner than one week after an advanced draft of the entire thesis has been submitted to the final examination committee. The thesis defense is advertised throughout the School of Chemical Sciences and is attended by interested faculty and students.

It is the responsibility of the student to arrange with the committee members a date that is acceptable to all of them. If all committee members' schedules cannot be accommodated, then the Graduate College allows voting members to participate via teleconference or other electronic communication media, but with constraints. The student, the committee chair, and at least one voting member of the committee must be physically present for the entire duration of the final examination. The thesis committee must meet immediately after the final seminar to vote on whether or not to accept the thesis. The committee chair must provide an original signature on the results sheet.

Decisions of the committee for final examinations may include one "fail" vote. See the Graduate College website for details of committee composition and voting requirements. If two or more members of the final examination committee are not willing to approve the thesis and sign the Thesis/Dissertation Approval form, then those members will specify the reason(s) for their refusal and propose a course of action. Possible courses of action include, but are not limited to, suggestions for additional work or resignation of one or more members from the committee. This information will be communicated promptly in writing to the other committee members and to the student.

5.2.23 Ph.D. Thesis Deadlines

The Graduate College requires that the Ph.D. degree be completed by the end of the seventh year, or by the end of the sixth year if the student has received a master's degree elsewhere. After that time, the student is prevented from further registration. Extensions of this time limit may be granted in exceptional cases by petitioning the Graduate College.

If more than five years elapse between a student's preliminary and final examinations, the student will be required to demonstrate that his or her knowledge is current by passing a second preliminary examination, which is a prerequisite for admission to the final examination. The form of the second preliminary examination need not be identical to that of the first.

The Graduate College sets several deadlines during the academic year that dictate in what semester and year the Ph.D. degree will be officially conferred. Students may deposit their thesis in advance of any one of these deadlines. See www.grad.illinois.edu/general/calendar/current for the dates of these deadlines for the current academic year.

The Graduate College requires registration in CHEM 599 in the term in which the student takes the final examination for the doctoral degree. There is, however, a period after the end of each semester during which the final exam may be given without the need to register for the next term. See www.grad.illinois.edu/general/calendar/current for specific deadlines.

5.2.24 General Procedure for Depositing a Thesis

Several procedural requirements for depositing a thesis must be strictly followed. Before the thesis is in final form, the student should go to his or her area office and inform them of his or

her intent to graduate. The area office staff will prepare paperwork to request the final exam committee with the Graduate College. After the final exam, the Thesis/Dissertation Approval form must be signed by the final examination committee and then by the department head. There can be no errors or corrections of any kind on these pages. After the thesis is in final form, it must receive a format check in the departmental office by the Graduate Program Coordinator. The thesis is then electronically submitted to the Graduate College for further review. Once the thesis is approved by the Graduate College and all necessary paperwork is on file with the Thesis Office (204 Coble Hall), the deposit process is complete.

Style and Format Requirements. Before the thesis can be submitted to the Graduate College Thesis office, the student must submit a near-final copy to the department's Graduate Program Coordinator for review of the general format of the thesis, including the style to be followed in footnotes, bibliographies, tables, chapter headings, and similar matters. The final examination committee will hold the student responsible for spelling, grammar, organization, stylistic consistency, correct sequence of pages, and agreement between the table of contents and the body of the thesis, as well as content. The department will check to see that these requirements have been met. Every candidate should consult the Graduate College website at <http://www.grad.illinois.edu/thesis/format> for thesis formatting requirements. There are no department-specific formatting requirements.

All completed theses must be acceptable for deposit in the Graduate College Thesis Office. This office has primary responsibility for processing, binding, and storing theses as well as for maintaining uniformity in thesis format and organization. The Graduate College Thesis Office will reject any thesis that fails to meet Graduate College standards.

Publishing of Findings before Degree Conferral. Before the degree is conferred, a student may find it desirable or expedient to publish some of the findings that will later be incorporated in the thesis. If this is done, then an appropriate acknowledgment of the earlier publication should be included in the thesis. The Graduate College encourages such publication, but the thesis may not be published in its entirety before all degree requirements have been met.

Copyright. Copyright is a legal protection of a person's work that is recorded with the U.S. Copyright Office in the Library of Congress. The Graduate College webpage <http://www.grad.illinois.edu/thesis/copyright> describes copyrighting in greater detail. Students may register for a copyright on their own, by completing an application form, paying the basic fee, and submitting an extra copy of their thesis to the U.S. Copyright Office. Doctoral candidates may choose to ask ProQuest to complete these steps for them for a slightly higher fee.

Compliance with Research Policies. If thesis research involves the use of human subjects, warm-blooded animals, or hazardous materials or procedures, then the student must comply with the University's policies and procedures governing such work. Doctoral degree candidates should obtain more information at <http://research.illinois.edu/training/>.

5.2.25 Final Exit Interview and Department Checklist

Once their thesis and final examination is complete, students must schedule a final exit interview with the Director of Graduate Studies or his/her designee. Before the interview can be scheduled,

the “Before You Leave the Department of Chemistry” checklist must be completed. The forms may be obtained from the Graduate Program Coordinator. For information about resigning your appointment because you are defending your thesis and departing, see Section 7.1.4.

5.2.26 Additional Checklist for Graduating Ph.D. Students

- Register for CHEM 599 during the semester in which defending
- Defend before deadline for semester
- Apply for graduation before deadline (see Graduate College Calendar)
- Title page check in the Graduate College Thesis Office (204 Coble Hall)
- Departmental format review (109 Noyes Lab)
- Format review in the Graduate College Thesis Office (204 Coble Hall)
- Deposit before deadline. Materials required:
 - One original Thesis/Dissertation Approval form, signed by entire committee
 - ProQuest Agreement form
 - A deposit fee will be charged to the student’s account
 - Survey of Earned Doctorates completed
 - Optional: \$45 cashier’s check to license copyright
 - Update address information on UI Integrate; your diploma will be mailed to your permanent address
- Complete exit interview.

6. Area-Specific Ph.D. Requirements

Each area of specialization within the department has some requirements that are specific for that area and are more focused than those of the department. Unless extenuating circumstances apply, the required courses in the student's area may not be dropped. The second-year literature seminar course (CHEM 5x5) does not count toward the required 20 hours of graduate coursework.

6.1 Analytical Chemistry

Twelve of the 20 hours of graduate coursework must be 500-level courses in chemistry.

Students should attempt to keep 4:00-5:00 p.m. on Fridays open for seminars.

The original research proposal must be submitted by the last day of instruction of the eighth semester.

6.2 Chemical Biology

During the first semester, students in the Chemical Biology area are required to take CHEM 570, Concepts in Chemical Biology. During the second semester, students must take CHEM 571, Chemical Biology Laboratory. Additional courses to fulfill the 20 hour requirement should be chosen in consultation with the incoming student advisor and later with the research advisor and are subject to approval by the Chemical Biology Budget and Operations representative. The additional courses may be in departments other than Chemistry, as appropriate for the student's research.

Students are expected to attend the Chemical Biology seminars, typically held on 4:00 p.m. on Mondays, Tuesdays, or Thursdays but occasionally at other times. Students are also encouraged to attend the CHEM 575 Chemical Biology student literature seminars, held on Thursdays at noon. In addition, there are numerous seminar programs in other areas of chemistry and other departments on campus.

For the original research proposal, students in the Chemical Biology area must submit a pre-proposal, and they must orally defend the proposal by specified dates near the end of the eighth semester.

6.3 Inorganic Chemistry

CHEM 512 (Advanced Inorganic Chemistry) and CHEM 516 (Physical Methods in Inorganic Chemistry) are required.

Students should attempt to keep 4:00-5:00 p.m. on Tuesdays and Thursdays open for seminars. Students are expected to attend all inorganic seminars during their graduate studies and encouraged to attend seminars broadly outside of inorganic chemistry as well.

The student literature seminar (CHEM 515) must be given before the end of the third semester. Upon consultation with the faculty advisor, students who are enrolled in six or more hours of coursework in their third semester may be granted a one-semester extension of this deadline.

The preliminary oral examination report must include, in addition to the research report (see Section 5.2.18), a separate sheet containing a prospective title for the thesis and a chapter-level outline; that is, give the titles expected for thesis chapters, but omit any subheadings within chapters.

The original research proposal must be submitted by the last day of instruction of the seventh semester.

6.4 Materials Chemistry

CHEM 584 (Introduction to Materials Chemistry) and CHEM 588 (Physical Methods in Materials Chemistry) are required.

Students should attempt to keep 4:00-5:00 p.m. on Tuesdays and Thursdays open for seminars.

The student literature seminar (CHEM 585) must be given before the end of the third semester. Upon consultation with the faculty advisor, students who are enrolled in six or more hours of coursework in their third semester may be granted a one-semester extension of this deadline.

The original research proposal must be submitted by the last day of instruction of the seventh semester.

6.5 Organic Chemistry

All Organic Chemistry students are required to take CHEM 530, 532, 534, 535, and 536.

Students should attempt to keep 4:00-5:00 p.m. on Mondays and Thursdays free for seminars.

A paper that describes the progress in research will be due at the beginning of the third year (see the Organic area office for deadlines). This paper will serve as the preliminary examination paper. Written in an appropriate journal style, this paper is a full account of research completed in the first two years. The contents of this document will be orally presented as part of the student's preliminary examination during the fifth semester.

For the original research proposal, students in the Organic Chemistry area must submit a pre-proposal and orally defend the finished proposal to their thesis committee by specified dates near the end of the eighth semester. The organic chemistry area awards a \$500 cash prize for the best Original Research Proposal each year (Vanderveer Voorhees Award).

6.6 Physical Chemistry

CHEM 540 is a prerequisite for all graduate-level Physical Chemistry courses. This requirement can be waived at the discretion of the course instructor only if the student demonstrates graduate-level knowledge of quantum mechanics. CHEM 544 is also required and will not be waived.

Students should attempt to keep 2:00-3:20 p.m. on Wednesdays open for seminars.

Students should familiarize themselves with the faculty by attending the informal meetings that are held at the start of each academic year and the “coffee half hours” after each Physical Chemistry seminar.

For the original research proposal, students must submit a one-page pre-proposal. The original research proposal must be submitted by the last day of instruction of the eighth semester.

6.7 Chemical Physics

Chemical Physics students may choose to be so designated upon admission to the Ph.D. program in Chemistry. Students must satisfy the registration examination, the literature seminar, preliminary examination, and original research proposal requirements of Physical Chemistry. Please refer to the guidelines for each of these requirements in this manual. An overall description of the Chemical Physics research concentration, including curriculum requirements and faculty, is available online at <https://chemistry.illinois.edu/chemical-physics>.

Each Chemical Physics Ph.D. student is expected to obtain a firm background in (a) Classical Mechanics, (b) Quantum Mechanics, (c) Statistical Mechanics, (d) Electricity and Magnetism, and (e) Physical Chemistry. The choice of specific classes is determined by the research interests of the student and the student’s background. Students must complete the coursework requirements of Physical Chemistry in addition to demonstrating proficiency in Classical Mechanics and Electricity and Magnetism.

Per Section 5.2.6, a Chemical Physics Ph.D. student is expected to enroll in CHEM 599 Thesis Research every semester, regardless of the home department of their advisor. It is usual but not mandatory that the research advisor be on the faculty of the Department of Chemistry or Department of Physics. The Chemistry and Physics departmental websites provide information about faculty members carrying out research related to Chemical Physics. For a Chemistry student working with a faculty member who has no formal Chemistry affiliation, a tenured Chemistry faculty member will be appointed as an advisor of record, and this faculty member will also serve as the chair of the thesis committee (see Section 5.2.11).

The research advisor, in consultation with the student, will recommend a thesis committee for appointment by the Dean of the Graduate College by the end of the first year. The thesis committee must have at least two faculty members who hold at least 50% appointments in the Department of Chemistry. In addition, the thesis committee must have at least one faculty member who holds at least a 50% appointment in the Department of Physics.

Students are required to follow the preliminary examination and original research proposal guidelines provided in this manual. In particular, the preliminary examination must be completed by the last day of instruction of the fifth semester, following the completion of coursework and the literature seminar requirement, and the original research proposal must be submitted before the last day of instruction of the eighth semester.

6.8 Chemical Education

Students who wish to earn the “add-on” Ph.D. specialization in Chemical Education must have the approval of the department. Students should select both a chemistry advisor (for technical

research) and a chemical education advisor from among the eligible faculty members. Students must satisfy the requirements for one of the technical specializations, plus the following:

- Take 16 hours of graduate-level education or chemical education coursework. The course EOL 585 is required as part of the required hours in education. Other recommended courses include CI 542, EPSY 400, EPSY 410, EPSY 480, EPSY 580, EOL 490 TC (college teaching and academic careers), and CHEM 495 (teaching of chemistry), but the specific courses are selected in consultation with the advisor for the program.
- Do a chemical education-related research and/or development project beginning the summer after the first year on campus, and extending as necessary through the second year.
- Teach in progressively more challenging settings, as defined by the chemical education advisor. Typically, students begin teaching a laboratory or discussion section and then proceed to a head TA position, followed by teaching a Merit section and a small class lecture.

Students who are unsuitable for completion of the Chemical Education specialization (for example, because of poor teaching potential) will be directed to complete the Ph.D. in Chemistry without the chemical education specialization. If a student completes all of the chemical education-related requirements but does not complete the Ph.D. requirements of one of the technical specializations, then he or she will be awarded a Master of Science in the Teaching of Chemistry degree without certification.

7. Financial Support (Assistantships and Fellowships)

7.1 Appointments and Salaries

As long as a graduate student is working for a faculty member within or affiliated with the Department of Chemistry and making satisfactory progress toward the Ph.D. degree in Chemistry, the student is guaranteed academic year and summer financial support. Support is given primarily in the form of Teaching Assistantships and Research Assistantships, which may be supplemented or replaced by merit-based fellowships. Very few Teaching Assistantships are available for summer sessions.

Those students in a master's program are not guaranteed financial support, but the department strives to award assistantships to M.S. candidates whenever possible.

All appointments at the University are made in fractions of a "full-time equivalent" or FTE. Essentially all graduate students in the Department of Chemistry are appointed to half-time (also known as 50% or 0.50 FTE) appointments. The appointment can be divided in several ways: the most common are 0.50 FTE on a Teaching Assistantship (TA), 0.50 FTE on a Research Assistantship (RA), or 0.25 FTE on a TA plus 0.25 FTE on an RA. The Teaching Assistantship salaries come from the department; Research Assistantship salaries come from funds provided by faculty advisors, usually through federal or private grants made to support their research program.

Summer appointments cover two months, but the payments may be paid over a three-month period.

7.1.1 Registration Requirement

Recipients of assistantships and fellowships must be registered during the term they are appointed. The Department of Chemistry requires those holding summer assistantships or fellowships to register during this time period.

7.1.2 Tax Status of Salaries and Stipends

The income tax liability of graduate students is determined by the Internal Revenue Service (IRS) and the State of Illinois Department of Revenue (IDR) and not by the University. The information provided in the remainder of this subsection is based on the present understanding of the tax code.

Assistantship salaries are taxable income to the recipient. The value of any tuition and service fee waiver associated with the assistantship is not taxable income. The University withholds taxes on assistantship salaries and reports the taxable income (and the tax withheld) to the IRS and IDR.

Fellowship stipends are taxable income to the recipient. The value of any tuition and service fee waiver associated with the fellowship is not taxable income. At this time, the University does not withhold income taxes on fellowship stipends unless the University Payroll Office is explicitly requested to do so. Also, it does not report fellowship stipends as income to the IRS or IDR. It is the fellow's responsibility to declare the fellowship stipends as taxable income on the

appropriate income tax returns, and to make arrangements for paying any taxes due on this income.

Graduate Students on Non-Immigrant Visas are taxed as non-residents (and thus somewhat differently from U.S. residents). The U.S. also has tax treaties with many countries, and these treaties affect the tax liabilities of graduate students who are citizens of these countries. In such cases, the graduate student may arrange with the Payroll Office for increased (or reduced) withholding that will more closely approximate the estimated tax liability.

7.1.3 Work Hours and Conditions

It is not possible to determine absolutely the number of hours of work each week expected of most graduate students, especially when the time devoted to a research assistantship or fellowship is tied to thesis research. However, hours for work not related to the student's thesis are figured roughly on the basis of a 40-hour week. Thus, a half-time appointment requires about 20 hours per week. The department will provide appointed graduate students with offices and equipment necessary for their work.

7.1.4 Resignation and Termination of Appointments

To resign an appointment, students must contact the School of Chemical Sciences (SCS) Human Resources office (312 Noyes Lab). If a student is resigning an appointment because he or she has defended and will be depositing a thesis, then the thesis must be deposited no more than seven calendar days after resignation; otherwise, the student will be charged tuition. See the Graduate Program Coordinator or SCS Human Resources for details.

A student who resigns an appointment or whose appointment is canceled before service is rendered for at least three-fourths of the term (91 days during the regular semester or 41 days during summer term) is required to pay the full amount of appropriate tuition and fees for that term. Payment for tuition is not required if the student withdraws from the University on the same date or before the last day of the assistantship, or if degree requirements for graduation are completed within seven calendar days after the resignation date.

An appointment remains in effect only if the student maintains good academic standing, makes satisfactory academic progress, and provides satisfactory service.

An assistantship or fellowship appointment may be terminated during the period of the appointment if the graduate student is no longer a student, is no longer making satisfactory progress, or substantially fails to perform assigned responsibilities. The graduate student will be provided with written notice and an opportunity to respond to the department head prior to termination. For additional information about the appeals process, see Section 8.

7.1.5 Time Extensions

A student who petitions the Graduate College for a time extension to complete a degree should summarize progress made to date, remembering that the Graduate College staff will not necessarily be aware of the standard milestones in a particular degree program. The student should also provide a detailed and realistic timetable for completion of the degree. The petition must be signed by the student's advisor and by the Director of Graduate Studies or designee.

Petition forms are available online at the Graduate College website. Students with questions about completing petitions should see the Graduate Program Coordinator.

If the extension requested is for a period longer than one academic year, then only the first 12 to 15 months will normally be granted. Any subsequent extensions will be dependent on the student achieving substantial progress toward the degree, as measured by the timetable provided in the previous time extension petition(s). Doctoral program extensions beyond the eighth year are discouraged; beyond the ninth year of study they are unlikely to be granted except to hold the final defense.

7.1.6 Leaves of Absence Involving Suspension of Registration

A graduate student who wishes to interrupt their program of study and discontinue registering via a formal Leave of Absence needs to work closely with their advisor, the Director of Graduate Studies, and the Graduate Program Coordinator to make arrangements for the interruption. With departmental approval, a student may re-enter at any time within one year of his or her last registration. Any lapse in registration may result in the loss of the full-tuition-waiver privileges that may have previously accompanied a particular student's appointments. Whether leaving for one or more terms, a student with educational loans should consult the Financial Aid Office and/or the lender before terminating student status. International students leaving campus are required to secure clearance from the Office of International Student and Scholar Services (ISSS).

A graduate student wishing to return from a leave of absence within the time limit specified must first contact the Graduate Program Coordinator. A graduate student who interrupts their program of study for more than one year must also petition for re-entry to the Graduate College.

When a student takes a formal leave of absence, a written agreement between the student and research advisor must be signed by both and submitted to the department for approval before the leave is finalized. The agreement must indicate explicitly whether or not the student will be returning to the advisor's research group at the conclusion of the leave. The agreement must also indicate explicitly the expected duration and source of financial support for the student after returning. If the student will be returning to the advisor's research group, then the advisor is expected to provide one full semester (Fall, Spring, or Summer as appropriate) of financial support upon the student's return, for any student who will be beyond their second year upon their return at the start of a Fall or Spring semester, or for a student of any year returning at the start of a Summer semester.

7.1.7 Coverage Responsibility and Absence from Work

When a student who has assigned teaching duties must be absent from work, it is the student's responsibility to follow established departmental policies and procedures. This may include a responsibility to inform a teaching supervisor in advance of the absence, to explain to the supervisor the reason for the absence, to secure the supervisor's approval of the absence, and to follow the employing unit's policies concerning arranging for substitutes to perform the student's duties. The same responsibilities apply to informing the student's research advisor of an absence that would significantly affect research performance.

7.2 Benefits

7.2.1 Tuition and Fee Waiver

Assistants with appointments between 25% and 67%, inclusive, for at least three-quarters of the semester are exempt from paying tuition and certain other fees. For assistants holding such appointments in the spring semester, the exemption extends through the summer session.

7.2.2 Vacation

Assistantships typically require services on a 9-month or semester-by-semester basis, and some students will have separate summer appointments for part or all of the summer. Students appointed in this way are not eligible for vacation benefits except for the official University holidays. The department permits teaching assistants on semester appointments to be absent during the fall and spring breaks or when classes are not in session between semesters, provided that their teaching duties have been completed and their advisor has been consulted. Students are not obligated to work during periods when they are not appointed; specifically, for students who are on 11-month appointments, they are not obligated to work one month during the summer. Generally, for teaching assistants, the non-service period occurs at the beginning of the summer; for research assistants, it occurs at the end.

With the consent of the employer, graduate students may “exchange” service days with days in a non-service period. The official periods of service and non-service, however, will not change. No loss of pay occurs when such an exchange occurs.

7.2.3 Bereavement Leave

Assistants are eligible to receive up to three days of paid leave to travel to the funeral associated with the death of an assistant’s immediate family member, same-sex domestic partner or household member, in-law, grandchild, or grandparent; and one day of paid leave for a relative other than the above who is not a member of the assistant’s household.

7.2.4 Personal Leave Not Involving Suspension of Registration

An assistant may be granted an unpaid personal leave during the term of his/her appointment, upon request to and at the sole discretion of the employer (either the advisor or the department, depending on the source of funds) and subject to such terms and conditions as the employer may establish.

See Section 7.2.2 for “exchange” of service days with days in a non-service period.

7.2.5 Sick Leave

Assistants are eligible for 13 non-cumulative workdays of sick leave at the percentage of their appointment for each appointment year, whether they are appointed on a nine-month or a twelve-month basis. Graduate students appointed to one-semester assistantships earn 6.5 days of sick leave at the percentage of their appointment.

7.2.6 Parental Leave

Eligible research and teaching assistants will be entitled to up to two weeks of parental leave without loss of salary immediately following the birth of a child, or upon either the initial

placement or the legal adoption of a child less than 18 years of age. Eligible graduate assistants are those graduate students with a current assistantship appointment for at least one semester and who hold an active appointment at the time the parental leave is taken.

The requirement that academic staff members must have six months of service to receive this benefit does not apply to graduate assistants. Graduate students who hold only an hourly appointment are not eligible for parental leave. A graduate assistant who resigns the appointment before or at the expiration of the parental leave normally will be required to reimburse the University for the cost of the salary paid during the leave.

Parental leave for graduate assistants will be counted as part of the twelve-week entitlement accorded by the Family and Medical Leave Act (FMLA) for FMLA-eligible individuals and may be used in conjunction with other paid or unpaid leaves for which the individual is eligible. Consult Section IX-A-10 at <http://www.cam.illinois.edu/> for more information about the FMLA policy.

There is no application form for parental leave other than that used for FMLA leave. As with any leave, graduate assistants should communicate as soon as is practical with their unit regarding the timing of the proposed leave. Arrangements for the leave are coordinated between the student and the research advisor in conjunction with the School of Chemical Science's Human Resources Office. Consistent with the FMLA policy, units may request documentation of the birth or adoption. Parental leave should be taken in full at the time of birth or adoption and not on an intermittent or reduced leave schedule for a period lasting longer than two weeks.

Questions regarding this policy should be directed to the Office of Academic Human Resources (217-333-6747 or 807 South Wright Street, Room 420).

7.2.7 On-Campus Health Care

The Health Services fee is paid on behalf of graduate students. Students are entitled to free office visits at the McKinley Health Center with doctors, nurse practitioners, mental health therapists, and health educators, along with free access to most X-rays, laboratory tests, and prescriptions.

The Health Service fee does not pay for care received outside McKinley Health Center (e.g., hospitalizations and referrals) or for immunizations required by law prior to entrance to the University or travel immunization.

Coverage extends, including breaks, from the first day of the semester to the first day of the following semester. When you discontinue enrollment at the University, you can extend your health care coverage for one additional semester if an extension is purchased by the semester deadline.

Health care at McKinley Health Center for spouses of graduate students is available for purchase. To purchase coverage for spouses, you need to bring the following items with you when you apply: (1) a copy of your marriage license; (2) proof of major medical health insurance; (3) immunization records that meet State of Illinois requirements.

Unfortunately, there is nothing available under this coverage for children of graduate students.

For more information about health care at McKinley Health Center, call 217-333-2719 or visit them at 1109 South Lincoln Avenue, Urbana or online at <http://www.mckinley.illinois.edu>.

7.2.8 Off-Campus Health Insurance

The university provides and administers the Student Health Insurance Plan, which covers care that is not available at McKinley Health Center, such as hospitalization, specialty care, and care away from campus. This plan is mandatory for those students who have not provided proof of other equivalent health insurance coverage.

Students who wish to enroll in the Student Health Insurance Plan must pay a health insurance fee for every semester of coverage. Coverage is worldwide and extends, including breaks, from the first day of the semester to the first day of the following semester. Insured students who do not plan to enroll for classes for the next consecutive semester may elect to extend coverage for themselves and for insured dependents for one semester beyond the last semester enrolled. Graduating students may elect to extend coverage for two semesters.

If you opt out of the Student Health Insurance Plan because you have your own health insurance, then you should be aware that there can be some unexpected consequences. For example, many insurance plans require service to be provided in the home community, which may require you to travel home to see a specialist or receive other treatment.

Health insurance for spouses and children is available and must be applied for each semester, provided that the student is also insured. Coverage takes effect on the date of application and receipt of proper premium by the University of Illinois, or the appropriate semester start date, whichever is later. Dependents insured for the prior semester will have no lapse in coverage, provided that applications and premium are received by the appropriate semester deadline date.

The University of Illinois at Urbana-Champaign offers a dental insurance plan called Delta Dental Plan of Illinois to graduate students and dependents of these individuals. See <http://www.grad.illinois.edu/current/dental.htm>. There are more than twenty Delta Premier dental offices in the Champaign-Urbana area. A list of these dentists is available online at <http://www.deltadentalil.com>.

The University of Illinois also offers a vision plan called Vision Service Plan at no charge for graduate assistants and fellows whose appointments generate tuition waivers. When eligible students have been entered into the payroll system, they are eligible for coverage. A list of doctors is available online at <http://www.grad.illinois.edu/current/vision.htm>.

For more information about the Student Health Insurance Plan, dental plan, or vision plan, call the Student Insurance Office at 333-0165, or visit the websites listed above or at <https://www.uhcsr.com/illinois>.

7.3 Teaching Assistantships

In order to give students a well-rounded education and to meet the instructional demands of our first-year and second-year courses, most students in the Ph.D. program are required to teach at least two semesters at half-time (50% FTE). International students must first pass the English Proficiency Interview (EPI) with a score of 4 Conditional Pass (CP) or higher (see Section 5.2.5). All students must have completed the Department of Chemistry TA Orientation, a comprehensive program covering not only educational principles and practice teaching, but also laboratory safety and procedures.

7.3.1 Teaching Assignments

Once students are certified to teach, their special training and interests are matched with available assignments. Selection is made on the basis of ability, interest, availability, and need. Most first-year graduate students will teach in General Chemistry.

A few Teaching Assistants grade papers for undergraduate courses, but most have classroom or laboratory teaching assignments. All Teaching Assistants are provided with a faculty supervisor who will be responsible for setting policy, determining the syllabus, and assigning final grades.

Teaching Assistants may participate in instruction for courses offering graduate credit, but they may only routinely assist the responsible instructor in grading, laboratory supervision, and similar activities. Infrequent lecturing is permissible.

Professional service is required of all Teaching Assistants, to the best of their abilities. Substandard performance will not be tolerated. Examples of substandard performance include not arriving on time, not being properly prepared, and not properly supervising laboratory sections. Consequences for substandard performance will be determined on a case-by-case basis.

7.3.2 Teaching Loads

A half-time appointment corresponds to no more than 20 actual hours of work per week. A half-time Teaching Assistant (TA) appointment typically consists of approximately [3-48](#) hours teaching in a classroom or laboratory, 4 hours of grading, 1-2 office hours, and several hours of preparation per week. Students should expect that in the first semester they teach a particular course, more preparation time will be required than in subsequent semesters.

7.3.3 Campus Teaching Resources

In addition to being supervised by faculty in the department in which they teach, Teaching Assistants can obtain help from the Center for Innovation in Teaching and Learning, a campus-wide unit responsible for assisting colleges, departments, faculty, and TAs) in improving and facilitating instruction. The staff works closely with colleges and departments while working with TAs, but they may also work solely with TAs upon request. The staff also invites consultation and discussion on a wide variety of instructional issues including classroom pedagogy, classroom management, student achievement, assessment on issues related to instruction, teaching portfolios, academic integrity, creating an optimal learning environment, and active learning. All of these activities provide Teaching Assistants with many opportunities for follow-up consultation. Walk-ins are encouraged. The Center also provides formal and informal programs and workshops on these and other topics for faculty, staff, and student groups.

The main office of the Center for Innovation in Teaching and Learning is located in the northeast corner of the Armory: 249 Armory Building, 505 East Armory Avenue, Champaign, IL 61820 (217-333-3370). See <http://citl.illinois.edu/>.

7.3.4 Graduate Teacher Certificates

In order to encourage graduate students to develop their teaching skills while simultaneously documenting their teaching experience, the University has created the Certificate in Foundations of Teaching, Graduate Teacher Certificate, Teacher Scholar Certificate, Certificate in Technology – Enhanced Teaching, and Citizen Scholar Certificate programs. These certificates provide documentation of a graduate teacher's involvement in teacher development, as well as in hands-on teaching activities such as instructional orientations, workshops, classroom teaching, classroom visitation by a peer, and videotaping of his or her teaching followed by consultative and student feedback. Additional information and the specific requirements for these programs can be obtained from the Center for Innovation in Teaching and Learning, 249 Armory Building, 505 East Armory Avenue, Champaign, IL 61820 (217-333-3370).

7.4 Research Assistantships

Once students join a research group and have completed their teaching obligation, and while they remain in good standing in the department, they are typically supported by their research advisors on research assistantships. A student chooses an advisor based on the work done in the research group and how closely that matches the student's own research goals. As their research progresses, students are making significant progress toward not only achieving their own goals, but toward adding to the collective scientific advancement of the group. The work of the group is supported primarily through grants secured by the faculty advisor, and each student is then paid by a grant that supports research in his or her area of interest.

In the event that a faculty advisor has insufficient funds to pay all members of his or her group as Research Assistants, some of the students in the group may be supported as Teaching Assistants until grant funding is restored to a sufficient level.

7.5 Fellowships

The Department of Chemistry has a well-developed program of fellowship support that supplements assistantships. Fellowship funds are derived from University funds, departmental gift funds, endowments, and corporate support. Annually in the spring, first-year students are automatically nominated for fellowships, and faculty members are welcome to nominate their best students second and third-year students for these awards. Depending on their status in the program, students are selected to receive departmental fellowships on the basis of graduate coursework, research performance, and recommendations from their advisors.

In evaluating a first-year student, major emphasis is placed on coursework. All first-year students are automatically considered for a fellowship. The Graduate Fellowships and Progress committee will also review letters of reference submitted when the student entered the program and recommendations from UIUC faculty. For students in their second and third years, evaluation of research progress, along with the recommendations, plays an increasingly important role. Advanced students who have been outstanding at research, but who may not have had the highest records in coursework, can now be competitive. Thus, first-year students are not

placed in direct competition with second and third year students. For all students, the committee pays particular attention to each applicant's record of accomplishment in the preceding twelve to eighteen months. With few exceptions, departmental fellowships are not awarded to students entering their fifth year or later.

The committee will review records for all applicants and will create a list that ranks students by year, by objective measures and by quality of research. Fellowships are then awarded based on numbers of eligible students and available funds.

7.6 Travel Awards

Funds in the form of conference travel awards are available for students who will be giving a talk or presenting a poster at a conference. Each semester, up to five awards are partially funded through the Graduate College (Conference Travel Awards for Graduate Students, <http://www.grad.illinois.edu/general/travelaward>). In addition, each semester several additional conference travel awards are funded from other sources within the Department of Chemistry. Students are notified each semester in advance of the application deadline, and a single application form is used for all awards. For more information on travel awards, please contact the Graduate Program Coordinator.

7.7 Emergency Loans

Students can request interest-free loans from the Department of Chemistry in emergency situations. See the Graduate Program Coordinator.

Loans can also be obtained from the Office of Student Financial Aid at 620 E. John Street, Champaign, IL 61820 (217-333-0100).

Banks and credit unions can provide loans for non-emergencies such as buying a computer or a car. The website of the University of Illinois Employees Credit Union is <http://www.uiecu.org>. The main office is at 2201 S. First Street, Champaign, and there is a branch office in the Illini Union on the first floor.

8. Appeal and Grievance Policy

8.1 Introduction

All members of the University community are expected to observe high standards of professional conduct and ethical behavior in graduate education and in the supervision of graduate research and teaching (*Guiding Standards for Faculty Supervision of Graduate Students*, March 31, 1997). In a large and heterogeneous scholarly community, however, problems may arise. Therefore, the University articulates its policies and provides effective informal and formal procedures for resolving these problems when they involve graduate students.

The purpose of this policy is to protect the interests of all graduate students by providing informal and formal means of seeking resolution in case of an inappropriate action of a member of the faculty or administrative staff or an inappropriate application of a department policy. Any graduate student may informally pursue or formally file a grievance when he or she believes that a decision or behavior adversely affects his or her status as a graduate student.

The Department of Chemistry abides by the Graduate College's Policy and Procedures on Grievances by Graduate Students. This policy (which can be view in entirety at <http://www.grad.illinois.edu/gradhandbook/2/chapter9>) does not apply in cases involving challenges to Graduate College petition decisions, the exercise of professional judgment in evaluating student academic performance/progress, student-to-student conflicts, academic misconduct, employment specific issues, cases that arise under the *Student Code*, or cases involving alleged discrimination or sexual harassment.

8.2 Scope and Coverage

A grievance may arise when a graduate student believes that his/her status as a graduate student, or University appointment based on student status, has been adversely affected by an incorrect or inappropriate decision or behavior. Examples include, but are not limited to the following:

- Failure to follow a departmental or Graduate College policy in a manner that results in significant prejudice against the student
- Failure to follow departmental or Graduate College procedures for assessing degree milestones such as preliminary examinations
- Improper termination from a program
- Requiring personal services unrelated to academic duties
- Retaliation for exercising his/her rights under this policy

Practices or actions by a student's supervisor, another faculty member, or another member of the University community that seriously deviate from ethical or responsible professional standards in the supervision of graduate student work may constitute professional misconduct in violation of University policy.

8.3 Description of the Grievance Procedure

8.3.1 Informal Resolution. A graduate student wishing to initiate the Graduate College grievance process must start with an Intake Dean. The student will meet with an Intake Dean who will review the matter and materials and attempt to assist the student in resolving the issue at the informal level through discussion or mediation. This process must be initiated within **60 business days** of the decision or behavior resulting in the grievance. The Intake Dean may attempt to mediate a resolution for matters that do not meet the deadline, but such matters will not be submitted for formal review.

8.3.2 Written Grievance. A student may file a written grievance if an informal resolution is unsuccessful, provided the written grievance is filed within **10 business days** of the date the Intake Dean advises the Grievant and the Subject that no further efforts will be made at the informal stage. The grievance should be delivered to the Dean of the Graduate College.

The written grievance should include at least the following:

- a statement by the student summarizing the concern(s)
- the name(s) of the University faculty, staff or administrators involved
- the date(s) of the alleged incident(s)
- a statement concerning what outcome or action the student would like to see result from the grievance

8.3.3 Potential Outcomes of Intake Dean's Review. Once a written grievance has been submitted and reviewed, the Intake Dean will contact the student to arrange a meeting to discuss it. The Intake Dean will review the written grievance and supporting documentation provided by the Grievant and may conduct further inquiries and/or solicit additional information as warranted. The Intake Dean may also facilitate additional discussions between the Parties to try to resolve the matter at the administrative level. The potential outcomes of this review are the following:

- **Agreed Disposition.** If the Intake Dean is successful in resolving the matter by agreement, then the Intake Dean shall prepare a Report which includes the grievance(s), the response(s), the finding(s), and the resolution.
- **Unresolved Grievance.** If the Intake Dean is unsuccessful in resolving the matter by agreement, then the Intake Dean shall prepare a Report which includes: the grievance(s), the response(s), the finding(s), and what efforts were taken or proposed to resolve the matter administratively.

The Intake Dean's Report of Administrative Action will be submitted to the Dean with copies to the Grievant and Subject(s) of the Grievance.

8.3.4 Request for Panel Review. The Grievant or the Subject(s) may request a panel review of unresolved grievances by submitting a request to the Dean within **10 business days** from the date of the Intake Dean's Report of Administrative Action.

Upon receipt of a request for formal review, the Dean will review the request along with the Intake Dean's Report of Administrative Action and other relevant materials to consider whether any issues merit further investigation and review. If the grievance is declined, the Dean will notify the person seeking review in writing and explain the decision.

If the Grievance is accepted, then the Dean shall appoint a panel of five (5) people to investigate the matter and provide recommendations. The Panel shall consist of:

- one member of the Graduate College Executive Committee;
- one faculty member from the unit in which the matter originated;
- one faculty member at large; and
- two active graduate students at large.

The faculty member at large will chair the Panel.

The Dean shall define the subject matter of the review in a written charge. The charge may, but need not, address every allegation contained in the request for formal review. The charge may also include additional matters that, in the opinion of the Dean, warrant investigation.

8.3.5 Panel Report. The Panel shall submit a written report to the Dean as soon as practical that includes at least the following:

- a copy of the written charge from the Dean;
- a statement of the relief sought by the Grievant;
- the response of the Subject(s);
- a general description of the investigative process;
- a citation of relevant policies;
- findings of fact that support the Panel's conclusions;
- a recommendation of appropriate redress for the Grievant(s), if applicable;
- and any recommended changes in policies and procedures to minimize the probability of recurrence, if applicable. Both parties will have the opportunity to respond to the panel report and submit written comments to the Dean within **5 business days** of receipt of the report.

8.3.6 Final Decision. As soon as practical following the receipt of the Report and all written comments concerning the report, the Dean shall determine what disposition to make of the case. The following are potential outcomes of the final decision:

a) If the Dean concludes that the grievance has not been proved, then the grievance will be deemed not sustained and dismissed.

b) If the Dean concludes that the grievance has been sustained, then the Dean will proceed in accordance with the University Statutes and relevant University rules and regulations. The Dean may prescribe redress for the grievant, recommend modification of policies, or recommend changes in the procedures for implementation of such policies, as appropriate.

c) If the Dean concludes that these procedures have not been followed, or the interests of fairness or thoroughness require further investigation, then the Dean may direct the Panel to revisit any relevant issues and submit a revised Report within a certain time frame. The Dean shall identify the specific errors or concerns and provide direction to the Panel as to appropriate corrective measures. The Panel will only address the issues raised by the Dean and submit a supplemental report to the Dean for consideration.

The Dean's final decision will be provided to both parties in writing. The Dean's disposition is final unless appealed.

8.3.7 Appeal. A party may file and appeal to the Urbana-Champaign Provost within **10 business days** from the date of the Dean's Written Disposition. The sole grounds for appeal are material violations of these procedures that have resulted in significant prejudice against the Party appealing. The appeal must be in writing and must specify the nature of the procedural error. The Provost's decision on appeal shall be final.

8.4 Confidentiality

All persons involved in administering these procedures will make diligent efforts to protect the reputations, privacy, and positions of all involved persons. These persons include those who file grievances, persons who are alleged in a grievance to have taken inappropriate actions or activities, and department administrators. All of the procedures and the identity of those involved should be kept confidential to the extent permitted by law. However, confidentiality regarding information other than the identity of the grievant need not be maintained if the grievance is found to be false and in particular if dissemination is necessary to protect the reputation of individuals or units falsely accused. Making public the fact that a grievance has been deemed false or unproved is not considered retaliation against the grievant. Protection of confidentiality does not preclude disclosures necessary to redress actions leading to a grievance.

9. Services to Graduate Students

9.1 Department of Chemistry Graduate Student Advisory Committee (DCGSAC)

The DCGSAC is an organization through which graduate students address academic and social issues as they pertain to the graduate student population. The DCGSAC is composed of two representatives from each area in chemistry, plus an additional member from the largest area. These graduate students are nominated and elected by the graduate students in each area. They address issues that affect graduate students, represent the graduate students of the department in a unified manner, improve communication between graduate students and the department administration, and strengthen interactions within the graduate student body as a whole. The DCGSAC also sponsors professional events, such as symposia that provide information about careers in the chemical profession, and social events, such as the Fall Picnic and the Winter Holiday Party. See <https://chemistry.illinois.edu/dcgsac> for more information.

9.2 Career Counseling and Placement Services

The School of Chemical Sciences Career Counseling and Placement Services Office provides guidance, resources, and opportunities to job-seekers to help them achieve their career aspirations relevant to their academic interests and to facilitate and support connections between employers and those job-seekers. The office assists students from all degree levels, postdocs, and alumni in the Department of Chemistry who are interested in industrial, government, academic, and alternative careers. Visit the office in 105 Noyes Lab for handouts and reference guides on the job search and interview process as well as for help with resume and CV preparation, mock interviews, career advising, job search coaching, and negotiation and networking support.

For full-time industrial recruiting, Ph.D. students and postdocs are recommended to participate actively in the full fall recruiting season prior to completion of time in the department, because the majority of companies visit campus at that time. Registration may be done at any time in the Career Services Office (105 Noyes Lab). Registration is necessary only once. Students in their first year are encouraged to register, because many “exploration” opportunities and events for first through third year students are available. Student resumes/CVs can be uploaded via our online recruiting system to be shared with employers, and all on-campus interviews are scheduled through the system as well.

For more information, visit the Career Services website at <http://careers.scs.illinois.edu>, in 105 Noyes Lab, or by contacting Patricia Simpson, Director, at 217-333-1050 or plblum@illinois.edu.

10. What to Do When in an Accident

Safety is a priority in the Department of Chemistry. Take extra time to think of safety and possible consequences of unsafe conditions before performing any activity. Consult your advisor or a suitable reference if you are unsure about the hazards of a particular procedure.

Contact Chad Stevens, who is the Director of Facilities and Safety in the School of Chemical Sciences, for assistance in safety training, evaluations, and inspections, as well as advice regarding safe procedures, proper equipment, or safety concerns. All accidents should be reported within at most 24 hours to the Director of Facilities and Safety, who will ensure that the proper forms are completed.

Additional safety information can be found on the School of Chemical Sciences webpage at <http://safety.scs.illinois.edu/>.

The campus Division of Research Safety has valuable information at <http://drs.illinois.edu/>.

Important telephone numbers to know are listed below:

| | |
|--|-------------------|
| For an emergency, including from campus phones | 911 (not “9-911”) |
| Director of Facilities and Safety, School of Chemical Sciences | 333-6365 |
| Division of Research Safety | 333-2755 |
| Campus Police | 333-1216 |
| Environmental Health & Safety | 333-2755 |

11. General Information

11.1 Mailboxes

Graduate student mailboxes are located in the Roger Adams Lab mailroom (29A RAL) and the first floor of the Chemical and Life Sciences Building (CLSL). These mailboxes provide a convenient means for the department to get in touch with you. Important messages will sometimes be left in your mailbox, so please be sure to check its contents regularly. Note that the mailroom is open only during office hours, but mailboxes can be accessed from the public hallway via a combination knob. There is a mailbox for outgoing campus mail near the mail room door. Please use the correct mailing address for the department on all correspondence: Department of Chemistry, University of Illinois at Urbana-Champaign, 600 South Mathews Avenue, Urbana, IL 61801.

11.2 Room and Desk Assignments

All new graduate and undergraduate teaching assistant offices are located in rooms 331-333 Noyes Lab, with the exception of Merit Teaching Assistant offices which are located in room 335 Noyes Lab. Desks are not assigned; instead, all teaching assistants share desks. Each semester, students should put their names and the days and times they want to reserve a specific desk on the desk they wish to reserve. When a student finds an advisor and becomes part of a research group, workspace will be assigned within the research lab.

11.3 Lockers

Lockers are available for graduate students' use in Rooms 331-333 Noyes Lab. The assignment of the lockers is under the auspices of the Department of Chemistry Graduate Students Advisory Committee (DCGSAC). Contact DCGSAC by e-mail at dcsac1867@gmail.com for information regarding availability of lockers and their assignment.

11.4 Conference Rooms

Individual graduate students or groups of graduate students have the right to reserve any of the departmental conference rooms for purposes related to the business of the department, including scholarly activities, social gatherings, and meetings. The only functions with higher priority are those that involve faculty members.

11.5 Keys

In order to obtain building and laboratory keys, students must have an authorization form signed by a senior staff or faculty member. Keys are then distributed in the mailroom, 29 Roger Adams Lab.

11.6 Student Identification Cards (i-cards)

Student identification cards (i-cards) are obtained at the Urbana ID Center in the Illini Union Bookstore (809 S. Wright Street). A letter of admission is required for new students to obtain an i-card. The i-cards are used to ride the Champaign-Urbana buses for free. They are also used for entrance to the fitness centers and libraries.

11.7 Computer and Graphics Facilities

A computer lab is available for graduate student and faculty use. It is located in 151 Noyes Lab. To access the computers, users need an SCS computer account, which can be obtained by seeing Chuck Wallbaum in 153 Noyes Lab. The computer lab is for scientific computing and houses mainly SGI Altix systems, but PC-based workstations are also available. For information about SCS computer services, see <http://computing.scs.illinois.edu/>.

Note that all students also have “free” accounts on the University system, which is maintained by CITES. For information about University computing resources, see <http://techservices.illinois.edu/>.

The School of Chemical Sciences maintains a Graphic Services office. The professional staff provides a range of conventional photographic, digital imaging, technical drawing and graphic design services to all graduate students, faculty and staff. The office is located in 71 Noyes Lab, 217-244-1784 (graphics@scs.illinois.edu).

11.8 GradLINKS

Please read the announcements distributed through the Graduate College’s GradLINKS weekly e-bulletin. These messages contain notices of important events and deadlines.

11.9 Photocopying

Photocopying facilities are available for official use. Each job must be charged to a specific account number, which can be obtained from faculty or area offices as appropriate. Copy service request forms may be submitted to the mailroom for large amounts of copying. Such requests must be submitted in advance of when a large volume of copies are needed. Requests should be placed with the Receiving staff in 29A Roger Adams Laboratory.

11.10 Office Supplies and Services

Some office supplies are available to teaching assistants. Students should check with the area office of the class to determine what supplies are available and where they are located.

11.11 Telephones

The University of Illinois uses the Lync software for telephone use. Lync operates through a computer and internet connection. When calling an on-campus location, only the last 5 digits need to be dialed. Dial 911 for emergencies. For troubleshooting and to set up the Lync system, contact the SCS Computer Applications and Network Services (CANS) office in 125 Noyes Lab.

11.12 Chemistry Library

The Chemistry Library is located in Room 170 Noyes Lab (217-333-3737). Library hours are available on the library’s website, <http://library.illinois.edu/chx>.

11.13 Personal Counseling

Students sometimes experience personal challenges that complicate and undermine success in their academic and personal lives. These problems might include academic difficulties, career indecision, problems with family or friends, depression, problems resulting from an abusive childhood or sexual assault, anxiety, procrastination, eating disturbances or disorders, low self-

esteem, alcohol or substance abuse, or anxiety about dating or sexuality. The University Counseling Center staff provides a variety of services to help students understand their problems and themselves, improve their academic performance, achieve satisfying relationships, and make effective and satisfying career and life choices.

The Counseling Center staff is aware of the special concerns of women, men, lesbian, gay and bisexual students, international students, students with disabilities, and students of color and other ethnic minority groups, and they are committed to being sensitive to these issues. The Counseling Center is supported by the Health Service fee, and most services are available at no additional cost. For more information about any Counseling Center service or program, or to schedule a first-time appointment, please call 217-333-3704.

The Counseling Center is located in the Fred H. Turner Student Services Building, 610 E. John Street, Champaign, IL 61820. Their website is <https://counselingcenter.illinois.edu/>.

Sources of Information

The information in this document is based in part on the following University of Illinois publications:

The Graduate College Handbook

<http://grad.illinois.edu/gradhandbook>

The University of Illinois Student Code

<http://studentcode.illinois.edu>

Programs of Study

<http://creativeservices.illinois.edu/ProgramsOfStudy>

Graduate College Website

<http://grad.illinois.edu/>

GEO Contract for 2012-2017

<http://humanresources.illinois.edu/assets/docs/AHR/geo.pdf>

The *Graduate College Handbook* explains your privileges and responsibilities as a graduate student, describes many of the services provided to you by the University, and summarizes the Graduate College regulations that apply to all graduate students. There are additional departmental requirements, which in some instances are more stringent than those of the Graduate College. Much of the *Handbook* deals with rules and regulations, but it also suggests ways in which exceptions can be requested for good reasons. All graduate students should carefully examine the *Handbook*.

The *University of Illinois Student Code* applies to all undergraduate, graduate, and professional students. It provides information about regulations such as individual rights, affirmative action, registration, student conduct, etc.

The *Programs of Study* and the *Course Catalog* are both issued by the University and provide information about degree programs and courses offered.

The *Graduate College website* provides a wealth of information for all policies and procedures pertaining specifically to graduate students; including but not limited to thesis and dissertation requirements, petition policies, registration policies, and assistantship policies.

If conflicts exist between this *Graduate Manual* and any document listed above, then the applicable Graduate College or University policy takes precedence.