The *Red Book:* Procedures for Graduate Students in the Chemistry Department

University of Nebraska-Lincoln

Version 2019

(w/ corrections and updates thru May 2020)

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A. Introduction

The following handbook details certain procedures and criteria relevant to pursuing a Doctoral or Master's degree in the Department of Chemistry at the University of Nebraska-Lincoln (UNL). The complete rules and regulations pertaining to all UNL graduate students are set out in the UNL Graduate Catalog.[1] As stated in that catalog:

> "It is the responsibility of the student to be familiar with the information in this catalog and on the Graduate Studies website, and to know and observe all regulations and procedures relating to the program he or she is pursuing. In no case will a regulation be waived or an exception granted because a student pleads ignorance of, or contends that he or she was not informed of, the regulations or procedures. A student planning to graduate should be familiar with the dates relating to application for graduation and other pertinent deadlines."

The Chemistry Graduate Committee, hereafter "the Committee", administers the Chemistry graduate program, represents and advises students within the program, and makes recommendations to the Office of Graduate Studies on all matters pertaining to graduate students in the program.[2] The following handbook details certain procedures and criteria relevant to studies in the Chemistry graduate program and successful completion of an advanced degree. The policies outlined herein apply to all students who begin their graduate studies after May 1, 2019; students admitted prior to this date may choose to follow current policies **or** those in place at the time of their admission.[3]

[1] https://catalog.unl.edu/graduate-professional/graduate/ (accessed 12/2019 Footnotes in the text are meant to be explanatory and to reflect the current policy and interpretations.

[2] The members of the Committee are typically chosen to represent the major research areas and academic subdisciplines within the Department; the Chair is nominated by the Department and appointed by the Dean of the Office of Graduate Studies.

[3] https://chem.unl.edu/red-book (accessed 12/2019)

B. Student Wellness, Stress, and Sources of Assistance

1. Health and Wellness

Graduate school can be a stressful environment. It is important to take good care of yourself. The following are provided as useful tips:[4]

1. Take care of your body (sleep, exercise, diet). Seek help if you feel ill or depressed.
2. Don't neglect your life away from school. Keep up relationships, interests, passions, reflection, and/or spiritual focus.
3. Keep your attention on long-term goals (vs. always focusing on short-term problems).
4. Celebrate milestones; take time to reward yourself for achievements.
5. Allow yourself to trust. Don't be afraid to reach out for advice or help.

2. Emergencies and Crisis Situations

If you are seriously ill (can't get up; too weak to go out for medicine) or if you are having thoughts of harming yourself, seek assistance **immediately.** Help is available 24/7 at **402-472-5000**, **402-472-2222** (UNL Police), or **911**.

If you know of someone else who is very ill or is contemplating harming themselves or someone else- act **now**. Contact the UNL Police at **911** or **402-472-2222** (**2-2222** from a campus phone) or UNL Counseling and Psychological Services (**402-472-5000**); if you aren't sure what to do, ask your advisor or the Graduate Chair or the Department Chair.

If you are feeling threatened, make sure you are safe (remember *run/hide/fight*) and then contact the Police. The UNL PD web site is filled with useful information (some examples: *Crime Reporting; Emergency Planning; Active Shooter Response*): https://police.unl.edu/

3. Wellness Resources

In addition to informal support mechanisms available through friends, relatives, and peers, there are several health and wellness resources available to you at little or no cost.

[4] Adapted from materials prepared by Duke University: https://gradschool.duke.edu/student-life/student-resources/tips-dealing-stress (accessed 12/2019)

- The University Health Center (https://health.unl.edu/) provides access to primary care providers, other providers (via referral), vaccinations, sexual wellness, international student services, and pharmacy. See "Student Health 101": http://unl.readsh101.com/.
- UNL Counseling and Psychological Services (CAPS) can provide confidential assistance to students who are suffering from stress, who have experienced trauma (personal, physical, or psychological) or depression, or who are having thoughts of self-harm. Contact **402-472-5000** (Health Center; follow the prompts to be connected to a real person) or go to https://caps.unl.edu/.
- The Academic Success Coordinator in the Office of Graduate Studies is someone you can contact about problems related to graduate school. As of January 2019, the coordinator is Dr. Eva Bachman (Email: ebachman1@unl.edu; Tel: 402-472-8669).

4. Services for Students with Disabilities

The University of Nebraska-Lincoln is committed to ensuring equal access to curricular and co-curricular opportunities for students with disabilities. Services for Students with Disabilities (SSD) implements reasonable accommodations for students with disabilities and offers students opportunities to contribute and participate in the diverse campus experience at the University of Nebraska–Lincoln. SSD is located at 232 Canfield Administration Building (Ph: **402-472-3787**; TTY: **402-472-0053**; Fax: **402-472-0080**; https://www.unl.edu/ssd/home). Students should contact SSD as far as possible in advance of an anticipated challenge.

5. Academic Leave of Absence

In the event that a student is temporarily unable to participate in the graduate program due to personal illness or injury, family illness, injury or death, military service, or other unforeseen circumstances, it may be possible to temporarily suspend both the graduate program and the pursuit of the degree through an Academic Leave of Absence (ALoA). Some important aspects of an academic leave (from Graduate Studies):[5]

The ALoA is appropriate only when a student will not be able to make any academic progress.

The ALoA suspends registration and studies for a minimum of one semester or a maximum of a full academic year[6] The time limit for reaching candidacy or for completing the doctoral degree is extended by the number of semesters the student has been on an approved leave.

During the ALoA, students will not have access to campus health insurance, assistantships (TA or RA), libraries, laboratories, and research facilities.

An ALoA requires approval from the Supervisory Committee Chair, the Graduate Chair, the International Student and Scholar Office (for international students only), and the Graduate Dean. Start the process by approaching your Supervisory Committee Chair.

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[5] https://catalog.unl.edu/graduate-professional/graduate/registration/leave/ (accessed 12/2019)

[6] The one-year limit can be extended with the permission of the Dean of the Office of Graduate Studies.

C. Academic Integrity and Professional Conduct

All academic disciplines and institutions of higher education share a strong commitment to maintaining the highest standards of academic integrity and professional conduct.

1. Academic Integrity

As part of our commitment to academic integrity, we agree:[7]

- To identify the source of the ideas or words or images that we borrow or reuse[8]
- Not to cheat or in any way take unfair advantage on exams or assignments
- To protect the rights of the participants in our studies
- To deal honestly with the content of our courses
- To deal fairly with the students in our care

As noted by UNL Graduate Studies: "Because integrity is essential to our community, we hold very high expectations for every graduate student at Nebraska, each of whom is required to **be aware of and adhere to the student code of conduct**."[9] Students who observe instances in which academic integrity is compromised (for example, if you observe cheating), must notify an appropriate faculty member or administrator:

> *Cheating in a class or lab you are leading*: Talk to the course instructor or lab manager. For resources related to promoting academic integrity as an instructor, see: https://www.unl.edu/gtahandbook/promoting-academic-integrity.
>
> *Cheating in a course(s) you are taking*: If you can, talk to the course instructor. Otherwise, consult the Graduate Chair, the Department Chair or the Graduate Dean.
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> *Dishonesty related to the graduate program:* Talk to the Graduate Chair, or if this is impractical, the Department Chair, or the Graduate Dean.

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[7] Adapted from material published by UNL Graduate Studies: https://www.unl.edu/gradstudies/current/integrity; https://catalog.unl.edu/graduate-professional/graduate/general/conduct/ (accessed 12/2019).

[8] For a discussion of plagiarism, fair use, and plagiarism-related resources, see: https://www.unl.edu/gradstudies/current/integrity#plagiarism (accessed 12/2019); https://libraries.unl.edu/citation-plagiarism-tools (accessed 12/2019).

[9] [https://studentconduct.unl.edu/student-code-conduct] Emphasis added by the Chemistry Graduate Committee. Student Code-related procedures are described at https://studentconduct.unl.edu/Student%20Code%20of%20Conduct%20May%20Rev%202014%20a.pdf (Accessed 12/2018; note that a revision of the Student Code is underway during 2019-2020).

Suspected research misconduct): If possible, begin with your advisor. If this is impractical, consult with the Graduate Chair, the Department Chair, or the Office of Research Compliance (402-472-6965; sfrizzell2@unl.edu). Research Compliance maintains a compliance "hotline" (1-844-348-9584; www.nebraska.ethicspointcom); the web site associated with this hotline also provides useful information as well as contact info for the Research Integrity Officer.[10]

2. Professional Conduct - as a Chemist

Students should follow principles set out for chemical professionals by the American Chemical Society.[11] Selected portions are highlighted here.

- Be actively concerned with the health and safety of co-workers, consumers and the community;
- Serve the public interest and to further advance the knowledge of science. Public comments on scientific matters should be made with care and accuracy, without unsubstantiated, exaggerated, or premature statements;
- Keep accurate and complete laboratory records, maintain integrity in all conduct and publications, and give due credit to the contributions of others;
- Perform work honestly, competently, comply with safety policies and procedures, fulfill obligations, and safeguard proprietary and confidential business information;
- Share ideas and information unless this is precluded by intellectual property issues.

3. Professional Conduct - Graduate Education

(from the UNL Graduate Council)[12] "Graduate education must take place in an environment in which free expression, free inquiry, intellectual honesty, and respect for the rights and dignity of others can be expected. Ethical standards of conduct should help ensure, not compromise, these features of the university environment. All graduate students are expected to maintain the highest standards of academic and professional conduct in all aspects of their training and in all interactions with peers, faculty, staff, and other members of the academic community. Any failure to do so may be grounds for being placed on probation and/or dismissal. Professional conduct violations consist of behavior that is inconsistent with the ethical standards in the professional roles for which the student is being trained that are not covered by policies governing academic integrity. This may include the student's performance in the role of researcher or scholar, teacher or mentor, supervisor, service-provider or colleague. Of particular

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[10] https://research.unl.edu/researchcompliance/unl-compliance-hotline/

[11] https://www.acs.org/content/acs/en/careers/career-services/ethics.html (American Chemical Society, 1995; accessed 12/2019).

[12] https://catalog.unl.edu/graduate-professional/graduate/general/conduct/#text (accessed 12/2019). Note the parallels to the American Chemical Society guidelines described in reference 11.

note in this regard are behaviors that make the workplace hostile for colleagues, supervisors or subordinates (*e.g.*, undergraduate students). Graduate students are expected to adhere to ethical standards in a variety of work settings (*e.g.*, offices, classrooms, clinics, and laboratories) within the explicit standards set by university policies. Being physically or verbally threatening, disruptive, abusive or hostile can make the workplace so unsafe or unpleasant that others cannot do their work."

4. Free Expression of Ideas

The University of Nebraska promotes an environment that encourages and protects the free exchange of ideas in a respectful, responsible and effective manner. In this regard, the University places a high value on a civil discourse, on respect for one another, and on facilitating an inclusive climate that encourages all to participate in the free expression of ideas. Accordingly, UNL policy prevents obstructing others from exercising their rights to express themselves. However, not all speech or expression is protected by the First Amendment or permitted at UNL. "The University will not facilitate expression in violation of the law or that poses an unreasonable threat to the safety of the University community or to the University's ability to fulfill its mission of teaching, research, and public service. Certain kinds of expression (among others), such as: speech that incites violence, fighting words, speech that defames or defrauds, speech that constitutes a genuine threat, or unlawfully discriminates, or speech that unlawfully invades privacy, is not protected speech. Acts or conduct which threaten the safety of persons or property are not protected by the Constitution or the University." The full document, RP-6.4.10 Commitment to Free Expression, Guide for Facilities Use, and Education, can be found at: https://bf.unl.edu/rp-6410-commitment-free-expression-guide-facilities-use-and-education.

5. Dealing with Conflict

Everyone will experience conflicts in life, including conflicts at work. However, if these conflicts involve unprofessional conduct or harassment, you need to **immediately** alert others to the problem. The following are presented as guidelines and suggestions.[13]

- If you experience conflicts with the students you are teaching, discuss the situation immediately with the instructor of record, course coordinator, or the laboratory director.
- For conflicts involving other research group members, consult with your Research Advisor; otherwise, approach the Graduate Chair or the Department Chair.
- If a conflict arises with your Research Advisor or with someone outside of your research group, talk to the Graduate Chair or the Department Chair.

[13] Adapted from material published by Northwestern University (accessed 12/2018): https://www.tgs.northwestern.edu/services-support/dealing-with-student-faculty-conflicts/index.html.

- You can contact the Academic Success Coordinator (as of March 2020, Dr. Eva Bachman) in the Office of Graduate Studies or the Dean of Graduate Education: ebachman1@unl.edu; Tel: 402-472-8669.
- If the concern involves discrimination or harassment on the basis of gender or sexual orientation (see following section), you can contact any of the individuals discussed above as well as the UNL Title IX coordinator (see information below).

6. Discrimination and Harassment

The University of Nebraska does not discriminate based on race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation in its programs, activities, and employment.

Title IX: Sexual Harassment: Title IX States "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance."[14] Title IX protects all students, faculty and staff in all aspects of UNL's educational programs and activities; this protection is regardless of gender, sexual orientation, gender identity, full or part-time status, disability, race or national origin. Sexual harassment is any unwelcome conduct or behavior of a sexual nature that creates a hostile environment. Sexual harassment can include unwelcome sexual advances, requests for sexual favors and other verbal (*e.g.*, jokes, innuendos, postings on social media), nonverbal, or physical conduct of a sexual nature. **All forms of sexual harassment, including but not limited to, dating and domestic violence, stalking, and sexual assault are violations of Title IX and prohibited by UNL**. UNL's Title IX Coordinator, Ms. Ms. Megan Counley may be reached at the Office of Institutional Equity and Compliance (128 Canfield Administration Building; **402-472-3417**; http://www.unl.edu/equity/about-title-ix).

7. Where to Report Discrimination or Harassment

- Title IX or Discrimination Inquiries: Institutional Equity and Compliance, 128 Canfield Administration Building, Lincoln, NE 68588-0437; **402-472-3417**; email: equity2@unl.edu.
- Report an Incident: https://www.unl.edu/equity/reporting
- Disability or Discrimination Inquiries: Mary Chinnock Petroski, Interim ADA/504 Compliance Officer University of Nebraska-Kearney; Tel: (308) 865-8400; email: pertroskimj@unk.edu; http://www.unk.edu/about/compliance/compliance-staff.php.

[14] http://www.unl.edu/equity/about-title-ix (accessed 12/2019).

You can also discuss grievances with the Graduate Chair, the Department Chair, Counseling and Psychological Services (Student Health), or Eva Bachman, the Academic Success Coordinator at the Office of Graduate Studies.

D. Research

The nature of research done for an advanced degree is as varied as the field of chemistry. However, some characteristics, challenges, and questions common to many areas of graduate research are discussed below.

1. The Research Topic

It is customary for a student to decide to work with a particular research advisor within a broadly defined area. The specific research problem within this area is usually suggested by the advisor. This is appropriate since, in the beginning, the student may not have the experience to fully appreciate the proposed research in the context of the field. Furthermore, in attempting to solve the assigned research problem, the student will benefit from the ideas, expertise, and guidance of the advisor.

During the course of a research program, the graduate student should become increasingly familiar with the subject of the investigation and, upon completion, may well have greater expertise than the advisor in the specific subarea represented by the dissertation or thesis. Nevertheless, unless agreements to the contrary are negotiated, it is assumed that the general research area in which the specific problem fits is one in which the research advisor will continue to work. It is to the mutual benefit of the student and advisor to agree, before the student's departure, on the responsibilities for future work in the general research area.

Occasionally, a student will, on his/her own initiative, devise a research problem upon which he/she wishes to work. This is acceptable if he/she can find a member of the Graduate Faculty who is willing to oversee the project and be the chair of the student's Supervisory Committee. It is to be stressed that a faculty member has the right to decline supervision of research by any graduate student, regardless of the origin of the research problem. If the research problem is devised by the student, it would normally be assumed that the student would have the priority for continuing the problem after his/her departure. However, it would be well for all concerned for these matters to be made a part of a set of written records and agreements, as appropriate.

2. Research Notebooks

The student is expected to keep accurate, up-to-date records of all research - typically in written or digital research notebooks. Unless written agreements to the contrary are negotiated, these

notebooks are the property of the University of Nebraska-Lincoln Department of Chemistry and under the custodianship of the advisor. The student should not remove them from the lab area without permission. Before leaving UNL, the student must transfer all notebooks, appendices and archives, and all related data and files (including electronic information) to the advisor. If this is not possible (for example, if the advisor has left UNL), the student should contact the Department Chair.[15]

3. Research-Related Property, Including Intellectual Property

Graduate research may result in the construction of a new apparatus, the development of unique software, the determination of spectral data, the synthesis of novel compounds, and other activities which produce materials, objects, protocols, or processes which are considered property. All such property belongs to the University of Nebraska-Lincoln Department of Chemistry, and the research advisor is to be its custodian. This remains true whether the student is self-supporting or receives a salary from the State of Nebraska, federal funds, private research foundation funds, or any other sources of funding obtained by the research advisor, the Department of Chemistry, or UNL.

Research can also result in the generation of potential intellectual property in the form of patentable discoveries. Should a patentable idea arise in the course of research, the rule of the Nebraska Board of Regents must be adhered to, and it is recommended that the UNL Office of Research and/or NUtech be consulted in such cases.[16] Maintaining up-to-date and accurate research notebooks is of critical importance for submission of publications as well as efforts to protect intellectual property through a claim of invention.

4. Research Safety

Before initiating any research activity, students are expected to follow UNL and departmental policies for safety and/or environmental health, to complete any additional safety protocols specific to their own research program (for example, specialized training required for particular operations or reagents), and to complete all required safety training. For more details, please consult the department safety policy at https://chem.unl.edu/safety.

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[15] Students are encouraged to follow good practices for data archiving. See: https://www.insidehighered.com/blogs/gradhacker/necessity-dedicated-backup-system and https://www.insidehighered.com/blogs/gradhacker/3-2-1-backup-it%E2%80%99s-too-late (both accessed 12/2019)

[16] http://www.nutechventures.org/ (Accessed 12/2019; See "Understanding and Protecting IP", under the FOR CAMPUS tab)

E. First Year in the M.S. and Ph.D. Programs

1. Scope of Work

During the first year, graduate students typically distribute their time in three main activities:

- Research: While there may be some variation in expectations between different research advisors and research groups, graduate students are expected to engage in research beginning upon admission and extending throughout their time in the graduate program.[17]
- Coursework: All entering graduate students are expected to enroll in coursework during the first year as described in the following section. Any exceptions must be approved by the Graduate Committee.
- Teaching: Most first-year graduate students and many graduate students are supported as Graduate Teaching Assistants and have responsibilities for teaching either recitation sections or laboratory sections associated with undergraduate courses. Along with time spent in class/laboratory with students, teaching assistants are expected to hold office hours, grade homework/laboratory work, and assist with grading of exams. On average, teaching assistants are expected to spend 16 hours a week on these various tasks.

2. Beginning Graduate Coursework for M.S. and Ph.D. students

Full-time graduate students are required to enroll in 12 credit hours (hereafter "cr") per semester during the academic year and 2 cr per each five-week summer session until the student completes the Comprehensive Examination Requirement (see section G.3) and is admitted to candidacy for the Ph.D. degree (see section G.4).

Incoming graduate students will take assessment exams in analytical, organic, and physical chemistry, and either biochemistry or inorganic chemistry. These exams will be referred as the ACS placement exams in the rest of the document. Students who attain a score at or above the 85th percentile in an area relevant to their planned area of research will have their minimum requirement for formal course-work reduced from 18 to 15 cr; [18] for more information, see *Program of Studies* within section G.2 and/or *Memorandum of Courses* within section H.1.

Table 1 (below) illustrates a typical plan of first-year coursework.

[17] The exception is for students pursuing the M.S. Option II program; see Section I.

[18] Relevance to area of specialization will be decided by the Supervisory Committee.

Table 1. First-year coursework in the Chemistry graduate program

Semester	Course	Credits	Grade
1	Lecture courses (e.g., CHEM 824, 835, 855)	2-6	Letter
	CHEM 898-001: Graduate research (typically, rotations)	2-6	Letter
	CHEM 898-003: Teaching Methods in Chemistry	1	Letter
	CHEM 990: Chemistry Colloquium[19]	1	P/NP
	CHEM 898A: Introduction to Graduate Research	1	Letter
	Graduate Seminar: CHEM 992A-Analytical/Biophysical; or 992E-Organic & Chemical Biology; or 992P-Physical/Inorganic/Materials[20]	1	P/NP
	Total (may not exceed 12)	12[21]	
2	Lecture courses (minimum one, maximum of two)	2-6	Letter
	CHEM 898-001: (if Supervisory Committee not formed, otherwise CHEM 999 or 899.	2-6	Letter
	CHEM 990: Chemistry Colloquium	1	P/NP
	CHEM 992A or 992E or 992P	1	P/NP
	Total	12	
Summer Session 1	CHEM 999 (Doctoral Research; if classified PhD) CHEM 899 (Master's Research; if classified M.Sc.)	2	Letter
Summer Session 2	CHEM 899 or 999	2	Letter

[19] Four credit hours must be earned in CHEM 990 (Colloquium, 1 cr/semester) for the M.S. and Ph.D. degrees. Attendance at all but two colloquia in a given semester is required for a passing grade. This requirement is to be fulfilled as rapidly as possible in a student's graduate career. However, students are expected to attend colloquium throughout their studies.

[20] Students must attend a graduate research seminar (CHEM 992A, 992E, 992P) each semester throughout their graduate career (see Section N). Doctoral students must enroll for four semesters (1 cr each) of seminar based upon participation (P/NP) and two semesters (1 cr each) for a grade (e.g. A, B,C); this will typically include one literature and one research presentation. Section H describes requirements for Master's students. Any exceptions must be approved in advance by the Graduate Committee.

[21] International students are required by the University to take an English Placement Exam upon arrival. This is a separate requirement from the requirements for the International Teaching Assistant Institute. Based upon their score, students may be required to complete one or more English courses. In that event, students are expected to both: (a) enroll in and complete the required English course(s) (3 or more cr); and (b) attend, but not enroll in, Chemistry Colloquium (CHEM990, 1 cr), a graduate research seminar (see above); and CHEM 898A (1 cr). Having completed the requirements for these latter three courses in the Fall semester, the student can officially enroll and receive the appropriate credit at a later date.

Students are responsible for making sure they are enrolled in classes at the correct level (800 vs. 400), for the correct number of credits and for the desired grading option (if choice is available). Any changes/corrections should be made by the end of the first week of classes. Students should not drop or withdraw from classes without discussing this first with the research advisor (if a Program of Studies or Memorandum of Courses has been filed) or the Graduate Chair if no Program or Memorandum has been filed. Students should also note that the timing of enrollment, and of requests for dropping/withdrawing from classes, can impact financial responsibilities (for example, for tuition) and/or visa status.[22]

[22] All enrollments and amendments to registration are guided by the deadlines published by the University: https://registrar.unl.edu/student/registration/. No changes in registration, even to correct errors, are possible once grades have been published for 60 days.

F. Grade Point Average and Classification

Upon beginning graduate studies, a student is initially classified as either a Ph.D. Nominee, an M.S.-I (thesis option) nominee, or an M.S.-II (coursework Master's) nominee, according to his or her qualifications and degree objective.[23] The Graduate Committee reviews these classifications before the end of the student's fourth semester in the program after receiving a Supervisory Committee report on the student's Research Update Interview (RUI, Section G.3). It should be noted that the Graduate Committee may review a student's classification at any time and that a change in classification may be based upon the student's cumulative graduate coursework grade point average (GPA), progress toward the completion of the approved Program of Study, a Supervisory Committee recommendation, assigned research projects, or a change in degree objective.

1. GPA Requirements

Ph.D. and Master program students are expected to maintain **minimum GPAs of 3.00 and 2.50**, **respectively**. For the purposes of classification and degree progress, assessment of overall GPA is based upon lectures or lecture-equivalent courses in which grades are based upon exams and/or graded final projects. Assessment may also focus on progress in courses listed on the Program of Studies (Section G.2) or the Memorandum of Courses (Section H.1).[24]

A minimum grade of C or P (pass) is required for graduate credits in 900-level courses or 800-level courses without a 400-level undergraduate course. A minimum grade of B is required for graduate credit in 800-level courses with a 400-level undergraduate course within the student's major department or area. When applied toward an advanced degree program, only courses at the 900-level, or 800-level without a 400-level undergraduate course, in the major department or interdepartmental area may be taken on a pass/no pass (P/N) basis.

A student is permitted to take a course a second time in an attempt to improve their grade. The second grade **will NOT** remove/replace the original course grade on the student's transcript. Making more than two attempts on a course will not be considered towards improving GPA and may be interpreted as lack of progress towards completion of a program.

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[23] Masters Option II students must be admitted in this classification; see section I.

[24] Graduate seminars, colloquium, general introductory seminars and courses (CHEM 898A, 898B, or 898E), and thesis or non-thesis research (e.g., CHEM 898, 899, 999) are not normally considered in the calculation of cumulative GPA for the purposes of assessment of progress. Please contact the Graduate Chair if you have questions about a particular course.

Students with a GPA below the minimum requirements, or with a grade of B-minus or less in a course co-listed with a 400-level undergraduate course, or with a grade of C-minus or less in a graduate-level course without a 400-level course co-listing may not continue in his/her program of studies without permission of the Supervisory Committee (if appointed) and the Graduate Committee; the student may be reclassified into another degree objective or subjected to termination from the Chemistry Graduate Program.[25] Students who are close to achieving the required GPA for their degree objective may, at the discretion of the Graduate Committee, be assigned a *provisional* doctoral or *provisional* Master's classification. Progress in research rotations, as based upon the report of the student and the mentoring faculty members, will also be considered as part of the classification process; and for decisions regarding termination from the Chemistry Graduate Program. The provisional descriptions may also be used to warn students about concerns regarding unsatisfactory research progress and typically are applied to cases where the student is perceived to have a significant chance of remaining in or regaining doctoral or Master's classification. Special requirements may be assigned to determine the student's qualifications for further graduate level study.

2. Withdrawing from a Course

Withdrawing from a course, which must be accomplished by a deadline published each semester by the University Registrar, results in a notation of "W" on the graduate transcript. Although no course grade is issued in this circumstance, a "W" on a first-year course and/or a course required for the program of studies may reflect unfavorably on progress.

3. Incomplete Grades (I; IP, XP) [26]

All Incomplete courses on the Memorandum of Courses or Program of Study must become graded (student is required to complete the requirements to remove the incomplete) prior to graduation. Until replaced by final grades, incomplete grades are not included in GPA calculations but may be considered in discussions of student progress.

Any IP or XP grades remaining at graduation will convert to I, if not graded as P or with a letter grade. Note that IP and XP count toward attempted hours on a transcript but not necessarily in calculations of financial aid.

Incomplete (I). A grade of Incomplete or "I" may be assigned when a student has already substantially completed requirements for the course but is unable to complete the course due to

[25] By action of the faculty (Nov. 27, 1979).

[26] https://catalog.unl.edu/graduate-professional/graduate/registration/grades/

illness, military service, hardship, or death in the immediate family. Note that the grades of IP (incomplete, progress) or XP (incomplete, no progress) must be used for research/thesis/dissertation hours (898, 899, 999).

For any I grade in a graduate course, the instructor of the course determines the requirements and deadlines for completing it. It is helpful to have these expectations in writing to prevent miscommunication.

> A student with a grade of I should not re-register for that course within the time frame for the removal of the I. Re-registration will incur new tuition charges.
>
> If the instructor leaves the University prior to the date set for the completion of a course, the chair of the academic department of the course will assume the role of the instructor.

Incomplete, In Progress (IP): A grade of IP indicates the student is making progress or effort as determined by the faculty supervisor (research effort, literature review, draft chapters, etc.) and that final review is being withheld pending successful defense and acceptance of the research project, thesis, or dissertation.

Incomplete, No Progress (XP): A grade of XP indicates the student is not making progress or effort as determined by the faculty supervisory (research effort, literature review, draft chapters, etc.). XP is not used in GPA calculation and no direct academic sanction (such as academic dismissal from the University) is automatically imposed for earning one or more XP grades. However, in assessing progress towards degree, Chemistry will look at XP grades along with other components of a student's program.

The Chemistry Graduate Program requires replacement of IP grades in research, thesis, or dissertation hours (898, 899, 999) with letter grades. [27]

[27] Chemistry Graduate Faculty, spring 2019.

G. The Ph.D. Program

1. General Course Requirements

The focus here is on the doctoral program requirements. Sections H-J describe requirements associated with Master's degrees.

A template of courses for the Ph.D. program is illustrated in Table 2. The Ph.D. degree requires a minimum of 90 semester hours of graduate credit, including dissertation hours (CHEM 999).

Table 2. Sample courses for a doctoral program

Year	Semester	Research	Courses	Supervisory Committee actions
1	Fall	Rotations (898); select advisor	Lecture course,* 898A, 898-003, CHEM 990 (colloquium), seminar**	– Form *Supervisory Comm.* (see Section G.2.). – Meets to generate your *Program of Studies.* (See Section G.2.).
	Spring	898-001 or 999***	Lecture course, CHEM 990, seminar**	
2	Fall	999	Lecture course, CHEM 898B, CHEM 990, seminar**	Can meet as needed
	Spring	999	Lecture course, CHEM 898C, CHEM 990, seminar**	Committee meets for RUI
3	Fall	999	Lecture course, seminar**	Committee meets for OPO
	Spring	999****	Lecture course (if needed); seminar**	Meet as needed or desired
4	Fall	999	As needed for Program of Studies.	Meet as needed or desired
	Spring	999	As needed	Meet as needed or desired
5 and after	Fall	999	As needed	Meet as needed or desired
	Spring	999	As needed	Ph.D. defense

*Lecture or equivalent courses with graded exams and/or graded final projects. Examples (not a complete list) include CHEM 824, 835, 845, 855, 872, 984.
**992A (Analytical/Bioanalytical), 992E (Organic and Chemical Biology) or 992J (Physical, Inorganic, and Materials) seminars.
***CHEM 898-001 (if Supervisory Committee not formed) or CHEM 999 (if Committee formed). Note that CHEM 999 must be taken for a letter grade (vote of Graduate faculty, 5/12/2019).
****After students have passed the OPO exam, they can become a Doctoral Candidate and, for the next two years, be a full-time student at only 1 credit/semester of registration.

At least 45 cr must be completed at the University of Nebraska.[28] Full-time graduate students are required to enroll in 12 credit hours per academic-year semester and 4 credit hours during summer (e.g., 2 in each five-week summer session) until the student completes the

[28] Appropriate (e.g., graduate level) courses at other NU campuses may in some cases be considered for academic residency; consult the Graduate Committee or the Office of Graduate Studies.

Comprehensive Examination Requirement and is admitted to candidacy for the Ph.D. degree (see section G.4).[29]

The goal of a doctoral program is enhancing one's knowledge of the field and creating new knowledge through research. The goal of a Master's program is the demonstration of knowledge and achieving high technical proficiency in a field of chemistry. Both goals require students to gain research experience. As part of the Research First program in Chemistry, students will typically enroll in only one or two graduate-level courses each semester to allow for a meaningful immersion into their research program. Prior to the formal selection of a research advisor and the establishment of a Supervisory Committee, students are advised by their rotation advisors or the Graduate Committee as to their course selection. Afterwards, students must proceed through the Program of Study established by their Supervisory Committee. Students are cautioned that allowing adequate time to be immersed in their research program does not negate the requirement to make timely progress towards completing required coursework.

All doctoral students are required to complete the following courses:

- CHEM 898 A (1 cr); CHEM 898 B (1 cr); CHEM 898 E (1 cr);
- Chemistry 990 (Colloquium, four semesters at 1 cr/semester);
- Six semesters of graduate research seminar (1 cr/semester) from: Analytical and Biophysical (ABP, 992A); Organic and Chemical Biology (OCB, 992E); and/or Physical, Inorganic, and Materials (PIM, 992P).[30]
- Up to 18 cr of lecture or lecture-equivalent courses.[31]

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[29] https://catalog.unl.edu/graduate-professional/graduate/registration/requirements/. Students holding an assistantship may not register for more than 12 cr/semester. See "Beginning Graduate Course Work" (earlier in this section) for a discussion of a special enrollment situation that may be encountered by international students in the first semester. International students need to register for six (6) credits/summer during their first year but can thereafter follow the same requirements as other students .

[30] Four semesters of graduate research seminar enrollment (1 credit hour each semester) will be graded as P/NP and based upon attendance and/or participation as an audience member. Two semesters of enrollment (1 credit hour each semester) must be graded based upon presentations. The two graded seminars are suggested for the third and sixth semesters to avoid overlap with the RUI (normally in fourth semester) and OPO (normally in fifth semester) exams. Typically, one presentation will cover a topic from the literature. The second presentation will typically give a research talk based upon the student's dissertation project.

[31] Lecture or lecture-equivalent courses constitute courses with graded final exams or final projects. The requirement for a minimum of 18-cr in this category is reduced to 15-cr when students have achieved entrance exam scores $\geq 85^{th}$ percentile in a topic relevant to the dissertation research. However, note that Supervisory Committees may assign more courses than these minimum amounts based upon what is believed required for the Program of Studies.

In addition, the student will complete other courses listed on the approved Program of Study or required by special action of their Supervisory Committee or the Graduate Committee.

After being admitted to the Ph.D. candidacy, the student must complete the course work requirements remaining on the approved Program of Study. In doing so, the student may enroll in as few as 1 cr per semester during the academic year and 1 cr per five-week summer session.[32]

Students are expected to attend the Departmental Colloquia and at least one of the Graduate Research Seminars throughout their time of residence. Failure to do so will be considered unsatisfactory progress.

2. The Ph.D. Degree Nominee: Research Advisor and Supervisory Committee

Choosing a Research Advisor.

The Ph.D. degree is awarded largely on the basis of achievement of original research. Students will begin research immediately upon admission to the graduate program.

Rotations: A hallmark of our graduate program is the Research First experience, which requires students to begin research immediately upon joining the program and allows students to sample multiple research areas before choosing an advisor. Students may enter the program in May, August, or January. Subject to conditions described in the offer letter, students will be afforded the opportunity to undertake up to three research rotations, each of which lasts approximately three months.[33] Before the end of each rotation period, the Graduate Committee will consult with the student and the rotation advisor. If there is a strong and mutual desire to continue working together and the faculty member has agreed to become the student's research advisor, then the student and the faculty member will be directed to form a Supervisory Committee. Otherwise, the student will begin a second (or third) research rotation. Although this will often involve faculty members listed as alternatives in the original offer letter, students may approach any faculty member about a potential research rotation. The Graduate Committee may provide assistance with identifying alternative research rotation options. This assumes that there is an interested faculty member willing and able to serve as a rotation advisor, and that the student has not already participated in three previous research rotations. A final decision about a student

[32] Students supported on research or teaching assistantships may be instructed to enroll for 2 cr of research in each five-week summer session. This level of registration is sufficient to qualify for use of the Health Center, provided that other applicable university requirements are also met.

[33] Students whose initial support involves an academic year research assistantship (RA) will typically remain a full semester in the first rotation. A student supported on an RA who wishes to rotate must either have a teaching assistantship (TA) arranged or find another advisor willing to assume the cost of support.

joining a research group and selecting a research advisor must be made by May 15th (summer or fall admissions) or November 15th (January admissions).

No sanctions or pressure will be imposed, by either the Department or potential research advisors, on students who elect to pursue a second or third research rotation. Students will be permitted to choose a research advisor from any of their research rotations as long as there is a mutual agreement.[34] A student may select to work on a joint or collaborative project in which case more than one research advisor may be appropriate.

The Department may provisionally admit students with deficiencies in undergraduate preparation. Coursework to remediate the deficiencies will be described in the letter of admission. Such students will enter into research rotations, but they will also be responsible for successful completion of the remedial coursework at a level appropriate for a graduate student (see section F). The graduate committee will evaluate the performance of provisionally admitted students after two semesters of coursework. Once the required coursework has been successfully completed as described above, the student will be classified as a Master (option I) or Doctoral student (see section F).[35]

Forming a Supervisory Committee.

The Supervisory Committee is the body that advises and guides a student through his/her doctoral or Master's program.[36] After selecting a research advisor, the student should consult with their advisor for recommendations of at least four additional faculty members who would be suitable to serve as members of the student's Supervisory Committee. All members of the Supervisory Committee must be members of the Graduate Faculty;[37] at least one must be from another department. The Chair of the Supervisory Committee will typically be the student's research advisor.[38] The Chair or a minimum of two other members must have research expertise within the broad area of Chemistry represented by the planned thesis research. Student committees should include a diverse set of viewpoints, and at least one other member from the Chemistry Department must have expertise distinct from the Supervisory Committee Chair,

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[34] A faculty member is expected to allow a student to rotate back into their research program without restrictions unless rotation(s) of other students into the group has removed all available spaces or unless there is a clear mismatch. There is a practical limit to the number of students who can be accommodated in faculty research programs and a student may have to conduct thesis research under the direction of a faculty member other than the student's initial choice.

[35] M.S.-II (coursework option) students are not discussed here. Students must be separately admitted into this degree program, as discussed in section P.

[36] https://catalog.unl.edu/graduate-professional/graduate/degrees/doctoral/

[37] Includes emeritus Graduate Faculty and, with some limitations, Graduate Faculty Associates. See https://catalog.unl.edu/graduate-professional/graduate/faculty/#text

[38] The chair of a doctoral committee must be a member of the graduate faculty. The chair of a Master's committee may be a graduate faculty member or associate. See previous reference.

either in terms of primary divisional affiliation or in terms of predominant affiliation with a graduate research seminar (ABP, OCB, PIM).[39] A student who fails to form a Supervisory Committee by the end of the semester following the selection of their advisor will be assigned a Supervisory Committee by the Graduate Committee.

The student, after obtaining the consent of the faculty members to serve on their Supervisory Committee, submits the names of the Supervisory Committee members to the Graduate Committee Chair for approval using the "Selection of Ph.D. Supervisory Committee Form" (see the Department of Chemistry or Graduate Studies website). Following approval by the Graduate Committee, the names of the Supervisory Committee members are then sent to the Office of Graduate Studies for final approval. Changes in the Supervisory Committee membership must be approved by the Graduate Committee Chair and confirmed by the Office of Graduate Studies.[40]

Readers: Although the Office of Graduate Studies suggests naming Dissertation Readers (see section G.2) at the time the Supervisory Committee is constituted, the committees in Chemistry typically select Readers at the initial meeting of the Committee (see following paragraphs).

Constructing a Program of Studies.

The Supervisory Committee is responsible for advising and guiding the student towards an advanced degree and to ensure that satisfactory progress is being made toward this goal.[41] The Supervisory Committee is expected to meet within three weeks following its appointment to discuss and approve a Program of Studies for the student.[42] In advance of the first Supervisory Committee meeting, and in consultation with their research advisor, the student is expected to prepare five copies of the draft Program of Studies using the "Program of Studies" form (see the Chemistry Department or Office of Graduate Studies websites). The draft Program of Studies form should be filed before the end of the first year, preferably within the same semester that the Supervisory Committee is appointed, and must be filed before the student has completed half of the 90 credit hours associated with a Ph.D. program:

During the first Supervisory Committee meeting, which must be attended by the Chair and at least two other members, the Supervisory Committee will review the proposed Program of Studies by: (1) recommending the transfer of any relevant graduate level coursework from an

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[39] For example, one member and the Chair should have different primary affiliations in terms of teaching assignment (A,B,I,O,P) and/or graduate research seminars (ABA, OCB, PIM).

[40] https://www.unl.edu/gradstudies/current/Doctoral-SupCommitteeChange.pdf

[41] The Graduate Committee, not the Supervisory Committee, has the ultimate authority to set various deadlines and approve examinations for a graduate student. The governance of graduate programs is by and through the Graduate Program committees and the UNL Graduate Council: https://catalog.unl.edu/graduate-professional/graduate/general/governance/

[42] https://www.unl.edu/gradstudies/current/degrees/doctoral - program. A program must be filed within the same semester as the appointment of the Supervisory Committee.

earlier degree or course of studies; (2) adding or removing relevant UNL graduate level courses that must be completed prior to graduation; (3) approving or amending the general area of the dissertation research;[43] and (4) designating two members to serve as the dissertation Readers.

In considering transfer credits, the Supervisory Committee is only obligated to consider relevant academic course credits beyond the Master's degree or that has been completed after the committee's appointment. In deciding whether to accept any previous coursework, the Supervisory Committee will consider: (1) whether the nominated course is current and relevant in relation to the desired degree, (2) whether the institution offering the course and the student's level of achievement in that course are consistent with expectations in our program, and (3) whether the potential transfer of credits will provide a useful research foundation for the planned degree. No graduate credits will be accepted from a previously awarded doctoral degree at any institution, including the University of Nebraska-Lincoln.

In approving a Program of Studies, the Supervisory Committee will consider the intended area of the dissertation research and the student's level of preparedness, including current and prior academic and practical training, and the results of standardized exams (*e.g.,* GRE, ACS placement exams, etc.). The Program is expected to include at least 18 credit hours (cr) of graduate level coursework that is: relevant to the proposed research and/or degree program; and assessed based upon a graded final exam or graded final project.[44] The required minimum is reduced to 15 cr for students who have passed an ACS placement exam at the 85th percentile or greater in an area considered by the Supervisory Committee to be relevant to the program of study. Graduate courses co-listed at the undergraduate level (often termed "400/800") that are completed with a grade of B- or below will not count towards completion of the Program of Studies. The first responsibility of the Supervisory Committee is to develop an appropriate Program of Studies for the student, and, as a result, may require the student to take more than the minimum number of credit hours. The Program of Studies must contain a minimum of 90 credit hours, including dissertation research hours (*i.e.,* CHEM 999); see the Graduate Catalog or the Graduate Studies web site for more information.[45]

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[43] A tentative dissertation title is not required at this time. A general description of the dissertation research is acceptable.

[44] Examples of acceptable graduate courses include CHEM 824, 835, 845, and 855. Example of required courses not contributing to the required minimum hours would be CHEM 898, 898A/B/C, 899, and 999, Graduate Research Seminars, or Departmental Colloquium. Please consult the Graduate Committee with any questions.

[45] Residency requirements: At least 45 credit hours must be completed at the University of Nebraska-Lincoln, 27 of which within a consecutive 18-month period. For students entering with a Bachelor's degree, at least 15 of the 27 hours must come after completing 30 or more hours in the program or by earning a Master's degree along the way. These requirements are rarely a problem for students in Chemistry. See https://catalog.unl.edu/graduate-professional/graduate/degrees/doctoral/#residency.

Following approval by the Supervisory Committee, completed copies of the Program of Studies must be endorsed by the Supervisory Committee Chair or Co-Chairs and then submitted by the student to the Chemistry Graduate Secretary, who will forward the forms to the Office of Graduate Studies. Once the Program of Studies is approved by the Office of Graduate Studies, any further changes must be approved by the Supervisory Committee and the changes reported to the Office of Graduate Studies. A student remains eligible to receive a doctoral degree for ***a maximum of eight years*** from the time of filing the Program of Studies.

Readers: The Supervisory Committee will typically select two dissertation readers during the meeting discussing the Program of Studies. This selection will be communicated to the Chemistry Graduate Secretary and the Office of Graduate Studies by the Committee Chair.

3. Comprehensive Examination (Ph.D. Nominee)

The student must pass the Comprehensive Examination before filing with the Office of Graduate Studies for admission to candidacy for the Ph.D. degree. The Comprehensive Examination in Chemistry consists of two components, each conducted by the Supervisory Committee: (1) the Research Update Interview (RUI), normally taken in the fourth semester, and, (2) the Original Research Proposal Oral Examination (OPO), normally taken in the fifth semester. Students who successfully complete both Comprehensive Exams are eligible to become doctoral candidates (see Section G.4). A timeline of the first three years, including the semesters in which the RUI and OPO are normally taken, is presented in Table 3.

Table 3. Milestone for the first three years of Ph.D. nominees

Year, Semester	General Requirements	Grad Research Seminars (992A,E,J)	Comprehensive Examination
Y1, S1	ACS exam(s), coursework, CHEM 898A	Participant	
Y1, S2	coursework	Participant	
Y2, S1	CHEM 898B (RUI course), coursework	Presentation (literature)	
Y2, S2	CHEM 898E (OPO course), coursework	Participant	RUI Exam
Y3, S1	coursework	Participant	OPO Exam
Y3, S2	coursework	Presentation (Research)	

Research Update Interview (RUI).

The objectives of the Research Update Interview (RUI) are to review the student's overall progress in the Chemistry graduate program and to determine if the student is demonstrating satisfactory progress toward initiating a research program which can lead to a dissertation. Prior to taking the RUI, students must take CHEM 898B ("Research Update Interview"), which is offered in the fall semester. Students must attempt the RUI on or before March 1 or November 1 of the 4th semester of residency unless given a deferral by the Graduate Committee.

Through the RUI exam, the student is expected to demonstrate an understanding of the fundamentals of their project, the methodologies and protocols necessary to complete their project, an awareness of the scientific literature related to their project, and a presentation of preliminary results that establishes the student's capability to carry out the proposed project. If the student has done more than one research rotation, results obtained in previous rotations may be included in the RUI presentation.

The RUI exam includes both oral and written components. The written component of the RUI will cover the background, methods, preliminary results, and future directions of the student's research project.[46] The written component of the RUI must be submitted to the Graduate Committee, via the Graduate Secretary at least a week prior to the actual oral exam. The Graduate Committee will distribute the written component to the Supervisory Committee. Failure to comply with these deadlines may result in cancellation of the RUI exam.

The oral component of the RUI will be a presentation to the Supervisory Committee. While the time required for the exam may be 90 minutes or more, the student's oral presentation should be no more than 30 minutes in an uninterrupted version.[47] The style of the presentation should be one that is suitable for a brief research presentation at an American Chemical Society or comparable professional meeting. In the course of the presentation, the student should demonstrate:

1. Understanding of the fundamentals of the project
2. Understanding of the "tools" needed to tackle the problem
3. An awareness of the literature relating to the project
4. Sufficient understanding of the problem to pursue the next phase of the project.
5. If possible, preliminary results that establish that the student is capable of carrying out the proposed project.

A minimum of three members of the Supervisory Committee must be present, either in person or virtually (video or teleconference) for the outcome of the RUI to be official. The student must bring an updated Program of Studies form showing all completed coursework and grades, and

[46] The written component of the RUI should be prepared in accordance with guidelines for an ACS journal, and be 5-10 pages in length (doubled spaced, 1-inch margins for text, 11-point font size) The page length includes only the text portion of the written component and does not include the cover page, abstract, references, tables, figures and schemes which may be part of the written report.

[47] The suggested time reflects a talk that is not interrupted. A typical RUI or OPO will involve multiple questions from the Supervisory Committee, and is likely to be significantly longer than 20 to 30 minutes. Students are urged to schedule the RUI or OPO with the assumption that up to two hours may be required to complete the examination.

the "Research Update Interview Examination Report" form, which is available from the Chemistry Department web site or from the Graduate Secretary.

> *Recording or transmission of an RUI exam:* Recording or transmission of the RUI exam must be authorized by the Supervisory Committee and is generally not allowed. See *Recording or transmission of a defense or exam* within section G.7 for more information.

The Supervisory Committee assessment of the RUI outcome (*Outstanding*, *Very Good*, *Good*, *Satisfactory*, or *Unsatisfactory*), will be recorded on the "Research Update Interview Examination Report" form. If the rating is Unsatisfactory, the Committee **must** indicate whether this is a *Conditional Pass* (and describe the remedial action required and the deadline for submission/completion of that action) or whether the student has *Failed.* Even if the overall rating is Satisfactory or Higher, the Committee can require all or portions of the exam to be repeated or evaluate the exam as a *Conditional Pass.*

After the RUI or by the end of the fourth semester, whichever comes first, the Supervisory Committee will make a recommendation to the Graduate Committee whether the student should be classified in the Ph.D. program, classified as Provisional Ph.D., be asked to retake the RUI exam, be reclassified as M.S.-I, or terminated from the graduate program for unsatisfactory progress. The recommendation will be decided by majority vote and it will be accompanied by a very brief report on the student's progress. The report shall be recorded on the "Research Update Interview Examination Report" form. The signed form should be submitted to the Graduate Committee Chair. The Graduate Committee will consider this recommendation in determining classification (see Section F).

Failure to attempt and complete the RUI on schedule, including delays resulting from failure to follow the timelines described in the previous paragraphs, will typically result in a provisional failure. Deferral of the deadlines may be possible in the event of major illness, birth of a child, jury duty, military service, or similar events but must be authorized, in advance, by the Graduate Committee. A student receiving a provisional failure will have one semester to successfully complete the RUI requirement.

Separately, the Department of Chemistry conducts an assessment of all RUI exams as part of the self-assessment of the graduate program. Students should follow the assessment link at https://chem.unl.edu/graduate-forms#phd and send the assessment URL (as of 2018, http://goo.gl/forms/Vgc4SCNtjK) to the Supervisory Committee members within a week after the RUI took place.

Original Research Proposal Oral Examination (OPO).

The purpose of the Original Research Proposal Oral (OPO) Examination is to assess the student's ability to formulate an original scientific hypothesis unrelated to his/her dissertation research, to develop the hypothesis (virtually) into a research project, and to then defend a research proposal before a committee of knowledgeable scientists. Prior to taking the OPO examination, students

must take CHEM 898E ("Original Proposal Oral"), which is offered each spring semester. Students must attempt the OPO oral examination within the fifth semester of studies (by December 1st or by April 1st) unless a deferral has been authorized by the Graduate Committee.

The OPO topic should be clearly distinct from the student's dissertation project. There should not be significant overlap between the OPO topic and the student's dissertation project either in terms of scientific area or with the key methodologies. The student should consult all members of the Supervisory Committee in advance of the OPO examination to determine whether or not the OPO topic is appropriate.

The OPO has both a written and oral component. At the earliest possible opportunity, students should submit an abstract to the Supervisory Committee for comment and approval. A majority of the Supervisory Committee should approve the topic beforehand. When an OPO topic has been approved by the student's Supervisory Committee, the student will prepare a written proposal using the "Original Proposal Oral Examination (OPO) Submission Form", which is available from the Department of Chemistry website or from the Graduate Secretary. The student must distribute electronic or printed copies of the proposal to the Graduate Committee *at least a week prior to the actual oral exam*. The Graduate Committee will distribute the written component to the Supervisory Committee. Failure to comply with these deadlines may result in cancellation of the OPO exam.

On the examination date, the student will give an oral presentation of the proposal and defend its significance and viability before his/her Supervisory Committee.[33] While the time required for the OPO exam may be 90 minutes or more, the student's oral presentation is recommended to be no more than 30 minutes in an uninterrupted version. The student is expected to be familiar with all aspects of the proposed research project. The student must bring an "OPO Examination Report" form, which is available on the Department of Chemistry website or from the Graduate Secretary, and an updated "Program of Studies" form to the OPO exam. The updated Program of Studies form should list all completed course work and assigned grades. Members of the Supervisory Committee who are unable to attend the oral examination may submit reviews of the proposal to the Committee Chair; however, a minimum of three committee members must be present, either in person or virtually (video or teleconference) for the outcome of the OPO exam to be official. After the oral examination, the student is judged to pass or fail the oral examination by votes of the Supervisory Committee. The votes are to be recorded on the "OPO Examination Report" form. The signed form is then submitted to the Graduate Committee Chair.

> *Recording or transmission of an OPO exam:* Recording or transmission of an OPO exam must be authorized by the Supervisory Committee and is generally not allowed. See the *Recording or transmission of a defense or exam* within section G.7 for more information.

Passing the OPO examination constitutes the final required component of the Comprehensive Examination (*vide infra*). In some cases, the committee may define certain additional conditions before approving a pass, a conditional pass, or a requirement to retake the exam. Students who are required to retake this examination or complete a conditional pass must do so no later than the midpoint of the **sixth** semester of residency, but can be asked to complete the requirement sooner at the discretion of the Supervisory Committee. Students who fail the OPO examination will be reclassified to M.S.-I or terminated from the Chemistry graduate program.

Failure to attempt and complete the exams on schedule, including delays resulting from failure to follow the timelines described in the previous paragraph, will typically result in a provisional failure. Deferral of the deadlines may be possible in the event of major illness, birth of a child, jury duty, military service, or similar events but must be authorized, in advance, by the Graduate Committee. A student receiving a provisional failure will have one semester to successfully complete the exam requirement.

Separately, Chemistry conducts an assessment of all OPO exams as part of the self-assessment of the graduate program. Students should follow the link at https://chem.unl.edu/graduate-forms#phd and send the assessment URL (as of 2018, http://goo.gl/forms/Vgc4SCNtjK) to the Supervisory Committee members within a week after the OPO.

4. Admission to Ph.D. Candidacy

Passing the OPO examination constitutes the final component required to complete the Comprehensive Examination. Accordingly, the student is advised to bring the "Admission to Candidacy" form (available from the Chemistry Department website or from the Graduate Secretary) to their OPO examination.[48] Students who pass the OPO exam will ask their Supervisory Committee members to approve the candidacy form (https://www.unl.edu/gradstudies/current/Doctoral-Candidacy.pdf) at the completion of their OPO oral examination. The completed form is required by the Office of Graduate Studies and should be submitted to the Graduate Secretary.

Following admission to Doctoral Candidacy, the student must register for at least one credit hour during each academic-year semester until he/she receives the doctoral degree. This must occur even if the student has fulfilled the total dissertation credit hours on their Program of Studies.[49] Failure to register can result in termination of candidacy and termination from the Program of

[48] https://catalog.unl.edu/graduate-professional/graduate/degrees/doctoral/#candidacy

[49] Candidates in the Chemistry program will often need to register for at least one credit hour during the summer session in order to be eligible for an assistantship and/or for reasons related to visa or health care. Contact the Graduate Secretary for information. See also reference 47.

studies.[50] The dissertation defense can be held no sooner than seven months after filing the "Application for Admission to Candidacy" form which can be found on the Chemistry Department website or from the Graduate Secretary.

5. Modified Requirements for the Ph.D. Nominee Entering with a M.S. Degree

A student who entered the University of Nebraska-Lincoln Chemistry graduate program with a M.S. degree from another institution may petition to transfer coursework from their M.S. institution into his/her Ph.D. Program of Studies. This petition should occur at the first Supervisory Committee meeting when a Program of Studies is normally constructed and approved by the Supervisory Committee prior to submission of the Program of Studies to the Office of Graduate Studies. In order for courses to transfer, the Master's degree must have been awarded by the time of the first Supervisory Committee meeting. The student's Supervisory Committee will consider and may recommend transfer of graduate level lecture courses.[51] The courses must have been based upon graded exams and/or graded final projects. In addition, the student must have received a minimum grade equivalent to a "B" in the UNL Chemistry program. In making a decision about the transfer of graduate level coursework, the Supervisory Committee will also consider the perceived rigor of the course requested for transfer and the relevance to the proposed Program of Studies. Up to 30 credit hours may be transferred from a Master's program into a Ph.D. program of study. See Section G.2 for details on the transfer procedures.

6. Time and Residency Requirements

A minimum of three full years of graduate study is normally required to complete a program for the degree of Doctor of Philosophy. The application for Doctoral Candidacy must be filed at least seven months prior to a dissertation defense.[47,52]The time limit on granting the Ph.D. degree is **eight years** from the time of filing the student's Program of Studies in the Office of Graduate Studies.[35]

Academic residency requires the doctoral student to have enrolled in a specified number of degree-related credit hours at the University of Nebraska-Lincoln within a given timeframe.

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[50] Candidates unable to register during an academic semester should contact the Graduate Studies doctoral specialist to discuss possibilities for academic leave of absence. See also reference 5.

[51] In special cases, the Supervisory Committee may recommend transferring certain graduate level laboratory courses that emphasize specialized techniques relevant to the student's program of study (e.g., cloning techniques, handling radioactive compounds)

[52] https://www.unl.edu/gradstudies/current/Doctoral-Candidacy.pdf

> Students entering with a Bachelor's or Master's degree must complete 27 credit hours of graduate work within a period of 18 consecutive months. For Bachelor's degree entrants, 15 of these hours must come after completion of 30 credit hours or a Master's degree.

For most entering students in a Chemistry doctoral program, these requirements will be routine. However, students who are members of the university staff or who are employed outside the university should consult the Graduate Catalog for additional requirements and information specific to their situation.[44]

7. Completing the Ph. D. Degree

Once the fun part of the doctoral studies (that is, the excitement of research and discovery) is completed, the real work begins. Completing the Ph.D. has two parts; a written dissertation and its oral defense or final oral exam. See: https://www.unl.edu/gradstudies/current/degrees/doctoral for timelines and more information.

Dissertation: Preparation and Approval[35]

The written doctoral dissertation should be completed and approved by the Chair of the Supervisory Committee and by the Reading Committee (see Section G.2) ***while the graduate student is in residence at the University of Nebraska-Lincoln***. Exceptions must have the prior written approval of the student's Supervisory Committee. For guidelines and requirements related to formatting and style, the student is directed to *Preparing a Thesis or Dissertation*.[53]

The awarding of the Ph.D. degree is not associated with, nor does it require, a particular number of papers, patents, or presentations. Similarly, the doctorate is not based simply upon courses taken or the total time spent in the graduate program. Instead, a doctorate is awarded primarily for demonstrating significant intellectual and technical achievement in the chosen field of scholarship, and, in particular, the creation, analysis, and description of new knowledge based upon independent research. Accordingly, the doctoral student's research, and the description of the research in their dissertation, is expected to contribute significantly to the body of knowledge in the field. In this context, peer-reviewed published manuscript or a granted patent is a clear demonstration of a significant contribution to the scientific field.

> A dissertation may not consist merely of a series of publications. Instead, an appropriate dissertation must also include an introduction and a final discussion that effectively integrates the published work, summarizes the state of the field, and makes clear the scientific impact of the work relative to what has been known before.

Students who are nearing completion of a dissertation need to pay close attention to requirements for acceptance of the dissertation and scheduling of a final oral defense.[54] Specifically, the Office

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[53] https://www.unl.edu/gradstudies/current/degrees/guidelines

[54] https://www.unl.edu/gradstudies/current/degrees/doctoral

of Graduate Studies defines the last day that an oral examination can take place each semester. Accordingly, it is the student's responsibility to adhere to all milestones and deadlines defined by the Office of Graduate Studies and published on their website.[3]

Required statement: The Chemistry Graduate Program requires the following statement in the front material of dissertations: "I certify that all of the work described within this dissertation is the original work of the author. Any published (or unpublished) ideas and/or techniques from the work of others are fully acknowledged in accordance with the standard referencing practices."

Review by the Reading Committee and Distribution to the Supervisory Committee: Following the approval by the Research Advisor a completed version of the dissertation must be presented to the Reading Committee **and** the Graduate Committee (via the Graduate Secretary) at least **four weeks prior** to the oral examination.[3] All members of the Supervisory Committee should have a final copy of the dissertation **no less than two weeks** in advance of the oral examination.

Review (formatting) by Graduate Studies: At least two weeks (one week in summer) prior to the oral examination, the student must electronically submit their dissertation, including title page and abstract, to the Doctoral Program Specialist in the Office of Graduate Studies.[55] The formatting will be reviewed and the student will be notified of any needed changes. No content will be reviewed and the dissertation doesn't have to be in the final format.

Application for Final Oral Exam: The signed and completed "Application for Final Oral Examination" form is due in the Office of Graduate Studies **at least two weeks prior** to the scheduled defense.[56] The form must be signed by the Chair of the Supervisory Committee and by both Readers,[57] and grants permission for the oral examination to be held. In addition, all incomplete grades for courses on the program of studies (except dissertation CHEM 999) must be replaced by grades to satisfy degree requirements.

Dissertation Defense (Final Oral Examination).

A final oral examination over the dissertation may be waived only with the consent of the Dean of Graduate Education.

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[55] The Office of Graduate Studies (aka Graduate Studies) is located at 1100 Seaton Hall; **402-472-2875**; graduate@unl.edu. As of January 2019, the doctoral programs coordinator is Kelsey Sims (email: ksims2@unl.edu).

[56] https://www.unl.edu/gradstudies/current/Doctoral-FinalOral.pdf

[57] The oral defense may proceed over the objection of one Reader if the Application for Final Oral Exam is accompanied by a written recommendation endorsed by all other members of the Supervisory Committee. A defense of a dissertation that has been disapproved or unfavorably reported upon by both members of the Reading Committee should not be scheduled until the basis for the disapproval has been removed to the satisfaction of the Readers. If the criticisms involve extensive changes, then the Supervisory Committee should consider postponing the defense or rejecting the submitted dissertation altogether.

Following the approval of the written dissertation in preliminary form by the Reading Committee (see above), a student must defend the dissertation in an oral examination administered by the Supervisory Committee. The final oral examination must be scheduled for a date when a majority of the members of the Supervisory Committee, including the Chair(s), are available for the examination. Exceptions may be made only by permission of the Dean for Graduate Studies.

The exam includes an oral presentation of the dissertation research, which must be posted in advance and open to the public. An abstract should be posted one week in advance of the oral examination to announce the dissertation defense and its location, time, and date. The general public may be present during the dissertation presentation and a follow-up questioning period. A closed questioning portion of the examination follows the public presentation of the dissertation. All persons except the Candidate, the Supervisory Committee, and any faculty members invited by the Supervisory Committee must be excused from the closed portion of the oral examination. The examination may be devoted to the special field of the dissertation, to the Candidate's general knowledge, or it may be designed to test the student's judgment and critical powers.[58] The Supervisory Committee reports the results of the final oral examination to the Office of Graduate Studies using the *Report of Completion*.[59]

Recording or transmission of a defense or exam: The following may not be recorded or transmitted, except as authorized by the Supervisory or Examination committee: the nonpublic portion of any defense; any other meeting with the Supervisory Committee, including comprehensive exams (RUI, OPO). Note that this policy does not prevent a Supervisory or Examination Committee from using remote transmission to enable participation of a committee member. (Chemistry Faculty, 5/13/2020)

Public Defense and Intellectual Property: Given that dissemination of results from a defense could impact efforts to protect intellectual property, students preparing for a defense are urged to consult in advance with the Supervisory or Examination Committee Chair to determine if there are any results that should not be publicly presented. See also the last portion of the section on *Finalizing, Uploading, and Depositing the Dissertation,* which discusses how to "embargo" portions of a dissertation or thesis for a defined period). Chemistry Faculty, 5/13/2020)

The written dissertation may often require revision after the final oral examination. The Readers and any other Supervisory Committee members may provide the student with a list of conceptual, grammatical or typographical errors that should be addressed in the revision.

> The signing of the "Report of Completion" form following a successful dissertation defense may depend on the scope of edits or revisions required by the Supervisory Committee. In general, if the requested edits or revisions are perceived as routine, then all members may

[58] https://catalog.unl.edu/graduate-professional/graduate/degrees/doctoral/#text

[59] https://www.unl.edu/gradstudies/current/Doctoral-Completion.pdf

sign the form and allow final approval to rest with the student's advisor/committee chair. If substantial revision is required, the committee should discuss procedures for final approval.

Separately, the Department of Chemistry conducts an assessment of all Ph.D. oral exams as part of the self-assessment of the graduate program. Students should follow the assessment link at https://chem.unl.edu/graduate-forms#phd and send the assessment URL (as of 2018, http://goo.gl/forms/Vgc4SCNtjK) to the Supervisory Committee members within a week after the final oral examination.

Finalizing, Uploading, and Depositing the dissertation: After making all necessary corrections to the dissertation, the student should follow the procedures described at https://www.unl.edu/gradstudies/current/degrees/doctoral#finalize for uploading and deposition of the final version. **Note:** students who have been engaged in a project that involves confidential intellectual property may ask to embargo public release of the dissertation for a period of up to two years. Please consult your advisor or the Doctoral Programs Coordinator within the Office of Graduate Studies for more information.

H. The M.S.-I Degree Program

1. Requirements and Research Advisor Selection.

The thesis Master's, or M.S.-I degree, is granted for significant academic and technical accomplishment beyond the undergraduate level, as evidenced by distinguished performance in both coursework and research. A student in the Chemistry Graduate Program will be classified as Master's Degree Nominee if, in the judgment of the Graduate Committee, the student demonstrates the necessary ability and desire to increase his/her professional competence in chemistry, but is not fully prepared, qualified, or interested in pursuing a doctoral degree.

The option I Master's Degree (M.S.-I) should be chosen by students preparing for careers in industry, government, or elementary/secondary education. The M.S.-I may also be an excellent choice for students who plan to pursue an advanced professional degree. An M.S.-I student must earn a minimum of 30 semester hours of course credits, consisting of 20-24 semester hours of regular course work (excluding research and seminar courses), four credits of graduate seminar,[60]and present a thesis (associated with 6-10 semester hours of graded course credits in CHEM 899).[61] At least one-half of the required coursework, including thesis, must be in one major subject area. Eight credit hours, in addition to the thesis, must be earned in graduate-only courses (900 level or 800 level without 400 or lower counterparts).

Table 4. Sample courses for a thesis-based Master's program (M.S.-I)

Yr	Semester	Registration (research)	Registration (courses, seminars)	Committee or advisor actions
1	Fall	Rotations (898-001); select advisor	Coursework, 898A, 898-003, 990 (colloquium), 992 seminar[60]	Student and advisor meet to generate the *Memorandum of Studies* (described in text below)
	Spring	898-001 or 899[61]	Coursework, 990, 992	
2	Fall	899	Coursework, 990, 992	
	Spring	899	Coursework, 990, 992	
3	Fall	899	Coursework, 992	•Form Examination Committee; •submit thesis; •hold Master's defense
	Spring	899****	Coursework (if needed);	

[60] Master's students are required to enroll in four semesters of 992A (Analytical Bioanalytical Seminar), 992E (Organic and Chemical Biology Seminar), and/or 992J (Physical, Inorganic, and Materials Seminar); three semesters of seminar for participation (P/NP) and one semester for a graded literature presentation.

[61] Letter grades are required for CHEM 899 (action of Chemistry graduate faculty, May 2019).

The M.S.-I Nominee must complete CHEM 898A and select a research advisor following the same protocol as described for the Ph.D. students in Section G.2; exceptions require written permission from the Graduate Committee. Students who are reclassified from Ph.D. to M.S.-I will, under most circumstances, remain with their current research advisor but can move to a new advisor with the permission from the Graduate Committee.

The M.S.-I Nominee must maintain a cumulative GPA ≥ 2.50 in graduate level coursework to remain in the Chemistry Graduate Program. A grade of C or less in an undergraduate or co-listed undergraduate/graduate (4xx/8xx-level) course, or a grade of F in a graduate level (8xx or 9xx) course will result in termination from the program.

No Supervisory Committee is formed for the M.S.-I program. The Memorandum of Courses for the M.S.-I degree (*i.e.*, the selection of appropriate coursework and execution of the research program) is a collaborative effort between the student and the research advisor [62] and should be filed before completion of over one-half of the proposed program.[63] Courses graded as Incomplete or No Report are counted when calculating the halfway point on the Memorandum.

A student is admitted to Candidacy for the Master's degree when admission deficiencies have been removed and the Memorandum of Courses has been filed. Note that a student cannot file a Memorandum **and** graduate in the same semester or summer. Students have ten years from the oldest course listed on the Memorandum to complete the degree. Courses exceeding this limit may not be used toward a Master's degree. **Note:** Regardless of the length of time allowed towards the Master's degree, the normal time of support for a Master's student is six semesters; any assistantship support beyond this period requires the Graduate Committee's approval.

2. Comprehensive Examination (M.S.-I Nominee)

The final oral examination, associated with the thesis defense, comprises the oral comprehensive examination for the M.S.-I nominee. Required procedures are described within the following section (Completing the M.S.-I Degree: Thesis Defense).

3. Completing the M.S.-I Degree

The research advisor and the student will decide together upon a research plan for completing an M.S.-I degree. This will include determination of the proper terminus of the research project and on the thesis content. In general, it is expected that the research and the associated thesis will represent a significant contribution to resolving or investigating a chemical problem. Publication

[62] https://www.unl.edu/gradstudies/current/degrees/masters#memorandum

[63] https://catalog.unl.edu/graduate-professional/graduate/degrees/masters/

of the research results emanating from an M.S.-I thesis project may appear in the scientific literature, but obtaining a peer-reviewed publication is not a requirement of the M.S.-I degree. Completing the M.S.-I degree has two parts: a written dissertation (M.S.-I thesis) and its oral defense (final oral exam). A Master's degree must be completed within ten years of the oldest course listed in the Student's Memorandum of Courses.

Master's Thesis: Preparation and Approval.

The written thesis is expected to conform in style and form to UNL standards.[64] The completed M.S.-I thesis dissertation must be approved by the research advisor and the Thesis Reader while the student is in residence. The Reader must be a member of the Graduate Faculty in the Department of Chemistry. The thesis may be completed in absentia only with the explicit prior written approval of the Graduate Committee.

> The following statement is required in the front material of the Master's thesis: "I certify that all of the work described within this thesis is the original work of the author. Any published (or unpublished) ideas and/or techniques from the work of others are fully acknowledged in accordance with standard referencing practices."

Thesis Defense (Final Oral Examination).

The student is required to defend the M.S.-I thesis in a final oral examination administered by an Examining Committee made up of the research advisor, the Thesis Reader and at least one other member of the Graduate Faculty. The Examining Committee is established by both the advisor and the student. The Examining Committee determines the character and length of the oral examination, which should only be scheduled after the preliminary written dissertation has been approved by both the Research Advisor and the Reader. The examination may be devoted to the special field of the dissertation, to the candidate's general knowledge, and/or may test the student's judgment and critical reasoning. In most cases, the student will give an approximately 25-minute oral presentation to the Examining Committee describing the thesis research.[65] Regardless of the exact format of the oral exam, the committee expects the student to demonstrate an understanding of the fundamentals of the project, an understanding of the tools used to tackle the problem, and an awareness of the current and past literature relating to the project. Additionally, the student must present sufficient results to establish that the student has made a significant academic accomplishment beyond the undergraduate level regards to both

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[64] See: https://www.unl.edu/gradstudies/current/degrees/masters#thesis; and https://www.unl.edu/gradstudies/current/degrees/guidelines

[65] The Master's defense is by default a closed examination. However, the oral presentation can be opened to the public with the agreement of both the candidate and the Examination and if the talk has been announced in advance with a publicly displayed or distributed abstract.

coursework and research. The Examining Committee will typically require additional revision to the written dissertation following the final oral examination.

In general, recording or transmission of a thesis defense is not allowed. See the discussion of *Recording or transmission of a defense or exam* (section G.7) for more information.

Each member of the Examining Committee evaluates whether the student passes or fails the final oral exam, which results in one of the following potential outcomes:

I. If the outcome is a unanimous pass, then the signed examination report, marked by each examiner as "Passed", should be submitted to the Graduate Secretary.[66]

II. If two examiners vote to pass and one examiner dissents, the student is approved for the degree and the examination report should be submitted with the dissenting examiner marking the "Not pass" option. The dissenting faculty member is required to submit comments to the Office of Graduate Studies.

III. If a student does not have the support of at least two examiners and thus fails to pass the final oral or written examination, the committee submits the signed Final Examination report (with each examiner indicating "pass" or "not pass") as described above. However, the committee must also submit, via the Graduate Secretary, a report to the Graduate Chair indicating whether another examination is warranted and, if so, what the student must do before attempting another defense. Another examination may not be held during the same term.[67]

Separately, the Department of Chemistry conducts an assessment of Master's defenses as part of the self-assessment of the graduate program. Students should go to the link for *RUI/OPO/MS/PhD defense assessment* on the *Forms/Master's Student* page and send the assessment URL (as of 2018, http://goo.gl/forms/Vgc4SCNtjK) to the Supervisory Committee members within a week after the final oral examination.

Finalizing, Uploading, and Depositing the Thesis

After making all necessary corrections to the thesis the student should follow the procedures described at https://www.unl.edu/gradstudies/academics/degrees/masters for uploading and deposition of the final version. **Note:** students who have been engaged in a project that involves confidential intellectual property may ask to embargo public release of the thesis for a period of up to two years. Please consult your advisor or the Doctoral Programs Coordinator within the Office of Graduate Studies for more information.

Petitioning for Reclassification to Ph.D. Nominee.

[66] https://www.unl.edu/gradstudies/current/Masters-FinalExam.pdf

[67] https://catalog.unl.edu/graduate-professional/graduate/degrees/masters/#text

Upon completing the requirements for the M.S.-I degree, but prior to the final oral examination, the student may request to be considered by the Graduate Committee for reclassification as a Ph.D. nominee. The request must be made in writing to the Graduate Committee. The final oral examination for the M.S.-I degree must be held at a time when at least two members of the Graduate Committee can be present. One or both of the Graduate Committee attendees may also be members of the Examining Committee. Reclassification as a Ph.D. nominee will be based on the student's overall record at UNL, which includes performance in graduate level coursework, M.S.-I research, and other program requirements. In recommending reclassification, the Graduate Committee will expect strong evidence from the completed the M.S.-I degree that the student demonstrates the capacity to function at the level of a typical successful Ph.D. Nominee.

In the event that an M.S.-I recipient is recommended for reclassification, the Ph.D. dissertation must be a separate scholarly work from the M.S.-I thesis. The Ph.D. dissertation may make significant references to the thesis, but the thesis cannot be part of the dissertation. The Ph.D. research may however build upon and may be an extension of the M.S. research. The student must establish a new Ph.D. Supervisory Committee and meet with the committee to propose a new Program of Studies within one month of successful reclassification (see section G.2).

The reclassified student is expected to satisfy doctoral program requirements in a timely fashion (see section G) The exception is the RUI exam (see section G.3), which is not automatically required for students reclassified into the Ph.D. program following a successful M.S.-I defense; however, the RUI exam is required if called for by the doctoral Supervisory Committee. The reclassified student must attempt his/her Original Research Proposal oral (OPO) exam within one calendar year of the successful M.S.-I defense; see section G.3.

I. The M.S.-II Degree Program

The M.S.-II or "coursework" Master's option is intended for students who require academic expertise well beyond the undergraduate level but do not have the desire or need to gain or demonstrate graduate level research competency.

Students interested in the M.S.-II-degree option in Chemistry **must** apply for the M.S.-II option during the Office of Graduate Studies admission process and **must** receive authorization in advance from the Graduate Committee. Students pursuing a M.S.-II degree will not receive Departmental financial support or a tuition waiver. Requests to transfer from a doctoral program or the M.S.-I option into the M.S.-II degree option will not be considered.

The M.S.-II degree is based largely on the successful completion of an approved 36 semester-hour sequence of course work in graduate level chemistry and either one or two minor areas, as described in the Graduate Catalog.[68] At least 12 credit hours must be earned in 900-level graduate courses and 800-level courses that do not have an undergraduate counterpart. The student must maintain a 2.5 average) in lecture or lecture equivalent courses (see section F) and must satisfy all other grade requirements of the Office of Graduate Studies.[69] The minor must include at least 9 credit hours and a representative of the department in which the minor will be taken must sign the Memorandum of Courses. A thesis is not required, but students must pass a final oral exam before an Examining Committee composed of the Graduate Chair and two other members of the Graduate Faculty from the Chemistry Department. The exam will test knowledge of the field, broadly defined by the nature of courses taken, at a level significantly above that expected of an undergraduate student. Students pursuing the M.S.-II must complete a comprehensive exam in the minor department/program unless all grades in the minor are a minimum of B (for graded courses) or P (for P/NP).

The M.S.-II program of studies must be approved by the Graduate Committee before the end of the student's second semester. It should be formulated with the advice of the Graduate Committee Chair. Courses taken without prior approval may not be accepted for inclusion into the Program of studies and, accordingly, does not count towards the M.S.-II degree. A maximum of 2 credits of graduate research seminar (CHEM 992A, 992E, 992J) and 2 credits of departmental colloquium ("Seminar in Chemistry", CHEM 990) may be applied towards the M.S.-II degree requirements.

[68] https://catalog.unl.edu/graduate-professional/graduate/degrees/masters/

[69] https://catalog.unl.edu/graduate-professional/graduate/registration/grades/#text

J. M.S.-III Degree

The M.S.-III degree is intended for a student who has been admitted to the doctoral program and is part of a training or scholarship program requiring a Master's degree to be earned in route to the doctorate.[70] The M.S.-III degree option **is rarely approved** in the Chemistry Graduate Program and is not available as a terminal degree. The student seeking to pursue a M.S.-III degree must obtain, **in advance**, special written permission from the Graduate Committee. The Committee, if choosing to grant permission to pursue the M.S.-III objective, is responsible for setting any requirements for the degree which go beyond those described by the Office of Graduate Studies. In seeking this permission, the student will be asked to justify the appropriateness of fulfilling the Master's degree requirements under the M.S.-III option instead of the more typical M.S.-I option.

[70]Formal requirements: https://catalog.unl.edu/graduate-professional/graduate/degrees/masters/

K. Terminal Classification

A student may be placed in terminal classification for a variety of reasons, including but not limited to inadequate grades, failure to comply with program guidelines, inadequate progress towards completion of the doctoral or Master's program, and/or recommendation by the Supervisory Committee. Upon placing a student in terminal classification, the Graduate Committee will communicate to the Graduate Dean a recommendation for termination. If the Dean accepts the recommendation, the student will not receive a degree from the Chemistry Graduate Program, nor will the student receive support beyond the time required by the letter or form of appointment.[71] A student who is placed in terminal classification will be contacted by the Graduate Committee. A student who is concerned about issues with grades, program guidelines, or progress that might lead to terminal classification should set up a meeting with the Graduate Chair as soon as possible.

L. Types of Student Support

A student may receive financial support through UNL from multiple sources, with the most common being Teaching Assistantships (TAs), Research Assistantships (RAs), and/or Fellowships.[72] Financial support is at all times contingent upon the student maintaining satisfactory progress toward degree and program requirements (see the following section) however, neither the Department nor the research advisor guarantees continuing support to graduate students beyond what has been committed in letters of offer.[73]

As stated in the Graduate Catalog,[70] "a graduate assistantship provides financial support for a graduate student for a set period of time during which the student is expected to pursue activities towards the advanced degree." In return for a Teaching Assistantship (TA), a student is required to assist in the teaching and supervision of an undergraduate chemistry course for 16 hours per week (as an average across the entire appointment period). At the same time, the student is also expected to continue satisfactorily toward the appropriate advanced degree.

Students must fill out a request for a teaching assistantship. The needs of the Department, the student's area of competence, the student's performance in prior TA assignments as judged by

[71] Offers/appointments of assistantships are typically contingent upon satisfactory progress.

[72] https://catalog.unl.edu/graduate-professional/graduate/funding/assistantships/

[73] Students are expected to fill out and submit requests for teaching assistantships. The forms will be made available well in advance of each semester (fall, spring, summer) and the completed forms must be submitted by the indicated deadline if the student wishes to be considered for a TA position.

student ratings and faculty evaluations, the equitable distribution of TA positions amongst departmental research groups, the student's progress towards degree (see Section M) will dictate whether a student receives a teaching assistantship for a given semester. All prospective teaching assistants must have successfully completed the TA training program offered on an annual basis prior to the start of Fall semester. In addition, the international student seeking to become a Chemistry teaching assistant must have successfully completed the Institute for International Teaching Assistants, offered each summer by the UNL Teaching and Learning Center.

A Research Assistantship (RA) is usually awarded by an individual research advisor to a student to provide more time to conduct research. For this, the student is expected to carry out full-time research. It is typically the decision of the research advisor as to whether a student will receive a research assistantship in a given semester.

A Fellowship is usually a competitive award and provides a student with time to do full-time research. There are a number of National Fellowships and a limited number within the University and/or the Department of Chemistry. Further information concerning fellowships may be obtained from the Office of Graduate Studies or the Chair of the Department of Chemistry Graduate Committee.

Graduate students who receive Teaching Assistantships, Research Assistantships, or Fellowships **must** obtain Graduate Committee approval before engaging in **any** outside employment; **this includes internships, private teaching or tutoring**. Taking up outside employment without written authorization, or exceeding authorized amounts of outside employment could result in immediate loss of the assistantship. [74]

An assistantship can be terminated for poor performance; this can include non-performance (*e.g.,* failing to complete duties required of the assistantship); failure to follow established procedures related to academic standards (*e.g.,* grading, laboratory supervision), or poor adherence to UNL and departmental policies for safety and/or environmental health. The Graduate Committee does not control evaluation of assistantships but is typically involved in discussions if termination of an ongoing assistantship is contemplated. If an assistantship is abandoned (for any reason) or terminated **before the 120th consecutive day** of the academic semester, all benefits for this period will be lost and the student will be responsible for the total tuition payment and health insurance premiums.

[74] Students holding an assistantship may never exceed 19.6 hours of total employment, including the assistantship. Students who have the opportunity to pursue internships during their graduate career should consult with the Graduate Committee as early as possible in the process to determine whether the internship will be possible and if any changes (*e.g.*, a leave, having a part-time assistantship, or forgoing the assistantship entirely) will be required.

M. Time of Support

Most students in the Chemistry Graduate Program are supported as either an RA or a TA. However, resources are finite, and the normal time of support,[75] meaning the period in student is considered a priority for support as a TA, is six semesters for the M.S.-I student and ten semesters as a doctoral student. Doctoral students anticipating a need for support as a teaching assistant beyond five years in the program must make a written or e-mail request to the Chair of the Graduate Committee by the mid-point of the year prior to the year in which support will be requested.[76] This evaluation, which should evaluate the student's research progress and include an estimate of the time required for completion of the degree, must include an evaluation of progress by the Supervisory Committee based upon a meeting (in-person or virtually) with the student.[77,78]

Students are responsible for complying with departmental timelines for requesting an assistantship (see Section L) so as not to interfere with departmental timelines for assignment and hiring of teaching assistants.[79] Students who receive the M.S.-I degree, and who are subsequently reclassified as Ph.D. nominees, will operate under the same time of support limits as other students. It must be emphasized that these are maximum numbers and not to be taken as typical. Continued financial support is only guaranteed to the degree described in the offer letter, and is at all times contingent upon satisfactory progress towards degree and program requirements.

N. Satisfactory Progress

[75] Being considered a priority for support means that students in good standing (as defined in this and other sections) will be given higher priority than those who are not in good standing. Support is always contingent upon the availability of resources and no guarantee of support is implied beyond what is promised in letters of offer.

[76] A new request must be made for each cycle. Thus, a student making a request in the middle of the tenth semester to be considered for assistantship eligibility during the eleventh and twelfth semesters would need to make a similar request in the twelfth semester for eligibility during the following year.

[77] "Support" means money directly administered by the Department: teaching assistantships, research assistantships, and fellowships administered by the Department. Sources of income awarded directly to, or earned by, the student from non-departmental sources are not considered in these time limits.

[78] A requirement for continuing in the program more than ten semesters is a report from the Supervisory Committee describing favorable progress towards degree and giving a projection of timeline for completion of the dissertation. See Section N for more information.

[79] Adopted by the Chemistry Department faculty, February 2009.

Satisfactory progress toward an advanced degree is required for a student to remain in good standing within the Department and to remain eligible for assistantship support. Satisfactory progress is established based upon: (1) progress in course work (see Section F) including cumulative grade point average in courses related to the student's program and involving final exams and or a graded final project; (2) progress and performance in research; (3) timely completion of graduate program requirements (*e.g.*, Program of Studies or Memorandum of Studies); 4) performance on comprehensive exams; 5) adherence to the UNL Student Code of Conduct.

With the exception of students who will attempt a defense by the end of the current semester, students are expected to attend a Chemistry Graduate Research Seminar continuously while enrolled in the Chemistry Graduate program.[80]

Students will of necessity meet with Supervisory Committees during their fourth and fifth semesters of study to complete the RUI and OPO comprehensive exams, respectively (see Section G.3, Comprehensive Exams), and for the Masters or Doctoral defense.

In the fifth and subsequent years, Supervisory Committees will review research and academic performance on an annual basis, and will report the results of this review to the Graduate Committee. No review is required for students who will attempt a final oral defense during the period in question. For students in the sixth and subsequent years, the review must include a meeting of the student with the Supervisory Committee. This review can be in person or can employ an online meeting/conference tool. These reviews are expected to provide direction, to address issues of concern to the student or research supervisor, and to assess progress to the final degree. However, in cases where there has been poor progress towards degree, these reviews might also result in a recommendation for reclassification and/or change in eligibility for assistantship support.[81]

A meeting of the Supervisory Committee will be held at any point of the student's graduate program if requested by the Committee Chair, a majority of the committee members, the Graduate Committee or the student. The Supervisory Committee is required to formally assess and report upon progress in research and coursework at the time of the RUI exam, but can choose to assess progress at any time during a student's graduate program.

A student is entitled to appeal in writing and/or in person to the Graduate Committee concerning any decision based upon the performance of the student.

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[80] Analytical/Biophysical (ABP), Organic/Chemical Biology (OCB), and Physical/Inorganic/Materials (PIM). See Section G for more information.

[81] Adopted by Chemistry Department faculty, March 2009.

Satisfactory Progress in Teaching

Graduate student teaching is a critical component of the department's instructional efforts and Graduate Teaching Assistants will be evaluated for teaching performance. Teaching performance will be typically judged based upon evaluations from the course instructor(s) as well as submitted student evaluations. "Instructor(s)" in this context can refer to the formal course instructor, the overall coordinator of a set of courses (*e.g.*, the General Chemistry Coordinator) and/or a lab instructor/lab manager. The Department may also solicit input on student teaching performance from other interested and expert parties, for example the Vice Chair and/or the Safety Chair. The student will be allowed to see the summarized/anonymous versions of student evaluations as well as other materials used as the basis for the evaluation; some materials may be presented after redactions to obscure the identity of the source.

Sustained excellence in teaching may be recognized with departmental or university awards. Teaching which is evaluated as inadequate or unsatisfactory may result in loss of the current assistantship or disqualification for future teaching assistantships; any such decision is made by the Chair of the Department of Chemistry, but it must involve consultation with the Graduate Chair.

O. Student Appeals

Graduate students may at any time discuss matters directly or indirectly related to their program with their advisor, their Supervisory Committee, or the Graduate Committee. Appeals of grades awarded in courses should be made first to the instructor of record for the course. If the appeal is denied by the instructor, the student may appeal to the Graduate Committee (via the Graduate Chair); this appeal must be filed (letter or e-mail) within sixty days of the Registrar having posted the contested grade. If the appeal is denied, or is not considered, the student may appeal to the UNL Graduate Council via the Dean of Graduate Education.[82]

Appeals of decisions made by the advisor and/or the Supervisory Committees should be directed in writing to the Graduate Committee (via the Graduate Chair). Further appeal beyond the Graduate Committee may be made directly to the Graduate Council through the Dean of Graduate Education. For a specific description of appeals related to program, probation or termination, see: https://catalog.unl.edu/graduate-professional/graduate/credit/termination/.

[82] As of March 2020: Tim Carr, Ph.D., Assoc. Vice Chancellor and Dean of Graduate Education; 402-472-2=7940; tcarr2@unl.edu

Glossary (terms and definitions)

Academic Leave of Absence (ALoA)	In the event that a student is temporarily unable to continue active participation in the graduate program due to personal illness or injury, family illness, injury or death, military service, or other unforeseen circumstances, it may be possible to temporarily suspend both the graduate program and the pursuit of the degree through an Academic Leave of Absence (ALoA). See section B.5.
Academic Success Coordinator	Office of Graduate Studies staff member who can be approached with requests or concerns. (Note: Questions or concerns related to the Master's or Doctoral Program should go to the Master's or Doctoral specialist in graduate studies.
ACS placement exams	American Chemical Society Exams - Incoming graduate students will take graduate level assessment exams in analytical, organic, and physical chemistry, and at least one of the following: biochemistry or inorganic chemistry. See section E.2.
Advisor	Faculty member or members who advise the graduate student on their research work and serve as Chair of the Supervisory Committee. See section G.2.
Assistantships	Graduate students can be supported as a Teaching Assistant (TA) and/or a Research Assistant (RA). As a TA, the student is paid by the Chemistry Department and is responsible for participating in instruction (see section E.2.). As an RA, the student is paid by their research advisor and is responsible for moving forward the research agenda of their advisor. See section L.
Chemistry Graduate Committee (often "the Committee" in this document)	Committee composed of tenure-track faculty from the chemistry department; the Committee administers the Chemistry graduate program, represents and advises students within the program, and makes recommendations to the Office of Graduate Studies on all matters pertaining to graduate students in the program
Comprehensive Examination Requirement	The Comprehensive Examination in Chemistry consists of two components, each conducted by the Supervisory Committee: (1) the Research Update Interview (RUI) and (2) the Original Research Proposal Oral Examination (OPO), See section G.3.
cr	Abbreviation for student credit hour, e.g. “3 cr.”

Dean of Graduate Education (sometimes Dean of Graduate Studies)	The UNL Dean leading the Office of Graduate Studies. Responsible for coordinating and administering graduate-level programs and policies at the University of Nebraska-Lincoln. https://www.unl.edu/gradstudies/about
Department Chair	The faculty member responsible for managing all staff and faculty in the Department and for supporting the day-to-day as well as long-term strategic goals of the department.
Dissertation	Document describing the research advances made during one's Ph.D.'s program – see section G.7.
Dissertation Readers	The subcommittee (two faculty members) of the Supervisory Committee who read the Dissertation and must approve the scheduling of a final oral defense.
Examining Committee	Committee (three faculty members) evaluating a Master's student at the Thesis defense – see section H.3. (note: A Reader is rarely required for a Master's Committee).
GPA	Grade point average
Graduate Secretary aka Staff Secretary for Graduate Studies	Staff person in the department graduate office.
Graduate Catalog (UNL Graduate Catalog)	Describes graduate policies and guidelines for study at UNL: https://catalog.unl.edu/graduate-professional/graduate/
Graduate Chair	A member of the Graduate Faculty from Chemistry who is appointed by the Dean of Graduate Education to chair the Chemistry Graduate Program.
Graduate Committee (aka Chemistry Graduate Committee)	A group of graduate faculty members from Chemistry who, among other duties: (1) Execute the policies and procedures of the Office of Graduate Studies as set forth in the Graduate Studies Bulletin. Implement the rules and requirements for graduate studies in Chemistry as set forth in the departmental *Red Book*. Work with faculty and students to encourage adherence to both Graduate Studies and Departmental procedures. (2) Monitor the graduate program with regards to graduate student recruitment, quality, retention, and morale.
Graduate Council	An advisory body to the UNL Dean of Graduate Education and an administrative body for Graduate Studies. https://www.unl.edu/gradstudies/facstaff/faculty

Graduate Dean	See Dean of Graduate Education
Graduate Faculty	All faculty members in tenure leading positions. The Graduate Faculty may teach graduate courses, serve on final examining committees, serve on supervisory committees, and chair supervisory committees for both Masters and doctoral students. Other faculty members may be able to serve as Graduate Faculty Associates or emeriti Graduate Faculty: https://catalog.unl.edu/graduate-professional/graduate/faculty/
Graduate Secretary	The staff members in the Chemistry department supporting the work of the Graduate Chair and Graduate Committee.
Graduate Studies (UNL Graduate Studies); also, Office of Graduate Studies	UNL Office responsible for all graduate students and programs on campus. Housed in Seaton Hall and led by Dean of Graduate Education. See https://www.unl.edu/gradstudies/home.
Health Center (aka UNL Health Center)	Center that provide medical and psychological care to students: https://health.unl.edu/. Located at 550 N. 19th St. (just south of Beadle Center). 402-472-5000
Memorandum of Courses	Memorandum that describes courses that will be taken to complete a Master's program. See section H.
Nebraska Board of Regents	The governing body for the University of Nebraska. The Board provides strategic leadership to the University, promoting and advocating for the advancement of the University's mission of education, research and outreach. https://nebraska.edu/regents
NUtech (NUtech Ventures)	The intellectual property and commercialization unit of the University of Nebraska-Lincoln; students and their advisors might interaction with NUtech to discuss licensing and patent issues: http://www.nutechventures.org/about-us/
OPO (Original Research Proposal)	The final of the two Comprehensive Exams in the doctoral program. see section G.3.
Program of Studies	A document detailing the courses that must be taken by a doctoral student as part of degree requirements– see section G.2.
Red Book	This document. The *Red Book* details procedures and criteria relevant to pursuing a Doctoral or Master's degree in Chemistry at the University of Nebraska-Lincoln (UNL).
Research Advisor	See Advisor

Research Update Interview (RUI)	The first of two Comprehensive Exams in the doctoral program. See section G.3.
Rotation advisors	Faculty that serve as the student's temporary research advisor during research rotations. – see section G.2.
Supervisory Committee	A committee of five graduate faculty, including the research advisor and a faculty member external to the program, that advises and guides a student through his/her program. See section G.2.
Thesis	Document describing the research advances made during one's Master's program – see section H.3.
UNL Office of Research	Office overseeing and supporting all research activities on campus. http://research.unl.edu/