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## Introduction

The material included in this *Handbook for Graduate Students* represents the policies, regulations, requirements, and suggestions of the Department of Chemistry with respect to its graduate program and to all graduate students in that program. This *Handbook* and its Appendices contain a wealth of information on successfully completing a degree program as well as life in general in this Department. It should be one of the first sources you consult for information. Considerable time and trouble have been expended in its preparation and periodic revision.

This booklet is supplementary to the *Graduate School Bulletin*; the *University of Kentucky Bulletin*, which is published annually; and the University's handbook of *Student Rights and Responsibilities*. All students should procure and keep at hand for ready reference all three of these. The current *Graduate School Bulletin* contains most of the information needed concerning specific requirements for courses, degree, writing of dissertations, scheduling of various exams, and so forth. The *Student Rights and Responsibilities* handbook discusses the non-academic and academic relationships between the University and students, and policies and procedures on Student Records.

We welcome you to the University of Kentucky and trust that your stay with us will be both enjoyable and rewarding.

## The Graduate Program

### 1.1 Graduate Degrees

- 1.1.1 The Department of Chemistry at the University of Kentucky offers two graduate degrees—the MS and the PhD (doctoral) degree. In the MS degree program, the student has the option of pursuing the MS Plan A, which involves research and a thesis, or the MS Plan B, a non-thesis or coursework-only option. A Master's degree is not a prerequisite for the PhD degree.
- 1.1.2 There are a number of academic requirements for the graduate degrees in Chemistry. In general, these requirements are a combination of overall University/Graduate School requirements and those set by the Department of Chemistry itself (and approved by the Graduate School). Departmental requirements cannot set aside University requirements and regulations and, moreover, must be within the spirit and the letter of the latter.
- 1.1.3 In the following sections, we attempt to delineate as carefully, clearly, and logically as possible the Graduate School and Departmental academic requirements, policies, and procedures for the graduate degrees offered in Chemistry.
- 1.1.4 Whenever material changes are made in academic *requirements*, every effort is made to communicate these changes to graduate students in writing as soon as possible. When academic requirements for a degree program are changed, either by the University or by the Department, they may not be retroactively imposed on the graduate students already enrolled in a program, as long as continuous enrollment is maintained. Essentially, the student has the option of graduating under the *complete set* of academic requirements in place at the time of entry into the program, or under the *complete set* in effect at the time of graduation.
- 1.1.5 Simple changes in administrative procedures or clarifications or interpretation of existing academic requirements are different. When these are made, they are usually effective immediately upon notification.
- 1.1.6 In addition to the MS and PhD degree programs, the Department of Chemistry also participates in the University Scholars Program. This is a special program offered by the University in which an undergraduate student can complete both a bachelor's and a master's degree in the major with, essentially, up to 12 fewer (graduate-level) credits than required by the two programs separately.

### 1.2 Prerequisites for Graduate Work

- 1.2.1 Four years of chemistry covering the areas of general, organic, physical, and analytical constitute the normal minimum requirement for pursuing graduate work within this Department. Additional prerequisite undergraduate work includes one year of college physics, mathematics through calculus, and training in some foreign language. In special cases, exceptions to these rules may be made by the Director of Graduate Studies and the Graduate Program Committee.
- 1.2.2 An undergraduate grade point average of at least 3.0 (based on a 4-point system) normally shall be required for admission as a graduate student in the Department of Chemistry. The Graduate Program Committee shall, however, be authorized to admit students with averages as low as 2.75, based on such evidence of ability as high GRE scores, recommendations, or excellent preparation. No students with undergraduate averages below 2.5 will be admitted.

- 1.2.3 Graduate Students who lack specified prerequisites or are found to be deficient in the Proficiency Examinations given during the orientation program, may make up their deficiencies by registering in and successfully completing the appropriate (usually undergraduate) courses.
- 1.2.4 The Department of Chemistry no longer requires that GRE scores be submitted.

### 1.3 Course Work

- 1.3.1 Course work for both the MS and PhD shall include four core courses, one from each of four of the five areas of chemistry: analytical, biological, inorganic, organic and physical. Students who entered the program *prior to the Fall 2014* semester must select one course from each of the two areas where the lowest proficiency examination scores were obtained. The following (three-credit) courses are officially “core” in each area: CHE 626 (Fall Analytical), CHE 623 (Spring Analytical); CHE 550 (Fall Biological), CHE 552 (Spring Biological); CHE 510 (Fall Inorganic), CHE 514 or CHE 516 (Spring Inorganic); CHE 538 (Fall Organic), CHE 535 (Spring Organic); CHE 547 (Fall Physical), CHE 548 (Spring Physical).
- 1.3.2 The curriculum and topics of each core course shall be fixed by its respective division so that continuity is maintained, and the advanced courses can build upon known background knowledge. The general guideline shall be that the core courses are to be surveys of undergraduate material sufficient to prepare the students for advanced courses. Some component of advanced topics beyond the undergraduate level is encouraged.
- 1.3.3 One of each pair of these courses shall be offered in the Fall term and one in the Spring term so that any student, regardless of when he or she enters the program, will have the opportunity to take all the required core courses in the first year.
- 1.3.4 The first course a student chooses to take in each of the four pairs of courses shall be considered the core course. The second, if taken, shall be considered an advanced or specialty course.
- 1.3.5 A student must pass, or successfully bypass, the four required core courses by the end of the second year of residence. Failure to do so will place the student in a terminal MS program. At least three of the four core courses shall be taken in the first year. A student must pass three of the four core courses with a B or better; a lower performance shall mean that the student is in a terminal MS program. A student with two C grades in core courses may elect to take the other core course in one of these two areas. If a grade of B or better is obtained, the second core course will then count as the core course in that area. Otherwise, the first-taken core course reverts to being the designated core course. To exercise this option, which can be used only once, the student must apply in writing and receive the approval of the Director of Graduate Studies before the beginning of the semester in which the second course is to be taken. Exceptions to this requirement shall be the prerogative of the Graduate Program Committee, on petition from the student and the advisor.
- 1.3.6 Proficiency exams, normally consisting of the standardized ACS Graduate-Level Placement Exams, shall be administered to each student on entry. Each division shall formulate recommendations as to the proper course(s) for each student and recommend bypass of a core course for a sufficiently high score. If a division recommends bypass, a student needs only to have the approval of his or her advisory committee to do so.
- 1.3.7 A student wishing to bypass a core course without a divisional bypass recommendation may present a petition, approved by the advisor and advisory committee, to the Graduate Program Committee. A student with an awarded master’s degree from UK or another accredited school,

who has also scored at the 70<sup>th</sup> percentile or above on at least one proficiency exam topic, may petition his or her advisor and advisory committee to bypass up to 12 credit hours of course requirements for the PhD, subject to approval by the GPC.

- 1.3.8 Students will not be making satisfactory progress unless they have completed at least 12 hours of course work other than research and seminar by the end of the first year and 24 hours of course work by the end of the second year. In addition, any time a student's GPA falls below a 3.0, this is automatically considered to be unsatisfactory performance. Students who are not making satisfactory progress after three semesters will be ineligible to serve as teaching assistants and may be terminated in the graduate program.
- 1.3.9 For an advanced degree in chemistry a student must: (a) attain at least a 3.0 grade point average in all chemistry courses including research courses and (b) attain at least a 3.0 grade point average in all courses attempted while registered in the Graduate School.
- 1.3.10 A graduate student who has completed 12 or more semester hours of graduate course work with an average of less than 3.0 will be placed on academic probation by the Graduate School. The student will then have one semester or 9 credit hours to remove the scholastic probation by attaining a cumulative 3.0 average in graduate course work. If the probation is not removed, the student will be dismissed from the Graduate School. A student who has been dismissed from the Graduate School for these reasons may reapply for admission to the Graduate School after two semesters or one semester and the eight-week summer term. Exceptions to this policy can be made only by the Dean of the Graduate School.
- 1.3.11 A graduate student may elect to repeat a graduate course and count only the second grade as part of the GPA. A student may exercise this repeat option only once per degree program. To exercise the option, the student *must* complete the Request for Repeat Option form from the Graduate School, which is then signed by the Director of Graduate Studies. You should complete and file this document a week prior to the last day to withdraw from the course you are retaking. Replacement of the previous, undesirable grade is *not* automatic simply on retaking a course. If you do not formally follow this procedure, then both the old and the repeated grades are included in the GPA.
- 1.3.12 If a student's advisory committee requests that the student audit a given course or courses, the student must officially audit the course or courses specified. To qualify for official audit, the student must attend at least 80% of the class meetings and fulfill any other requirement imposed by the instructor.
- 1.3.13 Credits in CHE 790, Research in Chemistry, may not be used as part of the 24 or 30 minimum credits of course work required for an MS degree in Chemistry. Up to a maximum of 8 credits in CHE 780, Individual Work in Chemistry, may be used for the MS plan A. To enroll in CHE 780, the student must have the approval of the Director of Graduate Studies, who is responsible for assigning a grade in the course. According to the *Graduate School Bulletin*, independent study or research courses (like CHE 780) must not duplicate thesis work.
- 1.3.14 Credits in CHE 748 and 768 may not be used as part of the 24 or 30 minimum credits of course work required for the MS degrees in Chemistry.
- 1.3.15 All students must register for seminar for credit in the Fall of their second year.
- 1.3.16 *Effective Fall 2014*, graduate students must obtain approval from their advisory committee (or the Graduate Program Committee, if advisory committee has not been established), before enrolling in any courses besides Research credits in Chemistry (CHE 767, 768, and 790) or

Graduate Seminar (CHE 772 and 776). Failure to do so places the student at risk to have all departmental support revoked.

- 1.3.17 A graduate student who concurrently enrolls in another graduate program without written permission from the Chemistry Graduate Program Committee will not receive any departmental funding.

#### 1.4 Master of Science Degree, Plan A

1.4.1 The usual and preferred MS degree in the Department of Chemistry is the Plan A, or Thesis, Master's degree.

1.4.2 The general requirements for the MS Plan A in the Department of Chemistry are the following:

1.4.2.1 A minimum of 30 graduate credit hours, 15 of which must be at the 600- or 700-level (Graduate School requirement). The advisory committee may require additional courses.

1.4.2.2 At least two thirds of the *minimum* requirements for the master's degree (20 credits) must be in "regular" courses. (This excludes research and independent study courses such as CHE 748 and CHE 768, per the Graduate School's requirement.)

1.4.2.3 Up to 10 credit hours of research or independent study courses (CHE 780, CHE 790, or CHE 768) can be used toward the minimum of 30 course credits. Research or independent study courses can be used to satisfy the Graduate School's requirement of 15 credits of courses at 600- or 700-level.

1.4.2.4 Four core courses must be taken, each from a different area (analytical, biological, inorganic, organic, and physical) of chemistry. For students who entered the program *prior to the Fall 2014 semester*, two of the four core courses selected must be in the areas in which the student's entrance proficiency examination scores were the lowest.

1.4.2.5 A minimum of 16 hours of Chemistry courses at the 500-, 600-, or 700-level. This constitutes the student's "major area" of study.

1.4.2.6 A maximum of 4 credits in seminar, practicum, and colloquium courses, such as CHE 772 and 776, toward the minimum of 30.

1.4.2.7 All Graduate School requirements must be fulfilled.

1.4.2.8 A final oral examination is required and must be scheduled with the Graduate School a *minimum* of two weeks in advance.

1.4.3 A convenient "Checklist for the MS – Plan A" is provided in the Appendix. Please note that this is only a skeletal checklist of degree requirements and some procedures. Not all possible details, complications, and permutations can be listed in this abbreviated checklist.

1.4.4 CHE 768, Residence Credit for the Master's Degree, 1-10 credits, may be used by MS students *who are writing a thesis*. They may sign up for credit and pay fees. No zero credit.

1.4.5 CHE 748, Master's Thesis Research, provides for continuous enrollment of Master's students once ALL required course work has been completed. For loan and immigration purposes, CHE 748 serves instead Master's students in the same manner as 767 does for doctoral students. The easiest way to register for CHE 748 is for the Director of Graduate Studies to automatically preregister you; information and forms are sent out at appropriate times during the year. Otherwise, you must register directly with the Graduate School and must bring with you a letter from the Director of Graduate Studies stating that you are working at least half-time on your thesis or thesis research.

## 1.5 Master of Science Degree, Plan B

1.5.1 Students in the Department of Chemistry may satisfy the requirements for a course work or non-thesis MS degree (Plan B).

1.5.2 Students wishing to follow this plan shall present for the approval of the Graduate Program Committee a program of courses that meets the following requirements. This plan should be prepared and submitted as early as is reasonably practicable in the student's career, so that last-minute complications are avoided.

1.5.2.1 A minimum of 30 graduate credit hours, 15 of which must be at the 600-or 700-level (Graduate School requirement). The advisory committee may require additional courses. Of these 15 advanced credit hours, the Council on Postsecondary Education currently requires that *12 credit hours be in Chemistry (CHE) courses*.

1.5.2.2 At least two thirds of the minimum requirements for the master's degree (20 credits) must be in "regular" courses. (This excludes research and independent study courses, per the Graduate School's requirement.)

1.5.2.3 Four core courses must be taken, each from a different area (analytical, biological, inorganic, organic, and physical) of chemistry. For students who entered the program *prior to the Fall 2014 semester*, two of the four core courses selected must be in the areas in which the student's entrance proficiency examination scores were the lowest.

1.5.2.4 One additional course in the each of three of the following areas: analytical/radiochemistry, biological chemistry, inorganic chemistry, organic chemistry, physical chemistry, and cross-disciplinary. Only courses having two or more credits may be counted.

1.5.2.5 Six credits in courses outside the Department of Chemistry. These courses, which need not be at the graduate level, must be part of an integrated package and their value in terms of the student's career goals must be justified to the Graduate Program Committee.

1.5.2.6 A maximum of 4 credits of seminar, practicum, or colloquium courses, such as CHE 772 and 776, may be used toward the 30-credit minimum.

1.5.2.7 Credits in CHE 780 and 790 cannot be used toward the 30-credit minimum course requirement. However, these can be used to fulfill the Graduate School requirement of 15 hours at or above the 600-level.

1.5.2.8 Credits in CHE 748 and CHE 768 cannot be used in any way toward the MS Plan B because these deal with research and the writing of a thesis, which are not applicable to this degree.

1.5.2.9 All Graduate School requirements must be fulfilled.

1.5.2.10 A final oral examination is required for this degree. The examining committee (advisory committee) is appointed by the Director of Graduate Studies. The exam must be scheduled at the Graduate School a minimum of two weeks in advance.



- 1.5.3 A convenient “Checklist for the MS – Plan B” is provided in the Appendix. Please note that this is only a skeletal checklist of degree requirements and some procedures. Not all possible details, complications, and permutations can be listed in this abbreviated checklist.

## 1.6 The PhD Degree

- 1.6.1 It is assumed that all students entering the Department of Chemistry are in the PhD Program unless they elect or are required to complete their studies with an MS.

- 1.6.2 The general requirements for the PhD Degree are the following:

1.6.2.1 Four core courses must be taken, each from a different area (analytical, biological, inorganic, organic, and physical) of chemistry. For students who entered the program *prior to the Fall 2014 semester*, two of the four core courses selected must be in the areas in which the student’s entrance proficiency examination scores were the lowest.

1.6.2.2 A minimum of 8 credits of graduate-level (500-level or above) Chemistry courses in addition to the required core courses. They shall be “regular” courses (that is, seminar, colloquium, practicum, independent study, and research course are excluded); they should generally be in the student’s area of study. The second core course of a pair, if taken, can be considered an advanced or specialty course.

1.6.2.3 A minimum of 3 credits of course work outside of the Department of Chemistry. These credits need not be in graduate level courses but must be approved by the advisory committee. Alternatively, these credits can be in graduate-level courses in the Department of Chemistry, selected in an area outside the student’s area of concentration. For this purpose, each of the graduate courses has been designated as belonging either to one of the five areas of chemistry or as cross-disciplinary, as listed in Appendix E.

1.6.2.4 Teaching a minimum of one-quarter time (10 hours/week appointment) for a minimum of one semester.

1.6.2.5 Successful completion of the Department’s cumulative exam requirements, which constitute the written portion of the qualifying examination.

1.6.2.6 Presentation of an exit seminar on the student’s dissertation research. This is usually done in the last semester of residence.

1.6.2.7 All Graduate School requirements must be fulfilled.

- 1.6.3 For a PhD student making normal progress, it is expected that all required course work be completed within 5 semesters, except in the case of an advanced or specialty course which may be offered only every 2 or 3 years.

- 1.6.4 In addition to the minimum general course work requirements described above and Graduate School requirements, the student’s advisory committee shall set course requirements for the PhD.

- 1.6.5 A convenient “Checklist for the PhD” is provided in the Appendix. Please note that this is only a skeletal checklist of degree requirements and some procedures. Not all possible details, complications, and permutations can be listed in this abbreviated checklist.

## 1.7 The Doctoral Qualifying Examination – Written Qualifying Examination

- 1.7.1 The qualifying examination for the PhD, which is required by the Graduate School, consists of two parts—a written part and an oral part. In the Department of Chemistry, the research proposal

- (only if student started in or before Fall 2023) or written research proposal (WRP) shall constitute the written portion of the qualifying examination.
- 1.7.2 On August 1, 2019, the **research proposal system** replaced the cumulative exam system as the written qualifying exam for doctoral students in Chemistry.
- 1.7.2.1 **If entering the program in Fall:** By November 15th of their 3rd semester, students must send two topics to their PhD committee and copy the Graduate Program staff. Each topic should include a title and a short description (3-5 sentences) describing the proposal and its importance. Each committee member will select one of the topics and communicate their choice to the student. The student must use the topic selected by the majority of the committee. In the event of a tie, the student is free to select either topic. Faculty must make their selection by December 1st.
- 1.7.2.2 **If entering the program in Spring:** By April 15th of their 3rd semester, students must send two topics to their PhD committee and copy the Graduate Program staff. Each topic should include a title and a short description (3-5 sentences) describing the proposal and its importance. Each committee member will select one of the topics and communicate their choice to the student. The student must use the topic selected by the majority of the committee. In the event of a tie, the student is free to select either topic. Faculty must make their selection by May 1st.
- 1.7.2.3 **If entering the program in Fall:** A pdf file of the original proposal must be submitted via the Canvas site created by the DGS by March 1st of the 4th semester. The proposals will be due only at the prescribed time and there are no other opportunities. The only potential exception is through a written request due to substantial extenuating circumstances that must be approved by the GPC. The evaluation committee will grade and score the exam by March 15th.
- 1.7.2.4 **If entering the program in Spring:** A pdf file of the original proposal must be submitted via the Canvas site created by the DGS by October 1st of the 4th semester. The proposals will be due only at the prescribed time and there are no other opportunities. The only potential exception is through a written request due to substantial extenuating circumstances that must be approved by the GPC. The evaluation committee will grade and score the exam by October 15th.
- 1.7.2.5 The document must be written in Arial 11 point, Times New Roman 12 point, or Century Schoolbook 12-point font. The proposal should be no more than 7 pages exclusive of references single-spaced with 1" margins on all sides. One page should address the hypothesis, purpose, and specific aims (1.7.3.6.2); 6 pages should address the research strategy which includes significance and innovation (1.7.3.6.3) and experimental approach (1.7.3.6.4). Figures are encouraged in the document but must be in line with the text. An outline with suggested section lengths is shown below. References should be cited and listed in an appendix to the proposal and do not count toward the page requirements. The title of the reference must be included for each citation in the bibliography. The document requires a minimum of 25 references. An evaluation committee will grade the proposal to determine if the student demonstrates the ability to plan, develop, and communicate a Ph.D. level project. The submitted file must be in pdf format.
- 1.7.2.6 An outline of the original proposal should include:
- 1.7.2.6.1 Cover Page: A cover page containing a title, the student's name, and statement attesting to the originality of the document. The statement of originality should read *"I certify that the idea conceived for this proposal is my own, all writing is my own, no AI software was used for writing any part of my proposal, and that my proposal does not plagiarize any published or unpublished work."*

- 1.7.2.6.2 Hypothesis, purpose, and specific aims (suggested 1 page, single-spaced): Provide a brief, general background followed by an outline of the hypothesis and purpose. Include several objectives that will support the hypothesis and purpose. The research topic may be in the same general field as the student's dissertation topic and may utilize the same methods. The topic cannot be directly related to the student's work or other work in the student's group. The goals of the original proposal must be different than the focus of the thesis project.
- 1.7.2.6.3 Significance and innovation (suggested 1 to 2 pages, single-spaced): Provide a more in-depth background for the proposal. Discuss the broader context of the overall impact of the research. Detail why the successful outcome of the proposal is important. Make sure to place the work in the context of the specific problem, gap in knowledge, advance in instrumentation, or product innovation.
- 1.7.2.6.4 Experimental Approach (suggested 2 to 4 pages, single-spaced): What is the general experimental approach for each objective? Detail which methods you propose to use. The equipment and techniques do not have to be available to the student. Detail the expected results and how they will be analyzed; discuss how they will (or will not) support the hypothesis. Discuss other potential outcomes and how they may alter your hypothesis. Consider what alternative approaches may be necessary.
- 1.7.2.6.5 Bibliography: Described in section 1.7.3.5.
- 1.7.2.7 Grading
- 1.7.2.7.1 The evaluation committee will consist of 3 faculty members chosen at random through the DGS. Faculty assignments will be distributed evenly among all faculty. The evaluation committee for all eligible students will be chosen at the start of the spring semester. The advisor and members of the PhD committee will be exempt from serving on a student's evaluation committee. The committee will be randomly selected and not engineered to include faculty with specific expertise. The committee will be anonymous to the student and the student will be anonymous to the committee.
- 1.7.2.7.2 Each member of the evaluation committee member will grade the proposal as pass or fail. The rubric contains several categories that should be graded. A final grade is assigned on a 1 to 5 scale as shown on the rubric in Appendix F. A score of 2.5 or higher is considered passing. The majority of the committee must score the proposal as passing for the student to pass their written qualifier. The completed rubric and scores will be emailed to the graduate studies staff assistant who will tabulate the results and communicate them to the student. The student will also receive copies of the completed rubrics. Students who do not complete the requirements by the listed deadlines will fail the written qualifying examination. This will result in a failure to make satisfactory progress in your degree program.
- 1.7.2.7.3 All students who fail get one opportunity to submit a new proposal. The student may either 1) revise/rewrite the first proposal for resubmission or 2) prepare a proposal on a different topic. The revised proposal should apply feedback from the first submission. The revised proposal will go to a new evaluation committee. A 1-page response to weaknesses from the prior review is required for option 1 in addition to the revised proposal (1-page hypothesis, purpose, and specific aims and 6-page research strategy). This 1-page response should include specific comments regarding weaknesses raised by the original reviewers, report all categories where failing scores were received, and clearly mention how the proposal was changed to address the reviewers' comments and improve areas where failing scores were

received. The original proposal and complete first set of reviews should be submitted with the revised proposal as an appendix.

If the student decides to select a new topic the student must submit their proposed topic to their advisory committee for approval within one week of receiving their original scores. Students are required to submit two topics to their committee. The committee will notify the student if both, one, or none of the topics are acceptable within 3 working days. The new proposal will go to a new evaluation committee. A second failing grade will result in the transition of the student to a terminal Master's program. In the event of a failed first attempt, the redo will be due by the last day of finals of their fourth semester. Faculty will grade the exam within two weeks

- 1.7.2.7.4 The evaluation committee will grade the proposal based the rubric found in Appendix F. Several criteria are covered including Originality, Explanation of the significance, Clear and concise language, Relevant literature review, Appropriate experimental design, and methodology, and Understanding of the feasibility and likely outcomes.
  - 1.7.2.7.5 While grammar is not a deciding factor on whether the proposal passes, readability to enable the evaluator to follow the thought process and logic is imperative. Students are welcome to get help with grammar and spelling at the language center.
  - 1.7.2.8 Faculty advisors and PhD committee members are *not* allowed to edit or provide advice on any part of the document or topic.
  - 1.7.2.9 Students *are* allowed to consult with peers on all aspects of topic selection idea development, and proposal structure. Consultation is for the purpose of advice on proposal development *only*, and all work submitted by a student must be their own.
  - 1.7.2.10 All proposals will be subjected to a software-based analysis against available documents on the web as well as previously submitted proposals. Any student found to have plagiarized their document will receive a failing grade and will not have an option of a second attempt. Rules on plagiarism are governed by the university guidelines on student conduct. The required cover page contains a statement attesting to the originality of the document and must be submitted separately.
- 1.7.3 On September 14, 2023 the **research proposal system** was revised and is now referred to as the **written research proposal (WRP)** system. Students entering the program prior to September 14, 2023 have the option of following the previous research proposal system described in 1.7.2 or the new WRP system described in 1.7.3.
- 1.7.3.1 **Overview:** The written qualifying examination will consist of a written research proposal (WRP). The format and level of rigor should be similar to that expected by common chemistry-related funding agencies (e.g., NSF, NIH, DOE, etc.). The WRP is a separate document than the written report based on CHE 790 research, which has a different focus and purpose. The WRP is expected to consist of three objectives, of which two objectives should be based on the student's current and planned research. Research results from the student's CHE 790 report should be utilized as preliminary data in the WRP, whenever possible. The third objective must be independently conceived and formulated by the student. This independent original research objective must be one that has not been discussed, planned, or pursued by anyone in the advisor's research laboratory, but is still

aligned with the overall focus and goals of the WRP. Each of the three objectives, if successfully completed, should be independently publishable in peer-reviewed journals.

- 1.7.3.2 **Research Pre-Proposal:** The student must submit a one-page pre-proposal to their advisory committee for approval before April 15<sup>th</sup> (Fall start date) or November 1<sup>st</sup> (Spring start date) of the student's 4<sup>th</sup> semester. The pre-proposal should consist of an overview of the research being proposed and a listing and description of each objective. The pre-proposal may include figures and up to 10 references, both of which do not count toward the one-page expectation. Formatting of the pre-proposal should follow that for the WRP (detailed in section 1.7.3.5). The committee must approve or reject the pre-proposal within five working days of its receipt. The student's research advisor must confirm that the student's original, independently conceived objective is the student's own idea. If the pre-proposal is rejected, the student must email an updated pre-proposal, taking into account the committee's reasons for rejection, within five working days of receiving the committee's comments. The committee will then have five working days to review and approve the new pre-proposal. This timeline will continue until the pre-proposal is approved. The objectives in the final proposal can evolve from those in the pre-proposal as the student does more research and literature review, but substantive changes must be approved by the advisory committee before submission. Failure to do so may result in the final proposal being rejected.
- 1.7.3.3 **Research Proposal Due Date:** The WRP will be due on August 15<sup>th</sup> of the student's 3<sup>rd</sup> year for students who started the PhD program in a Fall semester and January 3<sup>rd</sup> of the student's 3<sup>rd</sup> year for students who started the PhD program in a Spring semester. A pdf of the WRP must be submitted via the Canvas site created by the DGS. A complete timeline of the written and oral qualifier is provided in Appendix F.
- 1.7.3.4 **Expected Contents:** The WRP is expected to include the following contents:
- 1.7.3.4.1 **Cover Page:** Contains a title, the student's name, and statement attesting to the originality of the document. The statement of originality should read *"I certify that the idea conceived for this proposal is my own, all writing is my own, no AI software was used for writing any part of my proposal, and that my proposal does not plagiarize any published or unpublished work."*
- 1.7.3.4.2 **Proposal Summary** (1 page maximum, on separate page that does not count towards the ten-page limit): Includes an Overview section and an Intellectual Merit section, as required for NSF proposals. The overview includes motivation for the research, overarching theme, specific objectives, and methods to be employed. The statement on intellectual merit should describe how the proposed research will advance knowledge. The Proposal Summary should not contain citations.
- 1.7.3.4.3 **Background and Significance** (1 page): Introduces the research area, gives a clear overview of the main objectives of the research, and includes a concise statement of the significance of the work. This section can include citations.
- 1.7.3.4.4 **Objective 1: Title of Objective 1** (2-4 pages total)  
*Introduction to Objective 1* (0.5 – 1 page). Provides a detailed accounting of the research background of Objective 1. The information should be much more

specific to Objective 1 than that described in Section 1.7.3.4.3, and should consist of gaps in knowledge, how the research proposed will fill these gaps, and why filling these gaps is important. This section can include citations.

*Primary Hypothesis* (single sentence to short paragraph). Directly and concisely states the primary hypothesis being tested in Objective 1.

*Preliminary Results* (1-2 pages). Includes figures, tables, and discussion of preliminary results. This section should highlight progress being made, justify the feasibility of the research approach, and demonstrate the research competency of the student. The preliminary results are expected to be taken directly from the student's own research; however, preliminary results from the literature or other lab members may be used sparingly with appropriate attribution.

*Research Approach* (1-2 pages). Includes a detailed discussion of the experimental approach, rationale, expected results, and potential challenges. The equipment and techniques do not have to be available to the student at UK; however, a reasonable plan for accessing the necessary equipment is expected (e.g., stating the specific national laboratory that could be used, a user facility at another university that could be used, or a research group that you could collaborate with). Discusses how the expected results would support or refute the hypothesis. Discusses potential unexpected results and how they might alter the hypothesis. If the research in Objective 1 fails to produce usable results, this section should address what the benefit(s) will be of conducting this research.

**1.7.3.4.5 Objective 2: Title of Objective 2** (2-4 pages total)

Includes the same sections as for Objective 1. The *Preliminary Results* section may contain less of the student's own results and might have a shorter introduction than that of Objective 1.

**1.7.3.4.6 Objective 3: Title of Objective 3** (2-4 pages total)

Includes the same sections as that for Objective 1. This is the student's independent objective. The *Preliminary Results* may be excluded or may focus entirely on literature results.

**1.7.3.4.7 References**

This section is excluded from the 10-page limit and is expected to contain at least 30 references. Formatting should follow *Journal of the American Society* and should include article titles.

- 1.7.3.5 Formatting:** The WRP must be written in Arial 11 point, Times New Roman 12 point, or Century Schoolbook 12-point font. The proposal should be no more than 10 pages, exclusive of references and Proposal Summary, single-spaced with 1" margins on all sides. Figures are expected and must not extend beyond the 1" margins. An outline with suggested section lengths is described in 1.7.3.4. References should be cited and listed in an appendix to the proposal and do not count toward the page requirements. The

title of the reference must be included for each citation in the bibliography. The file must be submitted in pdf format.

- 1.7.3.6 **Assistance:** Faculty advisors, PhD committee members, and other students are not allowed to read, review, or edit any part of the pre-proposal or the WRP at any time in this process (before or after submission). Students can discuss objectives 1 and 2 with their advisor and research group members. These discussions are encouraged prior to pre-proposal submission and are expected to be more minimal after the pre-proposal is submitted. Students are welcome to get help with grammar and spelling at the language center. The language center may directly read the student's proposal and provide advice related to writing. No artificial intelligence (AI) tools can be used in writing or editing the pre-proposal and proposal.
- 1.7.3.7 **Grading and Review of the WRP:** The WRP will be graded independently by the student's advisory committee members plus one Chemistry faculty member external to the student's advisory committee (outside of committee faculty, OCF). The OCF member will be selected by the DGS. The committee members will submit their comments, along with their recommendations of "Accept", "Revise", or "Fail" by September 5<sup>th</sup> (Fall semester) or January 24<sup>th</sup> (Spring semester) using a webform that will keep comments anonymous. The webform will include an option for the faculty graders to request a meeting of the committee and OCF for further discussion. The comments first go to the DGS, who will then notify the committee if a meeting is requested by any of the graders. The comments will be returned to the student by September 12<sup>th</sup> (Fall semester) or January 31<sup>st</sup> (Spring semester). If  $\geq 80\%$  of committee members (e.g., 4 out of 5 or 5 out of 6) recommend "Accept", the written qualifying examination is complete and successful. If "Revise" and/or "Fail" is recommended by two or more faculty members, the student will have until September 26<sup>th</sup> (Fall semester) or February 14<sup>th</sup> (Spring semester) to resubmit the revised WRP. The student must submit responses to each reviewer's comments in a "Response to Reviewer Comments" section that should be included between the Cover Page and Proposal Summary page in the revised WRP. The "Response to Reviewer Comments" should include a point-by-point response to reviewer comments and is excluded from the 10-page limit. The committee and OCF will grade the revised WRP in light of all previous comments and responses and will recommend "Accept" or "Fail" by October 3<sup>rd</sup> or February 21<sup>st</sup>. Faculty graders will again have the option to request a meeting for discussion of the revised WRP. Final evaluations will be returned to the students by October 10<sup>th</sup> or February 28<sup>th</sup>. If "Fail" is recommended by two or more faculty members after revision, the student will transition to a terminal Master's degree program. Otherwise, the student may proceed with scheduling their oral exam. Faculty members who recommend "Accept" or "Revise" after the original submission may change their recommendation to "Fail" after the resubmission, including for reasons based on all graders' comments and student responses.
- 1.7.3.8 **Review Criteria:** It is expected that the research proposal will be evaluated following similar guidelines as an NSF proposal, albeit accounting for the difference in what may be expected from a third-year graduate student as compared to a faculty member. The adapted NSF merit review guidelines that will be evaluated are as follows:

1.7.3.8.1 What is the potential for the proposed activity to: a. advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and b. benefit society or advance desired societal outcomes (Broader Impacts)?

1.7.3.8.2 To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?

1.7.3.8.3 Is the plan for carrying out the proposed activities well-reasoned, well organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?

1.7.3.8.5 How qualified is the individual to conduct the proposed activities, as supported by preliminary data and experimental discussions? Is a reasonable plan proposed for accessing all necessary equipment and facilities?

1.7.3.8.6 While grammar is not a *de facto* deciding factor on whether the proposal is approved, readability to enable the grader to follow the thought process and logic is imperative. Students are welcome to get help with grammar and spelling at the language center, but not from other students.

- 1.7.3.9 **Plagiarism:** Proposals will be subjected to a software-based plagiarism analysis using all available documents, including theses, publications, and submitted proposals. Any student found to have plagiarized will receive an automatic 'Reject' as their grade and will not have an option for a second attempt. Rules on plagiarism are governed by the university guidelines on student conduct. The required cover page contains a statement attesting to the originality of the document.

## 1.8 The Doctoral Qualifying Examination – Oral Qualifying Examination

- 1.8.1 The Graduate School requires that a student complete 36 *graded* graduate credits (taken for credit, not audit) before taking the oral qualifying examination. All "S" grades must be replaced with letter grades before the exam is taken. In addition, the student must be enrolled as a full-time student for two consecutive semesters at some time before the oral qualifying exam. A definition of "full-time student" and exceptions to these rules for students with Master's degrees may be found in the *Graduate School Bulletin*.
- 1.8.2 The oral qualifying examination shall normally be given by the end of the fifth semester of residence. This requires that all course and residence requirements specified by the Graduate School have been satisfied. The written qualifying examination and CHE 790 report must be completed and graded before the oral qualifying examination is scheduled.
- 1.8.3 When a student has met all the requirements leading up to the oral portion of the qualifying examination, he or she should take this oral exam within one semester.
- 1.8.4 A student who plans to take the oral qualifying exam in the next semester should advance-register for CHE 767 for 2.0 credit hours. The request to schedule the Qualifying Exam must then be submitted online a minimum of two weeks in advance of the planned date. (The exam date must be settled with the advisory committee before this form can be filed.)



- 1.8.5 The oral qualifying examination shall include, but not necessarily be limited to, a defense of the student's current and proposed research, as covered in the CHE 790 report and student's research proposal. If the student's written qualifier included the research proposal system in place before September 14, 2023, a written research proposal shall be supplied to the members of the advisory committee a minimum of four weeks in advance of the oral examination. The research proposal should be a description of the student's research plans and of the progress already made. It should include a description of the major question (or questions) being addressed, a discussion of the significance of the question, key references in the area, and a description of the proposed method by which the question is to be answered. If the student's written qualifier included the WRP, in place after September 14, 2023, the WRP serves as the student's research proposal and no additional proposal is needed.
- 1.8.6 If the student fails the oral qualifying examination, the advisory committee may, but is not required to, permit *one* and only one reexamination. The second exam is scheduled in the normal manner with the Graduate School. This must be scheduled not sooner than 4 months and no later than one year after the date of the first examination.

## 1.9 Teaching Requirement

- 1.9.1 All graduate students are required to teach at least one semester quarter-time (10 hr/wk) as a requirement for the PhD degree. This requirement should be fulfilled in the first three years of a graduate study. A student entering with an MS degree should complete this requirement within two years, but equivalent teaching experience (at the University of Kentucky or elsewhere) in an MS degree program ordinarily will be accepted by the Director of Graduate Studies as fulfilling this requirement, given the approval of the student's advisory committee.

## 1.10 Dissertation and Thesis Work (Research)

- 1.10.1 Doctoral degrees are earned in the Department of Chemistry after a student has carried out productive and independent research on a problem that is of significant chemical interest. It is expected that the results of the dissertation work will be published. Such results cannot normally be obtained with less than two years of full-time laboratory work on the part of the student.
- 1.10.2 Until a dissertation director (research advisor) is chosen, a member of the Graduate Program Committee will serve as the student's advisor. Clearly, the most appropriate long-range plan of courses cannot be determined until the student has chosen an advisor and research area. To provide students ample opportunity to select a research advisor, a signing period running from November 1 of the first semester in the program to February 1 of the second semester in the program will be established. Advisors may not officially accept a student until the opening of the signing period. The student must also establish and file an advisory committee with the Graduate School by the end of the second semester in residence. For students entering in January, it is recommended that a research advisor be selected, and an advisory committee filed prior to the summer term so that they are eligible for financial support in the summer term.
- 1.10.3 Each student will receive a list of how many students each faculty member is permitted to accept, based on the GPC's graduate student allocation plan. A faculty member may choose to accept fewer members than his or her allocation permits.
- 1.10.4 Students will receive a "Research Advisor Interview" form (the "blue sheet") from the Director of Graduate Studies when they enter the program. The purpose of the blue sheet is to ensure that

student consider a wide range of possible advisors before deciding on one. Each student should discuss faculty members' research interest with at least six faculty members at the poster session held early in the semester in which he or she enters, and with at least three faculty members in one-on-one interviews. (The two sets may overlap. If there is no poster session in the semester in which a student enters, the student must simply interview five faculty members in one-on-one interviews.) Students should procure faculty members' signatures on the blue sheet to show that the discussions took place. Students should also talk to other students who are working for a prospective advisor, and perhaps attend a group meeting or two. Once the student has decided on a first choice, he or she should return with the blue sheet to the Director of Graduate Studies, who will confirm that the student has considered an appropriate range of advisors. The student should then approach the prospective advisor and ask to join his or her group. If the faculty member does not want to decide immediately whether to accept the student into his or her group, he or she should decide as quickly as possible out of consideration for the student. Faculty members have complete discretion on which students to accept into their groups. If the faculty member agrees to become the student's advisor, the student should procure the advisor's signature on the blue sheet and return it to the Graduate Program Staff Assistant (may be a Department Manager). Students should begin work on a research topic immediately after selecting an advisor.

- 1.10.5 The Department expects that students who enter the Chemistry PhD program will choose a major research advisor with an appointment (or a joint appointment) in the Department of Chemistry. Exceptions will be considered by the Graduate Program Committee on a case-by-case basis, but they will be granted only under unusual circumstances. If a student chooses an advisor who does not have an appointment in Chemistry, a majority (half is insufficient) of the voting members of the student's advisory committee must have appointments in Chemistry. Students whose major advisors do not have an appointment in Chemistry must fulfill the same requirements for a Chemistry degree as those with advisors within the department. Students who select an advisor who does not have an appointment in Chemistry are not guaranteed financial support by the Department (summer support, TA positions, travel, etc.) beyond their first year.
- 1.10.6 A student who has fulfilled all other residence requirements for the PhD degree must register for CHE 767, Dissertation Research, for 2 credit hours every semester until the PhD defense is completed. Thesis Masters' students who are finished with coursework typically register for 0 credits of CHE 748. Both of these registration options are equivalent to full-time status for visa and loan deferment purposes.

### 1.11 The Advisory Committee

- 1.11.1 Soon after accepting the responsibility for directing the research of a graduate student, the faculty member and the student need to discuss the appointment of an advisory committee. The student must secure the permission of each member to be appointed to the committee. The Dean of the Graduate School appoints the committee after receipt of the appropriate form is submitted by the student and approved by the Director of Graduate Studies.
- 1.11.1.1 The doctoral advisory committee has a "core" of four members of the Graduate Faculty at the University of Kentucky. The core consists of the major professor (research advisor) as chair, generally two members from the major area in Chemistry and at least one from a minor area in Chemistry. At least one of the members must be from outside the academic

program, that is, from outside the Department of Chemistry. Three members must possess full Graduate Faculty status. In cases where a student's research advisor is not a member of the Graduate Faculty, a committee co-chair who is a full member must be specified. After securing the agreement of four faculty members to serve on their committee, PhD students must complete the Doctoral Advisory Committee Request form on the Graduate School's website to make their committee official.

- 1.11.1.1.1 To change the composition of the doctoral committee, a student must complete the Modify Advisory Committee Request form on the Graduate School's website.
- 1.11.1.2 The MS advisory committee must contain at least three qualified members. At least one of the members must be a full member of the Graduate Faculty. In some cases, it is appropriate for one of the members to be from outside the Department of Chemistry. MS students must informally form an advisory committee prior to scheduling their final exam through the Graduate School, because the committee members must be listed on the request to schedule the exam. There is no separate form to create an MS advisory committee, as there is with the doctoral committee.
- 1.11.2 The advisory committee must meet within one month of the first day of classes in the student's 3<sup>rd</sup> semester in residence. The student will present an overview of their coursework progress, including grades, current and planned courses, and their current and planned research. The research update component should include a brief literature background, research update, and plan forward. The total presentation should not exceed 15 slides. The committee will inform the student if they are, or are not, making satisfactory progress towards their degree. The advisor will complete and submit the "First-Year Review Form" <https://forms.as.uky.edu/chemistry-advisory-committee-report-form> within one day of the meeting. If the student is not making satisfactory progress, they are required to meet with their committee in their 4<sup>th</sup> semester in residence and provide an update on courses, current research, and planned research. If the student is still not making satisfactory progress, the committee may recommend that the student switch to a terminal Master's program.
- 1.11.3 After the initial meeting, the Graduate School requires the advisory committee to meet *at least annually* to review the student's progress. In year two and year three, these meetings will include the first-year review held at the beginning of year two and the Oral Examination, typically held in the first semester of year three. In year four, a dissertation outline should be distributed to the advisory committee at least one-week prior to the fourth-year meeting. The dissertation outline should include a one-page summary of the dissertation research, both completed and planned, and a detailed outline of the dissertation, including chapter titles. In the fourth-year meeting, the student should present a brief update on background information, research progress, and research plan. The research progress and plan should follow the written dissertation outline distributed to the committee. The committee will approve the dissertation outline or recommend changes. If changes are advised, the committee may approve an emailed version of the updated outline. The student's committee will complete the fourth-year evaluation form online and indicate whether a dissertation outline was approved. After an outline is approved, it will serve as the framework for determining completion of the dissertation and degree. The approved dissertation outline should be uploaded by the student's advisor using the webform for the fourth-year evaluation. If the student is not ready to defend by the end of their fifth year, they are required to schedule a fifth-year committee meeting to revisit their dissertation outline and

discuss a plan forward for finishing their research project(s) and completing their dissertation. The committee will then complete the fifth-year evaluation form online and upload a revised dissertation outline. If the student is still not ready to defend in their sixth year, they must hold a meeting before the end of their sixth year. The committee will then complete the sixth-year evaluation form online and upload a revised dissertation outline. The webform for all evaluations are located at <https://forms.as.uky.edu/chemistry-advisory-committee-report-form>. It is the joint responsibility of the student and advisor to schedule these meetings. Failure to hold these meetings can result in suspension of support for the student.

- 1.11.4 Qualifying and final oral examinations must be formally schedule with the Graduate School, through the Director of Graduate Studies, a *minimum* of two weeks in advance. The necessary forms can be found on the Graduate School’s website Ordinary, “routine” meetings of the student’s advisory committee to monitor progress do not need to be schedule formally.
- 1.11.5 All decisions of the advisory committee, including a vote to pass a qualifying or final examination, are by **majority** vote of its Graduate Faculty members. (A tie vote means that the student does not pass.)

### 1.12 Residence Requirement

The following rules come from the Graduate School’s *Policies and Procedures Manual for Directors of Graduate Studies*. If there are any differences between the rules listed here and the Graduate School’s rules, the Graduate School’s rules take precedence.

- 1.12.1 There are no residence requirements for the MS degree. However, Master’s students may wish to enroll in CHE 748 after completion of course work until the final exam if their visa status requires it, if they need to maintain eligibility for student load deferment, etc.

#### 1.12.2 Pre-Qualifying Residence

- 1.12.2.1 The PhD student is required to have two years of full-time residence before the oral qualifying exam, but these do not necessarily correspond to the temporal history of the student in the program. For accounting purposes, these “two years” are translated into 36 credit hours. The student should consult the “Checklist for the PhD” in the Appendix and the sections below for our latest understanding of residence requirements.
- 1.12.2.2 Pre-qualifying residence requires the completion of 36 graded credit hours of course work (including research credit) and must be completed within 5 years of entry into the doctoral program. Up to 18 of these credit hours my come from a prior –awarded master’s degree from UK or another accredited school upon petition and approval of the GPC.
- 1.12.2.3 Audited credits do not count in any manner toward the total number of credits nor toward making a “full-time” semester, according to the Graduate School’s pre-qualifying exam residence requirements. Only graduate-level courses taken for credit do.
- 1.12.2.4 Upon petition to the Graduate Dean, through the student’s advisory committee and the Director of Graduate Studies, an MS degree from an accredited American university will normally be accepted as satisfying one of the two years of pre-qualifying-exam residency.

#### 1.12.3 Post-Qualifying Residence

- 1.12.3.1 PhD students who first enrolled in the program in Fall 2005 or later must register for CHE 767 every fall and spring semester from when they pass their oral qualifying exam until they defend their PhD successfully, including the semester in which they defend. CHE 767 counts

as “full-time” for visa purposes, but only two hours of tuition are charged for it. Students on Research Assistantships will want to take advantage of this option.

1.12.3.2 Students defending their PhD during a summer term do not need to enroll in CHE 767 for that term.

1.12.3.3 A student may register for 2.0 credits of CHE in the semester of the oral qualifying examination. If the qualifying exam is postponed or if the student fails to pass, CHE 767 will be dropped in favor of 9.0 credits of CHE 790, and the corresponding amount of tuition will be charged to the appropriate account.

### 1.13 Writing the Thesis or Dissertation

1.13.1 When the qualifying examination has been passed and course requirements have been met, it is time to redouble research efforts and make the concentrated attack needed for meaningful progress. Only after the advisor is satisfied that the student has performed work of the appropriate quality and quantity can the thesis preparation begin.

1.13.2 Technically, at the University of Kentucky, Master’s students submit a thesis, whereas PhD students submit a dissertation.

1.13.3 Grammar and style as well as scientific content are important. The Graduate School’s “Instructions for the Preparation of Thesis and Dissertations” should be studied carefully and then followed. There are many very specific format and other requirements of theses and dissertations, and if you do not follow these requirements, your preliminary or final copy is simply rejected until you correct the offending points.

1.13.4 Within the limits set out by the Graduate School, the student and advisor are generally free to use most any consistent set of detailed formatting and referencing style. The Department of Chemistry does not specify any particular style but encourages the use of format that is clearest and most appropriate for the work described and/or commonly used in the sub-discipline involved.

1.13.5 A complete and final copy of the thesis or dissertation to be defended should be presented at the time of the final oral examination with the exception that temporary pagination is acceptable. The following requirements must be met:

1. All data entered,
2. Headings or caption of tables or figures completed,
3. Table of contents and list of tables and figures presented,
4. Figures prepared in final form, not hand-drawn,
5. Bibliography and/or List of References completed
6. Carefully typed,
7. Carefully proofread for spelling and punctuation, and
8. Suggestions of readers incorporated.

The Instructions for Preparation (see link above) contain a complete listing of all the parts that must be included before the Graduate School will schedule your oral examination or accept the final copy.

1.13.6 IT IS CRITICAL THAT THE SOURCE OF ALL INFORMATION AND WRITING TAKEN FROM PUBLISHED LITERATURE AND PRESENTED IN A THESIS OR DISSERTATION BE CLEARLY IDENTIFIED. FAILURE TO DO SO CONSTITUTES PLAGIARISM AND WILL BE REGARDED AS SUFFICIENT REASON TO DENY THE DEGREE AWARD OR TO RESCIND A DEGREE THAT HAS ALREADY BEEN AWARDED.

## 1.14 The Final Oral Examination

The details and timing of the various events and forms necessary for the final oral examination are somewhat complicated. The student is encouraged to consult the Graduate School Bulletin and the appropriate checklist, which is included in the Appendix.

1.14.1 The University of Kentucky requires a final oral examination of every candidate for a graduate degree, either MS or PhD.

### 1.14.2 Registration requirements

1.14.2.1 A doctoral student must be officially registered during the term in which the final oral examination is held. Usually, this is accomplished by registration in CHE 767 for 2.0 credits. However, domestic students defending their PhD during a summer term do not need to enroll in CHE 767 for that term. International students will be required to register for 2.0 credits of CHE 767 if defending in a summer term. This will result in a tuition charge for these hours. International students are urged to consider this factor when considering a summer defense.

1.14.2.2 An MS student need not be officially registered during the term in which the final oral examination is held.

### 1.14.3 Forms and timeline

1.14.3.1 A student intending to graduate at the end of the current semester must submit a “Graduate School Application for Degree” by the date listed on the Graduate School Calendar. This form must be approved by the Director of Graduate Studies. If the requirements for the degree are not fulfilled by the end of the semester, the degree will not be issued.

1.14.3.2 A student intending to schedule a final doctoral examination in the current semester must submit a “Notification of Intent to Schedule a Final Doctoral Examination” at least **eight weeks** before the exam is to be scheduled. This form must be approved by the Director of Graduate Studies. The purpose of this form is to give the Graduate School sufficient time to find an outside examiner. The form requires that you provide a two-week range for scheduling the final oral examination, but you do not yet need to schedule the exact date and time. This form is *not* required for MS candidates.

1.14.3.3 PhD candidates must distribute their dissertation to their committee members at least **four weeks** prior to the final oral examination so that the advisory committee members have sufficient time to read the dissertation before signing the “Dissertation Approval Form.” *Failure to appreciate this requirement may significantly delay the attainment of a degree.* The form must then be signed by a majority of the advisory committee and the Director of Graduate Studies and submitted to the Graduate Program Office at least **two weeks** before the planned date of the final oral examination. The Director of Graduate Studies encourages the members of the advisory committee to sign the form only if they have had two weeks to read the dissertation *and* they believe that the dissertation is ready to defend.

1.14.3.4 MS candidates must distribute their thesis to their committee at least **four weeks** before the planned date of the defense. The departmental “Dissertation Approval Form” must be signed by a majority of the advisory committee and the Director of Graduate Studies and submitted to the Graduate Program Office at least **two weeks** before the planned date of the final oral examination.

- 1.14.3.5 To schedule the final oral examination, the appropriate form (“Request for Final Master’s Degree and Specialist in Education Examination,” or “Request for Final Doctoral Examination”) must be submitted at least **two weeks** before the planned date of the exam.

### 1.15 Time Limitations for Graduate Degrees

The following rules come from the Graduate School’s *Policies and Procedures Manual for Directors of Graduate Studies*. If there are any differences between the rules listed here and the Graduate School’s rules, the Graduate School’s rules take precedence.

- 1.15.1 All Master’s degree requirements must be completed within six years. Extensions of up to two years may be approved by the Dean of the Graduate School upon written recommendation of the Director of Graduate Studies. Further extensions of up to another two years must be considered by the Graduate Council. No activity completed more than 10 calendar years preceding the proposed graduation date will be considered for graduation.
- 1.15.2 A doctoral candidate who entered the program in Fall 2005 or later must take the oral qualifying exam within five years of entering. Extensions of up to twelve months may be approved by the Dean of the Graduate School upon written recommendation of the Director of Graduate Studies. Further extension of up to another twelve months must be considered by the Graduate Council and will require the positive recommendation of the Director of Graduate Studies, the chair of the student’s advisory committee, and a majority vote of the Graduate Faculty in the program. If the qualifying examination is not completed within five years or within the time of the approved extensions, the student shall be dismissed from the program.
- 1.15.3 All degree requirements for the doctorate must be completed within five years following the semester or summer session in which the candidate successfully completes the qualifying examinations. If all degree requirements are not met during the five-year period, degree candidates who provide evidence of the likelihood of completing the degree during an extension of time may be granted such an extension by the Graduate Council. Extensions of up to twelve months may be approved by the Dean of The Graduate School upon written recommendation of the Director of Graduate Studies. Further extensions of up to another four years must be considered by the Graduate Council. *Any extension beyond a total of six years past the qualifying examination will require that the student retake the qualifying examination.* Failure to pass the reexamination indicates the termination of degree candidacy. A second reexamination is not permitted. Failure to complete all degree requirements within ten years of the qualifying examination will result in dismissal from the program.

### 1.16 Full-Time Status

- 1.16.1 For fee payment, ID card, student loan deferral, avoiding deduction of FICA and city payroll tax, and many health insurance policy purposes, a graduate student is considered a “full-time student” if registered and paying for a minimum of 9 credit hours (for credit, not audit) a semester. (Registration in CHE 748 for 0 credits or in CHE 767 for 2 credits will also suffice.) During the summer, enrollment for a minimum of 5 credits during the 8-week session constitutes full-time enrollment. This is the *only* definition of “full-time student” that the Registrar will use for *officially* certifying you as a full-time student to anybody for any purpose whatsoever.
- 1.16.2 For visa purposes, and international student needs to be registered for 9 credits each semester, for credit or for official audit, to be considered a full-time student.

- 1.16.2.1 Registration in CHE 767 (2.0 credits) or CHE 748 (0 credits) confers full-time status for visa purposes.
- 1.16.2.2 An international may take fewer than 9 credits and remain in legal status by filing a request for reduced course load. The request may be made by an MS Plan B student in his or her last semester, a student who is experiencing health problems, or a student who is experiencing severe language difficulties during his or her first semester of study.
- 1.16.3 Essentially, for enrollment status, only courses taken for credit “count.” For fee payment, however, audited courses do count in your bill.

### 1.17 SI, U, and I Grades and Research Courses

- 1.17.1 All “missing,” SI, U, and I grades (most of which will be in CHE 790) should be converted prior to scheduling the qualifying or final exam so that the Registrar will have changed the grades on the official record when the Graduate School looks up the record to schedule the exam.
- 1.17.2 It is advisable to convert outstanding SI and U grades in research to regular letter grades in a timely manner, and not let them all accumulate until a deadline approaches. Well in advance of a qualifying or final exam, the student should review his or her official transcript and inform the advisor in writing of the course number and section, semester, and number of credits for each SI and U grade in CHE 790 to be converted.
- 1.17.3 All SI, U, and I grades (most of which will be in CHE 790) should be converted prior to the qualifying or final exam so that the registrar will have changed the grades on the official record when the Graduate School looks up the record to schedule the exam.
- 1.17.4 Conversion of an SI in a research course such as CHE 790 requires a substantive written report of the work done by the student. The report may take the form of a summary of work accomplished during the semesters of CHE 790 or (a) manuscript(s) written by the student for publication.
- 1.17.5 A grade of B in CHE 790 can be assigned by the research advisor without a vote of the student’s committee. In this case, the student must submit a copy of either the entire report or the first page to the Graduate Program Office to be included in the student’s file. A copy of the report should also be distributed to each member of the student’s committee.
- 1.17.6 Assignment of a CHE 790 grade other than B requires majority approval by the student’s committee. The written report must be distributed to the committee members for review at least 4 weeks in advance of the planned exam date. The voting can be done by a paper routing sheet, email poll or a committee meeting. The advisor must submit the grade change request(s) to the Registrar and must also submit documentation of the vote and the first page of the report to the Graduate Program Office. All CHE 790 grades must be converted to letter grades before the student submits the request to schedule the exam with the Graduate School.
- 1.17.7 SI and U grades cannot be changed to B grades for expediency before an examination then changed to another grade later.
- 1.17.8 SI, I, U, or “missing” grades in CHE 780 must be converted to regular letter grades by the Director of Graduate Studies, who is formally responsible for assigning grades in this course. Assignment of a regular grade requires the completion of a substantial written report by the student. The Director of Graduate Studies shall consult with the advisor under who direction the work was performed and/or the student’s advisory committee in determining the appropriate grade.
- 1.17.9 SI, I, U, or “missing” grades in regular courses must be converted by the instructor.



## 1.18 Special Residence and Research Credit Courses

- 1.18.1 CHE 767: Residence for Doctor's Degree (2.0 credits). Each doctoral candidate who joined the program in Fall 2005 or thereafter must register for two credits of CHE 767 every semester, starting from the semester of the oral qualifying examination, until the dissertation is successfully defended.
  - 1.18.1.1 Students normally advance register for 2 credits of CHE 767 when they plan to take the oral qualifying examination in the upcoming semester; if the examination is postponed or is not successfully passed, the student must then substitute the 2 credits of CHE 767 with 9 credits of CHE 790.
- 1.18.2 CHE 768: Residence Credit for Master's Degree (1-6 credits). May be used by Master's level students who are writing a thesis. They may sign up for credit and pay fees. No zero credit. May be repeated up to a maximum of 12 hours.
- 1.18.3 CHE 748: Master's Thesis Research (0 credits). Half-time to full-time work on thesis. May be repeated to a maximum of six semesters or the equivalent in calendar years. A prerequisite is that all course work toward the degree must be completed. A requirement of CHE 748 is that a student must be doing research or working on a thesis at least half-time.
- 1.18.4 Credit in CHE 748 and 768 cannot be counted toward the minimum 24 or 30 credits needed for the MS degree, nor toward the minimum number of credits needed at the 600 or higher level.
- 1.18.5 The Graduate Program Office will automatically pre-register qualified students in zero-credit courses such as CHE 748. If you are not already registered for one of these courses, but you want to be, consult the DGS.

## 1.19 University Scholars Program in Chemistry

- 1.19.1 The University Scholar must fulfill the appropriate requirements of this program as stated in the pertinent University of Kentucky Bulletin and the Graduate School Bulletin.
- 1.19.2 The Department of Chemistry offers the BA and BS options at the undergraduate level and the Plan A and Plan B options at the MS level. The University Scholar may choose to fulfill the requirements for any of the four possible combinations of these options. Exemptions from any specific Departmental course requirements will be handled in a normal fashion by a petition from the scholar and the appropriate advisor to the Undergraduate Program Committee or the Graduate Program Committee for matters pertaining to the bachelor's or master's degree, respectively.
- 1.19.3 After admissions to the University Scholars Program, each scholar must submit a plan of study which must be approved by the Director of Graduate Studies. This plan will list all graduate-level courses to be taken for both degrees.
- 1.19.4 University Scholars must have an undergraduate and a graduate advisor; the undergraduate advisor shall serve as the graduate advisor until the scholar formally selects a graduate advisor.
- 1.19.5 Scholars pursuing the Plan A MS option must complete at least 24 credit hours of graduate-level courses in the combined program, of which 12 credits must be at the 600 level or above. Research performed as an undergraduate under CHE 395, if taken, may not duplicate MS thesis research. Scholars pursuing the Plan B MS option must complete at least 30 credit hours of graduate-level courses in the combined program, of which 15 credit hours must be at the 600 level or above.
- 1.19.6 A maximum of 12 graduate credits may be used as "crossovers" for both the bachelor's and master's degrees.

- 1.19.7 Four “core” courses—CHE 510, 514, or 516, 535 or 538, 547 or 548, 626 or 623, and 550 or 552 (one from each pair)—must be completed.

## 1.20 Professional Ethics

- 1.20.1 The Department of Chemistry considers graduate students to be professional scientists and scholars and expects practices consistent with this station in life. Graduate students are expected to display the highest level of academic and professional ethics—in courses taken, in teaching duties, and in research work. Serious breach of academic, professional, or personal ethics can be grounds for termination of a student’s registration in the chemistry graduate program, as well as of any graduate assistantship or employment. Conversely, graduate students have the right to be treated in a courteous and ethical manner, according to established procedures and policies, by the faculty and staff of the Department.
- 1.20.2 Information, policies, and procedures describing the academic and nonacademic relationships between students and the University are contained in the booklet *Student Rights and Responsibilities*, which is revised annually. This booklet includes section on cheating and plagiarism, and procedures for dealing formally with instances or suspected instances of these offenses. This is the official University statement of your procedural rights and responsibilities.
- 1.20.3 Academic dishonesty includes “dry-labbing”—the deliberate falsification, fabrication, or misrepresentation of data—in laboratory courses or in research. This is a very serious breach of professional ethics. Depending on the circumstances and where falsified data are reported, criminal and civil penalties in the U.S. legal system may also result. Laboratory notebooks are legally binding documents in many situations, and falsification of data and records is serious scientific misconduct.
- 1.20.4 In those courses in which there is “homework” assigned, it is a serious cheating offense to show your homework to other students or to look at the homework of other students, past or present, *unless the instructor of the course has explicitly and clearly stated that this practice is permitted*. If in doubt, discuss the matter with the instructor beforehand. Avoid leaving your homework lying around in the open to provide a source of temptation for your fellow students.
- 1.20.5 In those courses in which there is a laboratory component, it is a serious cheating offense to use the results of other students, to let other students use your results, or to collaborate in the writing of a lab report, *unless the instructor of the course has explicitly and clearly stated that this practice is permitted*. For example, it is common for students to be assigned to work in pairs in many laboratory courses, with the data taken common to both. In some courses, the instructor may permit or even encourage the sharing of data among a large group of students, as long as the laboratory reports are written completely independently and so forth.
- 1.20.6 It is an obligation of every graduate student in the Department to report any acts of cheating or suspected cheating to the course instructor or other appropriate Department personnel. Not to report or to condone the academic dishonesty of others is also unethical behavior. Instructors and Departmental administrators will often agree to keep the source confidential in the case of reports of suspected academic dishonesty.
- 1.20.7 All scholarly writing, including ordinary laboratory reports, research progress reports, abstracts and slides for professional talks, entries in research notebooks, theses and dissertations, and manuscripts for publication must be prepared with the proper observance of the procedures for

scholarly quotation and attribution of wording, data, ideas, and assistance. If any sort of material is taken from the work of others, scientific professionals make every effort to properly attribute the source. Particularly in the case of extensive use of copyrighted material, special care and procedures must be taken.

### 1.21 Satisfactory Progress

- 1.21.1 Satisfactory Progress is defined by a collection of relevant statements in this document, including sections 1.3.9., 1.6.3, 1.11.2, and 1.11.3.

## 2 General Policies, Procedures, and Regulations

### 2.1 Safety

- 2.1.1 Federal law now requires that all laboratories that use hazardous chemicals implement a “chemical hygiene plan.” The University of Kentucky has developed a “Model Chemical Hygiene Plan.” Which the Department and research supervisor have adapted for each laboratory in Chemistry.
- 2.1.1.1 The University Office responsible for monitoring compliance with all University, State, and Federal laboratory safety regulations is Environmental Health and Safety. It is composed of five sections: Radiation Safety, Occupational Health, Environmental Protections, Fire & Accident Prevention, and Hazardous Materials Management.
- 2.1.1.2 Environmental Health and Safety has prepared a “Laboratory Safety Manual” which should be thoroughly read and understood by all students prior to beginning laboratory research. It is contained in a teal-colored (greenish blue) 3-ring binder, a copy of which should be in every laboratory in the building. Laboratory and research supervisors are responsible for enforcing the requirements for laboratory safety.
- 2.1.1.3 All graduate students and all others who are employed or do research in Chemistry must attend a number of required training classes presented by the Office of Environmental Health and Safety on entry to the Department or at the start of their employment.
- 2.1.2 Safety Data Sheets (SDSs), which contain information on the various chemicals used in the Department, can be found online.
- 2.1.3 Experimental work may be carried on at any time, providing the student assumes proper responsibility for the safety of others and security of property, and exercises the judgment to be expected of a graduate chemist. A student should not do hazardous laboratory work when alone; another person should be at least within hearing distance.
- 2.1.4 Care must be exercised at all times to avoid fires, floods, or other occurrences that result in personal injury and/or property damage. If such an event occurs, it should be reported promptly to the Research Advisor and the College Safety Coordinator. Cases involving negligence will be referred to the Graduate Program Committee and/or Department Chair for consideration. A brief written report, including the time, place materials, and persons involved, and nature of the accident must be submitted to the College Safety Coordinator. Fires must be reported to UKPD immediately due to emergency reporting laws.
- 2.1.5 Any use of a fire extinguisher must be reported to the College Safety Coordinator so that it can be refilled quickly. In addition, if you see any fire extinguisher that has obviously been discharged, or

- had its wire seal broken, report this also. Fire extinguisher use must be reported to UKPD immediately due to emergency reporting laws.
- 2.1.6 Smoking is not permitted in the Chemistry-Physics Building. In 2009, the University of Kentucky implemented a tobacco-free policy on campus grounds and parking areas. For more information on this policy, including a map of the areas that are tobacco-free, visit the University's Tobacco-Free website: <http://www.uky.edu/TobaccoFree/>.
  - 2.1.7 No one may eat or drink in any of the teaching or research laboratory rooms in the Building. Such may be done only in non-laboratory offices or in the Graduate Student Lounge (CP-131). A refrigerator is provided in the Lounge for storage of food.
  - 2.1.8 Annual unannounced safety inspections of all laboratories are made. The results of each inspections are published and individuals in those areas are expedited to correct immediately any unsafe conditions that are reported.
  - 2.1.9 The hazardous waste procedures are listed here: <https://www.as.uky.edu/hazardous-waste-management>.
  - 2.1.10 All students working with radioactive or x-ray sources on a regular basis should obtain radiation badges. The necessary paperwork can be obtained from the office of the College Safety Coordinator. Procedures for handling and working with radioactive sources can be found in the University Environmental Health and Safety Office's *Radiation Safety Manual*.
  - 2.1.11 Cylinders of compressed gases must be properly secured to laboratory walls or benches at all times. Cylinders must never be unsecured or moved without having the valve safety cap screwed on securely. Cylinders are to be moved about using cylinder carts which are available.
  - 2.1.12 For more information on accident and fire reporting, visit <https://www.as.uky.edu/accident-fire-reporting>.

## 2.2 First Aid

- 2.2.1 First aid supplies are available from the teaching support labs, College Safety Coordinator, and a first-aid kit is available in the Main Office (CP-125) during business hours. A first aid kit is also available 24 hours a day in the Graduate Student Lounge (CP-131). These are meant only for the immediate treatment of only the most minor cuts, burns, headaches, and so forth. Anything other than the most minor injury should be followed up by seeking proper professional medical care.
- 2.2.2 In case of an emergency, an ambulance can be obtained by dialing 911 on a University phone or by dialing #UKPD from a cell phone. A charge is incurred whenever someone is taken to the hospital by ambulance, payable by the injured person.
- 2.2.3 For a variety of reasons, including personal liability, every accident or injury should be reported in writing to the College Safety Coordinator and the Advisor and/or Course Instructor as soon as possible. This is particularly important in the event of an injury in a teaching laboratory. Your Advisor, Instructor, or College Safety Coordinator will also direct you to fill out an accident reporting form for EHS.
- 2.2.4 For reasons of possible workers compensation benefits, if you have an accident arising from your employment as a teaching or research assistant it is important to contact your supervisor and/or the College Safety Coordinator (if your supervisor is not available) and call Worker's Care (1-800-440-6285). If only a minor injury, please contact Worker's Care before seeking medical attention but if the injury is more severe, it can be completed after medical care is received.

## 2.3 Access and Security

- 2.3.1 Each student is issued a Wildcard ID that can be programmed for access. Although most of the interior doors have badge access, a few rooms still require physical keys. KEYS AND BADGES ARE FOR THE STUDENT'S PERSONAL USE ONLY, AND MUST NOT BE LOANED TO ANOTHER, OR USED TO ADMIT ANY UNAUTHORIZED PERSONS TO THE BUILDING AND/OR LABS.
- 2.3.2 For security purposes, the Chemistry-Physics Building is locked when classes are not normally in session. The Building is also locked during official University holiday periods. During the academic year, official hours may vary, but you can determine the present policy by inquiring of a Department Manager.
- 2.3.3 The Department Managers are the custodians of keys and access for the Department.
  - 2.3.3.1 After-hours access to the Chemistry-Physics Building will be granted upon entry to the Graduate Program. To request access to labs or rooms within the chemistry Department, submit an Access Request (<https://chem.as.uky.edu/cp-access-request>).
- 2.3.4 KEYS MUST NOT BE DUPLICATED UNDER ANY CIRCUMSTANCES. Violation will be subject to punishment by termination of a student's graduate program in the Department of Chemistry in addition to any legal processes which may be used.
- 2.3.5 All thefts from Teaching or Research Laboratories or from student offices should be reported promptly to the lab supervisor, where applicable, and the College Safety Coordinator.
- 2.3.6 In case of an emergency or serious incident, UKPD can be notified by dialing 911 on a University telephone or #UKPD on a cellular phone. This will connect you to UKPD, who will decide if City or State emergency offices should be summoned.

## 2.4 Science Library

- 2.4.1 Chemistry resources reside in the Science & Engineering Library, a branch of the University of Kentucky Library system. The Science & Engineering Library is in the King Building diagonally out the back door of the Chemistry Physics Building. The Wildcard ID allows individuals to check out materials from the Science & Engineering Library and all other libraries on the University's campus. For more information about the Science & Engineering Library, visit <https://libraries.uky.edu/locations/science-engineering-library>. Click <https://libguides.uky.edu/chemistry> to find details about some of the chemistry resources. Many of the paper resources reside off-campus so what you see in the Science & Engineering Library is a fraction of what they own.
- 2.4.2 Graduate students are encouraged to use the Science & Engineering Library as well as the other libraries on campus. The four student study rooms in the Science & Engineering Library provide an excellent place to study. Two of the study rooms contain overhead projectors. Use of the study rooms is on a first-come first-served basis, no reservations required.
- 2.4.3 The University Library system contains over 3 million volumes and subscribes to over 28,000 journals. The Science & Engineering Library holds over 80,000 volumes and subscribes to over 800 journals, most of which are electronic or stored off-campus. To support Chemistry the Science & Engineering Library subscribes to several databases, including SciFinder Scholar (Chemical Abstracts) and Web of Science.
- 2.4.4 The Science & Engineering Library aids with setting up interlibrary loan accounts, off-campus access of electronic databases, EndNote or other reference manager utilization, use of scientific databases or any other information resource provided by UK Libraries.

- 2.4.5 If you have any questions regarding library services or information resources, or if you encounter problems while accessing paper or electronic resources, contact the Chemistry Librarian, Jan Carver, at [jbcarv1@uky.edu](mailto:jbcarv1@uky.edu).

## 2.5 Seminars

- 2.5.1 All graduate students are expected to participate actively in Departmental Seminars, American Chemical Society meetings, and Divisional Seminars. Departmental Seminars are an integral part of graduate education. Questions on Cumulative Exams, the qualifying examination, and MS and PhD final oral examinations may reflect seminar content.
- 2.5.2 No more than three credits of CHE 776 and other seminar and practicum courses (such as CHE 772) may be applied toward the MS degree.
- 2.5.3 All students must register for seminar for credit in the Fall of their second year.
- 2.5.4 The University provides online journals as well as methods for searching the literature. Students are expected to learn how to use these resources.
- 2.5.5 All PhD candidates must present a general “exit” seminar on their dissertation during their final year of residence. The seminar will be schedule as part of the regular Departmental Seminar series (currently the fall and spring semesters, Thursday at 4:00pm or Friday at noon), divisional series, or immediately before the defense. Seminars may be held during the summer term.

## 2.6 Departmental Committees

- 2.6.1 There is graduate student representation on each of the following standing committees of the Department of Chemistry: Alumni Relations, Building and Infrastructure, Graduate Program, Graduate Recruitment, Seminar, and Undergraduate Program.
- 2.6.2 Representation implies membership, voting privileges, and responsibilities—except in those cases when matters concerning individual students are discussed.
- 2.6.3 Each graduate student representative will be selected by the Chair of the Department from recommendations made by the faculty, particularly the respective Committee Chair. The students recommended for appointment are to be in good standing (GPA of 3.0 or better) and should have a minimum of two academic years of residence in the Chemistry graduate program prior to their recommendation for Committee membership. Of course, recommendation implies the consent and the willingness of the individual to serve if selected.

## 2.7 Computer Facilities & Resources

- 2.7.1 The University of Kentucky Library system operates several large, well-staffed computer labs on campus. Information about specific computer labs can be found on the Library website.
- 2.7.2 The University provides email accounts for all students. Please check your email account frequently because this is the primary medium of communication both within and outside the Department.
- 2.7.3 The Department of Chemistry maintains several list-servs for the convenience of its faculty, staff, and students. The Department Managers are the “owners” of the lists and must approve all subscriptions to the sub-lists involved.
- 2.7.4 A list of all the Department list-servs and directions for how to use them is available via SharePoint. You must have the proper credentials to access the document.
- 2.7.5 Shortly after arrival, each graduate student is added to the divisional list that corresponds to his or her area of research.

## 2.8 Research Laboratories and Equipment

- 2.8.1 One mark of a well-trained scientist is respect for equipment. Students are expected to handle equipment with care and to maintain it in good condition at all times. Charges may be assessed for extraordinary wear or damage resulting from carelessness. Special items relating to the use and care of equipment will be found elsewhere in this document.
- 2.8.2 Every graduate student is expected to maintain his research area and study desk with its surroundings as neat and orderly as is consistent with effective work. The College Safety Coordinator makes periodic safety inspections. All graduate students are expected to cooperate with this staff member and to follow suggestions promptly.
- 2.8.3 Research and certain course instruments may be used only by students who have been trained on them by the faculty members or staff in charge of those instruments. Where there are instrument logs, proper entries *must* be made. Failure to do so will result in denial of the privilege of using the instrument, and possibly other sanctions. All common work areas *must* be left clean for other users.
- 2.8.4 Research Advisors will aid you in obtaining laboratory supplies. This also applies to any services and material provided by other campus agencies.
- 2.8.5 All containers placed in refrigerators must be labeled as to owner, material contained, date, and a laboratory notebook page reference if appropriate. Do not abandon materials in these places as their eventual disposition may represent a hazard. Containers of volatile materials must be stoppered.
- 2.8.6 Do not place chemicals and food in the same refrigerator. Lunches can be stored in the refrigerator in the Graduate Student Lounge, CP-131.
- 2.8.7 CONDENSER TUBING MUST BE WIRED ON. All reasonable steps must be taken to prevent fires and floods. Water, gas, electricity, and house nitrogen should be turned off when not needed. Experiments are not to be left unattended.
- 2.8.8 The ventilation system in Chem-Phys is constructed to operate best when the doors to large rooms are closed. We ask, therefore, that doors to teaching and research laboratories be kept closed as much as possible. Instructors are expected to insist upon students closing laboratory doors after passing through them. Classroom doors should also be kept closed during the class periods and most of the time between periods.
- 2.8.9 The current hood ventilation system is designed to draw substantially more air when the hood door is opened. To save on energy costs, therefore, the hood door should be left open only about one inch when the hood is not actually in use. Please report all hood malfunctions to the Principal Investigator in the research labs or the Course Supervisor for hoods in the teaching labs.
- 2.8.10 Each student's online directory profile should be kept up to date with basic contact information.
- 2.8.11 Laboratory doors should be kept locked when no one is in the room.

## 2.9 Other services

- 2.9.1 Glassblowing, electronic repair services and NMR analysis are available within the Department of Chemistry. Appropriate forms may be obtained by the relevant facility.
- 2.9.2 Machine shop services are available from the Department of Physics. A form signed by your advisor must be submitted to obtain these services. The appropriate forms required by Physics must also be completed.

2.9.3 Graduate students may use the copy machines in CP-125 to duplicate teaching or research related materials.

## 2.10 Travel, Absences, and Vacations

2.10.1 Doctoral students who will present papers at national and regional meetings on results of their research can apply for travel funding. Current procedures will be communicated via email by the Graduate Program Office.

2.10.2 Students who are supported by their advisor on Research Assistantships must negotiate vacation leave with their advisors.

2.10.3 If any planned absence takes you away from your duties as a Teaching Assistant, you are required to complete a TA Leave Request form to obtain prior approval from your TA Supervisor. Submit the completed form to one of the Department Managers before you leave.

## 2.11 Telephone Service

2.11.1 Many Research Advisors have made telephones available for their research groups in their labs.

2.11.2 In the event of an emergency an incoming call for a graduate student may be made through CP-125 and an attempt will be made to locate the person being called.

2.11.3 Personal long-distance telephone calls must not be made on Departmental telephones.

## 2.12 Alumni

2.12.1 The University maintains a database of alumni contact information that can be requested by the Department.

2.12.2 Approximately once a year, the Department publishes a newsletter that contains information about our Department and our graduates. After you leave, please send us information about yourself periodically for inclusion. We in the Department and other alumni are interested in hearing about the notable things you have accomplished.

2.12.3 Several Departmental funds directly support the Graduate Program. Graduate Student Outstanding Teaching Assistant and Research awards, the 100% Plus Award, the Fast Start Award, and Thomas B. Nantz Memorial Scholarships and the Naff Symposium are all supported by donation from generous graduates and friends of the Department. Current students profit when our alumni contribute to these funds.

## 2.13 Parking Permits

2.13.1 All graduate students who hold Teaching or Research Assistantships are eligible for E (Employee) parking permits for "preferred" on-campus parking. Graduate students who live in University housing are eligible for R (Resident) permits. If you both live in University housing and are a Graduate Assistant, you may not have both an E and an R permit.

2.13.2 Illegal parking on campus may result in tickets or towing of the vehicle in violation. Note that the loading dock area behind the Chemistry-Physics Building is not a legal parking area.

2.13.3 For complete information about campus parking, visit the Parking and Transportation Service website.



## 2.14 Mail and Notices

- 2.14.1 Each graduate student is provided a mailbox. The mailboxes are located in CP-125 and can be accessed from inside that office during normal business hours. For after-hours access, the individual lock combination is available upon request.
- 2.14.2 Please check your mailbox at least once per week for mail, notices, etc.
- 2.14.3 Any changes pertinent to the graduate program which occur during the year due to faculty action will be communicated promptly to all graduate students by email.
- 2.14.4 Email has become the primary mode of communication within the Department and elsewhere. The Director of Graduate Studies uses this extensively to provide information and notices to students. You are expected to check your email account frequently.

## 2.15 Tuition & Fees

- 2.15.1 Most graduate students are Research or Teaching Assistants. The University deducts the tuition of Research Assistants from the grant from which they are paid. The College directly pays the tuition of teaching assistants in good academic standing.
  - 2.15.1.1 If a CHE 767 student is a Research Assistant in the semester in which he or she is defending, and the student ends employment with the University before four months have elapsed during that semester, the University will bill the student directly for that semester's tuition. (Teaching assistants will not be in this situation, because they will not end their employment before the end of the semester.) The student is responsible for the bill, but the student may ask his or her advisor to pay it from a grant. It is entirely within the discretion of an advisor to agree or refuse to pay the bill. Under no circumstances will the Department pay the bill.
- 2.15.2 Tuition payments are processed by the University's office of Student Account Services. For a complete listing of payment options and deadlines, please visit their website.
- 2.15.3 In addition to tuition, there is a mandatory student health fee for all full-time students, which provides use of the Student Health Service. The fee is optional for the summer, but if it is not paid, students will be charge on a per-visit basis. There is also a mandatory Recreation fee for all full-time students.

## 2.16 Registration

- 2.16.1 Advance registration, registration, and add/drop are now handled on the University's my UK system, which is accessed online. Full instructions and registration windows for each term are available on the Registrar's website. These rules should be consulted carefully, as maintaining continuous enrollment is required for PhD and Masters degrees.
- 2.16.2 All continuing students are expected to advance register each semester for the next semester. New students and readmitted students are assigned specific registration windows. Any students who register after their regular pre-registration (continuing students) or registration window (new and readmitted students) will be charged a late registration fee.

## 2.17 Stipends, Scholarships, and Fellowships

- 2.17.1 Teaching and Research Assistants in the Department are normally paid biweekly. All new graduate students must arrange to have their pay automatically deposited in their bank accounts. You should set up a bank account as soon as possible and obtain a deposit slip with your account number printed on it.

- 2.17.2 The majority of Teaching and Research Assistants receive scholarships that cover the full cost of graduate tuition. Other fees, including the Student Health Service fee and the Recreation fee, are not covered by the tuition scholarship and must be paid by the student.
- 2.17.3 To be eligible for a Tuition Scholarship, you must be a *regular* graduate student enrolled in a degree program, that is, not a Post-Baccalaureate Student, and you must not be on academic probation. The Graduate Program Office submits a Graduate Student Academic Service contract to the Graduate School for everyone who is hired as Graduate Assistant each semester. You must approve the contract to be awarded this tuition scholarship. Your billing account is normally credited with the proper amount shortly after the term starts. Mistakes sometimes happen, so do not ignore dunning notices from the Student Accounts office threatening to cancel your registration for non-payment of fees.
- 2.17.4 Whenever you ADD or DROP classes such that there will be a change in your tuition, you must inform the Graduate School of this fact so that the proper correction can be made to your account.
- 2.17.5 The best information the University has is that these tuition scholarships, because they are called “scholarships,” are for tuition only, and there are standards for their being awarded, are exempt from income tax at the Federal and State level. However, should a dispute arise between you and the Internal Revenue Service over this matter, you must work this out with them. We can do very little to help you with the IRS.
- 2.17.6 The Department of Chemistry also provides Thomas B. Nantz Memorial Scholarships in Chemistry from a fund generously provided by Mary Halley Nantz in memory of her husband. These provide for a maximum of two scholarship per year and are for tuition only. Junior and Senior undergraduate chemistry majors and chemistry graduate students are eligible for these awards. Usually, announcement of application for these awards is made some time in March of each year, and the scholarships are awarded at the end of April for the upcoming academic year.

## 2.18 Graduate Student Association

- 2.18.1 The ChemGSA (Chemistry Graduate Student Association) is a group open to all graduate students. The Association is governed by five student officers who are elected each spring. These officers represent the graduate student body, acting as a bridge between students, faculty, and staff. ChemGSA addresses any questions and concerns from the students which may arise and is involved in many Departmental activities. The association also organizes social events which bring the students together for a break from their sometimes-hectic schedules. It is the goal of ChemGSA to create an environment within the Department, which is friendly, and enriches the experience of the graduate students while completing their studies at the University of Kentucky.
- 2.18.2 The current officers are listed on the Chemistry Department website.

## 2.19 Leaving the University

- 2.19.1 At least three days should be allowed for the overall process of checking out of the Department. You must obtain the proper signatures on the Separation Form, which can be accessed on the Chemistry Department website. The completed form must be turned in to a Department Manager before your final day on campus. In some cases, you may be required to complete a separation form with the University, as well.
- 2.19.2 Please see the Separation Form referenced in 2.19.1 regarding clean-up of chemicals and apparatus in your possession not built into equipment for continuing use, clearing your account

with the stockroom, and seeing to the proper identification and disposal of all hazardous waste and unlabeled bottles of chemicals for which you are responsible.

### 3 Graduate Assistantships and Fellowships

#### 3.1 Appointments

- 3.1.1 Most graduate appointments, teaching and research, are provided on a 5-month basis. Typically, this consists of sequential 5-month appointments as a Teaching or Research Assistant during the academic year and a two-month summer appointment.
- 3.1.2 Departmental support for a graduate student in the MS program will not be provided after three years of residence. University Administrative Regulations (AR 5.2-II-C) specify that “Teaching and research assistants who are candidates for a Master’s degree shall serve no more than a maximum of three years without completion of their degree requirements.”
- 3.1.3 Departmental support for a graduate student in the PhD program will not normally be provided after five years of residence.
- 3.1.4 Graduate Teaching and Research Assistants shall maintain satisfactory academic records and progress toward degrees; their assistantships shall not be renewed if their academic progress is unsatisfactory. (University AR 5.2-II-E)
- 3.1.5 Teaching and Research assistants shall be notified by March 1 whether their appointments will be renewed for the coming academic year. If a final decision on the reappointment cannot be made by March 1, they shall be provided an explanation and informed as to when they might expect to be notified and any conditions necessary for continuation of support. (University AR 5.2-111-C)
- 3.1.6 New Teaching and Research Assistants, as well as all other University employees, must process immediately on arrival an I-9 form at the UK Human Resources Office, 115 Scovell Hall. You must bring with you official documentation proving your identity and your legal right to be employed in the United States. For more information on documentation requirements, please visit the Human Resources website.
- 3.1.7 It is the student’s responsibility to keep the I-9 form up to date. Sometimes, particularly in the case of international students, the I-9 is valid only for a fixed period. You must get it renewed before it expires. If it expires, and there is a lapse of time before you get it renewed, the University will refuse to pay you your stipend for the time that it was expired. You will lose money. This is not the Department’s doing, and we cannot help you if you let your I-9 expire.
- 3.1.8 Teaching and Research Assistants should be familiar with the following sources of information relative to their rights and responsibilities:
  - University of Kentucky Graduate School Bulletin
  - University of Kentucky Student rights and Responsibilities Handbook
  - “Policies Relative to Teaching and Research Assistants” (Administrative Regulation 5. 2)
  - “Policies on International Teaching Assistants” (Administrative Regulation 5.3)

#### 3.2 Teaching Assistantships

- 3.2.1 Teaching assistants who are also full-time graduate students are assigned responsibilities requiring no more than fifty percent of their time. Thus a “full-time” Teaching Assistantship would mean service for not more than an average of 20 hours per week, including time spent in

- preparation, proctoring exams, classroom and laboratory teaching, grading papers, counseling students, or in any combination of those activities in which teachers are customarily engaged.
- 3.2.2 Because the Departmental laboratory teaching load varies from semester to semester, some Teaching Assistants are assigned lighter than normal loads for one semester, balanced by a heavier load the next semester, or vice versa. No system is perfect, but every effort is made to avoid gross disparities in load over the academic year for Teaching Assistants.
  - 3.2.3 New graduate Teaching Assistants must arrive on campus about two weeks prior to the beginning of their first semester of graduate work for Departmental and University Orientation programs. The University now conducts an extensive orientation and teacher-training program for all new Teaching Assistants.
  - 3.2.4 In addition to the University orientation program, international Teaching Assistants are required to participate in a teaching simulation designed to assess English-language communication abilities. The International Center (UKIC) also conducts a full-day orientation for all new international students to acquaint them with the University, American cultural practices, and academic habits.
  - 3.2.5 All new Teaching Assistants must register for and fully participate in CHE 772 "Seminar in Chemistry Instruction" during their first semester of teaching. This is a one-credit seminar-recitation course intended to familiarize new chemistry Teaching Assistants with important information and practices relevant to effective teaching in undergraduate laboratory courses. Credit for this course can be used with those from other seminar and colloquium courses for residence purposes and towards the minimum number of graduate credits for the MS (maximum of 3 credits total for the latter).
  - 3.2.6 One of the principal aims of the Departmental orientation program is to train new Teaching Assistants in their specific teaching duties in the department. Class is held, and the students perform certain of the general chemistry laboratory experiments, write typical reports, conduct experimental recitation sections, and so forth.
    - 3.2.6.1 TA Supervisors may require their Teaching Assistants to begin work up to one week before classes are scheduled to begin.
    - 3.2.6.2 The DGS may require TAs to work as soon as their payroll assignment begins. This date is listed on the Graduate School Academic Staff (GSAS) contract.
    - 3.2.6.3 TAs must be available until final grades are due to the Registrar, or until the Supervisor releases them from duties for a particular semester, whichever comes first.
  - 3.2.6.4 All TA assignments officially end when grades are due to the Registrar's Office, which is typically at midnight on the Monday after final exam week.
  - 3.2.7 During each semester, all the Teaching Assistants for any one course typically meet each week with the lecturers and laboratory supervisors for continuing instruction and discussion of the current topics and experiments. Teaching Assistants for any one course should check with the instructor in charge of the course in which they are assisting at least a week before it is scheduled to begin to see if the instructor needs assistance in preparing for the course.
  - 3.2.8 To instruct others properly, you must first thoroughly understand the material yourself. Thorough preparation for each laboratory period is required. The course instructor may hold a brief meeting each week at which the most important topics are discussed. The Teaching Assistant should not stop at this, but should endeavor by personal efforts also to obtain a thorough understanding and organization of the material.

- 3.2.9 The Teaching Assistant's personal appearance and hygiene is a matter of considerable importance. Appropriate dress and good grooming is expected. If you look presentable and professional, your students are much more likely to respect and listen to you. The Department provides Teaching Assistants with lab coats which should be worn at all times in the teaching laboratory.
- 3.2.10 A Teaching Assistant is expected to be present in the laboratory or classroom at least 5 to 10 minutes prior to the scheduled start of the class to be prepared to start on time.
- 3.2.11 Most effective laboratory teaching is done at the students' elbows, by patient, considerate, persistent effort to help them help themselves. This requires that the Teaching Assistant circulate among the students, questioning, discussing, explaining, and demonstrating. Thus, the person in charge of a laboratory section should be circulating among the students during the entire laboratory period.
- 3.2.12 The Assistant will stay on duty throughout the laboratory period. During the laboratory period, the Assistant should not correct or grade papers or notebooks other than those which pertain to the particular laboratory exercise or exercises being performed.
- 3.2.13 While they are in the laboratory, Teaching Assistants are custodians of State equipment. A section of the General Chemistry Laboratory Manual explains what is expected of the students in the laboratory. Instructors are to be familiar with this and see that their students abide by it.
- 3.2.14 The Teaching Assistant in charge of a laboratory section is responsible for the condition in which the area is left. It is not the job of the lab prep personnel, nor of the faculty and staff members in charge of the lab, to clean up. The Teaching Assistant should see that students place material to be discarded in the correct waste containers, clean the area in which they have been working, participate in cleaning up communal areas, and leave the laboratory in good condition. The more that the Teaching Assistant encourages and insists upon neat laboratory practice and cleaning up from the students in the laboratory, the less work that Assistant will have to do.
- 3.2.15 The Teaching Assistant is responsible for seeing that the laboratory is properly cleaned, closed, and locked at the end of a laboratory session, and that the hood doors have been closed to within one inch of the sash.
- 3.2.16 All staff members should be continually sensitive to fire and personal hazards. They should know where fire extinguishers, fire blankets, first-aid cabinets, safety showers, eye-wash station, and the like are located and be ready to act quickly and effectively in case of an emergency. Safety glasses may be obtained from the laboratory prep room.
- 3.2.17 Only those Assistants who have definite assignments in prep labs are permitted to be in those areas—and then only at the time and place specified.
- 3.2.18 Teaching Assistants are not permitted to tutor for pay a student in any section in which they have responsibility in connection with their regular duties. Help given to students in one's own section(s) must be considered as part of one's teaching assignment in the Department. Tutoring your own students for pay is perceived as a conflict of interest and of questionable professional ethics.
- 3.2.19 Teaching Assistants must not date, attempt to date, or excessively fraternize with students currently enrolled in a class they are teaching. This is a serious breach of professional ethics, and subject to severe sanctions including immediate termination of the Assistantship. The Department will simply not tolerate this. Keep your behavior on a professional level at all times

with your current students. In these times, Teaching Assistants do need to be sensitive to behavior that can be perceived or perhaps misconstrued as “sexual harassment.”

- 3.2.20 The Department furnishes basic office supplies for graduate students. Paper used for examinations by students in a Teaching Assistant’s classes is furnished by the Department. Assistants are *not* authorized to use the Departmental letterhead stationery; it is to be used by members of the regular staff only.
- 3.2.21 A complete list of TA Expectations can be found in Appendix D.

### 3.3 Research Assistantships

- 3.3.1 Research assistants who as part of their RA/GA assignment have obligations independent of their PhD dissertation research are required to work no more than 20 hours/week on their RA/GA assignment. Research efforts related to the student’s PhD dissertation research are established in consultation with the research advisor.
- 3.3.2 New Research Assistants (a rarity) report to the campus about ten days prior to the beginning of the first semester of graduate work for the Departmental Orientation Program, but they are not required to participate in the University and Department teacher-graining activities.
- 3.3.3 Research Assistants are employed by many the faculty on sponsored research projects. Since the specific requirements and availability of the Assistantships are varied, details and means of application are best determined through inquiry and discussions with your advisor. The responsibilities of Research Assistants will vary with the fraction of time for which they are employed, but normally a “full-time” appointment should require no more than twenty hours per week of specified duties for those who are also full-time graduate students.
- 3.3.4 Faculty members with external grant support are expected to make every effort to support their own graduate students during the summer.
- 3.3.5 Summer Departmental Research Assistantships are only rarely available for graduate students not supported by other means. Please contact the DGS for more information.
- 3.3.6 The money available for summer Departmental support (in any form) is very limited. Students with GPAs below 3.0, or who are otherwise not making “normal progress” towards their degree, will not be supported.

### 3.4 Fellowships

- 3.4.1 Fellowships are available to qualified graduate students making satisfactory progress towards their advanced degrees. Among these are various fellowships from the Graduate School. For more information and to check on current opportunities, consult the Graduate School’s website.
- 3.4.2 The Graduate Program Committee is charged with selecting the students to be nominated by the Department for various fellowships.
- 3.4.3 Fellowship applications are to be discussed with you advisor prior to submission of any request.
- 3.4.4 Upon award of a fellowship, it is desirable that a formal letter of acceptance (if such be the case) be sent in reply to the offer. A copy of this letter should be given to the Director of Graduate Studies.

### 3.5 Performance Evaluation

- 3.5.1 The Graduate Program Committee keeps track of every graduate student’s teaching performance as well as their overall academic progress. Continuation of Departmental financial support and continuation in the graduate program are contingent upon satisfactory progress.

### 3.6 Other Employment

- 3.6.1 To preserve the academic focus of graduate students who are on full-time assistantships and have their tuition paid by the University, the Graduate School does not allow for additional salary or employment. More information can be found on the Graduate School's website.
- 3.6.2 Students on F1 or other international visas must also comply with federal regulations regarding employment. More information can be found on the International Center's website.
- 3.6.3 Graduate School fellowship holders should contact the Graduate School if they have any questions concerning limitations on outside or supplementary employment. Many external fellowships and traineeships also have limitations on and required approval procedures for supplemental income; check with the funding agency about these.

### 3.7 Tax Information

- 3.7.1 The best information the University has at this time is that all stipends—including, but not limited to, Research or Teaching Assistantships, Fellowships, and Traineeships—are regarded by the Internal Revenue Service as taxable income. This is true whether you are required to perform any services for this money or whether the services you perform are required of your degree.
- 3.7.2 On first arrival, all Teaching and Research Assistants must acquire an I-9 from the University of Kentucky Human Resources office, complete a W-4 tax withholding form, and complete a direct deposit form. These processes are handled by A&S Payroll. If there is a change in your financial status which affects your withholding liability, you need to process a new W-4 form which can be done through myUK after initial setup.
- 3.7.3 Several foreign countries, including China, Korea, and Poland, for example, have reciprocal tax agreements with the United States which provide for some amount of your yearly stipend not to be taxed. These treaties change from time to time, and it is the student's responsibility to follow current IRS regulations in tax matters. If you feel that this applies to you, you must negotiate directly with the University of Kentucky Payroll Office.
- 3.7.4 The University may not withhold Federal and State tax money from Fellowships awarded to domestic students. They may withhold money on Fellowships awarded to international students. Please be advised that all fellowship money is taxable income, regardless of whether withholding is taken from the stipend.
- 3.7.5 The University will deduct FICA tax from graduate students' salaries unless they are also officially "full-time students." For exemption from FICA, you must maintain full-time student status each term to continue to be exempt. If you drop from full- to part-time status during a term, then withholding of these taxes will begin.
- 3.7.6 The University will deduct city and occupational taxes from graduate students' salaries unless they are exempted based on the "Royster Memo" which states that a student must be in a job affiliated with his or her degree.
  - 3.7.6.1 Tax exemptions will require completion and signature of an exemption form. More information will be provided by a Department Manager each semester.

## Appendices



APPENDIX A. CHECKLIST FOR THE MASTER OF SCIENCE DEGREE -- PLAN A  
(THESIS MASTER'S)

Corresponds to *Handbook* version 15.5

Please note that this checklist is a shortened version of the requirements for the Master's degree. See the relevant sections of the *Handbook for Graduate Students* and the *Graduate School Bulletin* for a complete discussion of the requirements.

\_\_\_ I. **CORE COURSES** (Select one each from 4 of the 5 pairs below. Students who entered the program prior to the Fall 2014 semester must select 1 course from each of the 2 areas where the lowest proficiency examination scores were obtained. Must be completed or bypassed within 2 years.)

- Analytical: CHE 626 or CHE 623 \_\_\_\_\_  
 Biological: CHE 550 or CHE 552 \_\_\_\_\_  
 Inorganic: CHE 510 or CHE 514 or CHE 516 \_\_\_\_\_  
 Organic: CHE 538 or CHE 535 \_\_\_\_\_  
 Physical: CHE 547 or CHE 548 \_\_\_\_\_

\_\_\_ II. **TOTAL CREDITS** (Minimum of 30 credits of graduate course work, GPA of 3.0 or higher, maximum of four credits of seminar, colloquium, or practicum courses. Up to 10 credit hours of research or independent study courses (CHE 780, CHE 790, or CHE 768) can be used toward the minimum of 30 course credits. Research or independent study courses can be used to satisfy the Graduate School's requirement of 15 credits of courses at 600- or 700- level.

Course	Credits	Grade	Course	Credits	Grade
Total Credits:		Total Quality Points:		GPA:	

\_\_\_ III. **CHEMISTRY COURSES** (Minimum of 20 hours in 500-, 600-, or 700-level chemistry courses, not including CHE 790, 748, 768.)

Course	Credits	Course	Credits

\_\_\_ IV. **UPPER-LEVEL COURSES** (Minimum of 15 hours in 600- or 700-level courses; CHE 790 may be used here, but not in II. above.)

Course	Credits		Course	Credits

\_\_\_ **VI. SELECTION OF RESEARCH ADVISOR** (Complete Research Advisor Interviews form.)

Date of final sign-off by DGS \_\_\_\_\_

\_\_\_ **VII. FORMATION OF ADVISORY COMMITTEE** (Chair or co-chair must be full member of the Graduate School Faculty; one member must be outside the area of specialization; minimum of 3 members. Must be done before obtaining any summer RA support.)

Date \_\_\_\_\_ Members \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_ **VIII. APPLICATION FOR DEGREE** (<https://gradschool.uky.edu/degree-forms>)

\_\_\_ **IX. FINAL CHECK OF GRADES** (Secure official transcript to check all grades and courses. Have all S and I grades (except for any *residence* courses) converted to regular, letter grades. Minimum 45-60 days in advance.)

Date \_\_\_\_\_

\_\_\_ **X. FINAL EXAMINATION** (To be given not later than 8 days before the last day of classes of the semester in which the degree is to be awarded. Must be scheduled with the Graduate School at least two weeks ahead of time. Can have no outstanding I, SI or UI grades.)

Date of Master's/Specialist Final Examination form \_\_\_\_\_

Date of Final MS Examination \_\_\_\_\_

\_\_\_ **XI. SUBMISSION OF MS THESIS** (Final, corrected, checked, and accepted copy must be submitted to the Graduate School within 60 days of date of final examination.)

Date Thesis Submitted and Accepted \_\_\_\_\_

\_\_\_ **XII. DEPARTMENTAL CHECK-OUT** (Complete Separation form.)

Date \_\_\_\_\_

APPENDIX B. CHECKLIST FOR THE MASTER OF SCIENCE DEGREE -- PLAN B  
(Coursework Master's)

Corresponds to *Handbook* version 15.5

Please note that this checklist is a shortened version of the requirements for the Master's degree. See the relevant sections of the *Handbook for Graduate Students* and the *Graduate School Bulletin* for a complete discussion of the requirements.

\_\_\_ I. **CORE COURSES** (Select one each from 4 of the 5 pairs below. Students who entered the program prior to the Fall 2014 semester must select 1 course from each of the 2 areas where the lowest proficiency examination scores were obtained. Must be completed or bypassed within 2 years.)

- Analytical: CHE 626 or CHE 623 \_\_\_\_\_  
 Biological: CHE 550 or CHE 552 \_\_\_\_\_  
 Inorganic: CHE 510 or CHE 514 or CHE 516 \_\_\_\_\_  
 Organic: CHE 538 or CHE 535 \_\_\_\_\_  
 Physical: CHE 547 or CHE 548 \_\_\_\_\_

\_\_\_ II. **EXTRADEPARTMENTAL COURSES** (6 or more credits relevant to career goals; need approval by Graduate Program Committee, but need not be graduate-level courses.)

Course	Credits	Course	Credits

\_\_\_ III. **TOTAL CREDITS** (Minimum of 30 credits of regular graduate courses; overall GPA of 3.0 or higher; maximum of four credits of seminar, colloquium, or practicum courses; cannot use CHE 790, 748, or 768.)

Course	Credits	Grade	Course	Credits	Grade
Total Credits:		Total Quality Points:		GPA:	

\_\_\_ IV. **ADDITIONAL CHEMISTRY COURSES** (Beyond the core courses in I. above. One additional course in each of 3 of the following: analytical/radiochemistry, biological, inorganic, organic, and physical chemistry. Only courses having 2 or more credits may be counted.)

Course	Credits	Course	Credits

\_\_\_ **V. UPPER-LEVEL COURSES** (Minimum of 15 hours in 600- or 700-level courses; may use CHE 790 here, but not in II or IV above. At least 12 hours must be in CHE courses.)

Course	Credits		Course	Credits

\_\_\_ **VI. APPROVAL OF COURSES** (Petition to Graduate Program Committee to approve complete program of courses for degree.)

Date \_\_\_\_\_

\_\_\_ **VII. FORMATION OF ADVISORY COMMITTEE** (Chair or co-chair must be full member of the Graduate School Faculty; one member must be outside the area of specialization; minimum of 3 members.)

Date \_\_\_\_\_ Members \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_ **VIII. APPLICATION FOR DEGREE** (Submit via myUK by about Feb. 10, June 20, Sept. 20, for May, August, December degree.)

\_\_\_ **IX. FINAL CHECK OF GRADES** (Secure official transcript to check all grades and courses. Have all S and I grades (except for any *residence* courses) converted to regular, letter grades. Minimum 45-60 days in advance.)

Date \_\_\_\_\_

\_\_\_ **X. FINAL EXAMINATION** (To be given not later than 8 days before the last day of classes of the semester in which the degree is to be awarded. Must be scheduled with the Graduate School at least two weeks ahead of time. Can have no outstanding I, SI or UI grades.)

Date of Master's/Specialist Final Examination form \_\_\_\_\_

Date of Final MS Examination \_\_\_\_\_

\_\_\_ **XI. DEPARTMENTAL CHECK-OUT** (Complete Separation form.)

Date \_\_\_\_\_

## APPENDIX C. CHECKLIST FOR THE PHD

### Corresponds to *Handbook* version 15.2

Please note that this checklist is a shortened version of the requirements for the PhD degree. See the relevant sections of the *Handbook for Graduate Students* and the *Graduate School Bulletin* for a complete discussion of the requirements.

#### \_\_\_ I. COURSEWORK

- a. **CORE COURSES** (Select one each from 4 of the 5 pairs below. Students who entered the program prior to the Fall 2014 semester must select 1 course from each of the 2 areas where the lowest proficiency examination scores were obtained. Must be completed or bypassed within 2 years.)

Analytical: CHE 626 or CHE 623 \_\_\_\_\_  
Biological: CHE 550 or CHE 552 \_\_\_\_\_  
Inorganic: CHE 510 or CHE 514 or CHE 516 \_\_\_\_\_  
Organic: CHE 538 or CHE 535 \_\_\_\_\_  
Physical: CHE 547 or CHE 548 \_\_\_\_\_

- b. **Advanced or Specialty Courses** (Minimum 8 credits in regular, graduate-level Chemistry courses)

Course	Credits		Course	Credits

- c. **Out-of-Area Courses** (Minimum of 3 hours; must be out of Department or CHE but out of student's area of concentration; CHE 532, 533, research or seminar courses do not count; plan requires the approval of the advisory committee.)

Course	Credits		Course	Credits

- d. **Seminar** (Complete CHE 776 for 3 credits.)

Division, Course, and Section Number	Semester

#### \_\_\_ II. Teaching Requirement (Minimum of one semester, one-quarter time.)

Semester \_\_\_\_\_

\_\_\_ **III. WRITTEN QUALIFYING EXAM** (Prior to August 1, 2019, the cumulative exam system satisfied this requirement. On August 1, 2019, the research proposal system went into effect.)

Date passed \_\_\_\_\_

\_\_\_ **IV. SELECTION OF RESEARCH ADVISOR** (Complete Research Advisor Interviews form.)

Date of final sign-off by DGS \_\_\_\_\_

\_\_\_ **V. GRADUATE RECORD EXAM** (Submission of official GRE general exam scores must be done during first semester if not done prior to admission to Graduate School.)

\_\_\_ **VI. FORMATION OF ADVISORY COMMITTEE** (Chair or co-chair must be full member of the Graduate School Faculty; one member must be outside the area of specialization; minimum of 4 members. Must be done before obtaining any summer RA support.)

Date \_\_\_\_\_ Members \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_ **VII. PRE-QUALIFYING EXAM RESIDENCY** (Two "years" of residence *as defined by credits*. "Year" does not necessarily mean temporal year of student career. Graduate audits "count" toward making semesters "full-time" for Year 2, but not toward the 36-credit minimum total. S grades do not count anywhere. After a student joins a group, they register for CHE 790 to make 9 hours/semester to obtain 36 credits in reasonable time.)

- a. Year 1: 18 graded graduate hours at UK (or Master's or transfer of one year of residency credit from an awarded MS at another accredited school (by petition).
- b. Year 2: Two consecutive semesters enroll full-time (9 or more graduate credits per semester), may include the summer session.
  - a. OR Three consecutive semesters enrolled part-time (at least 6 graduate credits per semester)
  - b. OR 24 graduate credits at UK, exclusive of short courses, taken within three consecutive academic (or calendar) years. (No more than 9 credits may be earned in summer sessions.)
- c. Minimum of 36 graded graduate credits.

\_\_\_ **VIII. ORAL QUALIFYING EXAM** (Normally scheduled in fifth semester. Intent to schedule should be filed within first six weeks of semester. GPA must be 3.0 or higher; no outstanding I or "missing" grades. Request to schedule the qualifying exam must be submitted a minimum of 14 days in advance.) Content of the exam may be related to research. "Proposal" necessary.)

Date proposal sent to committee \_\_\_\_\_

Date requested \_\_\_\_\_

\_\_\_ **VIII. DEPARTMENTAL SEMINAR** (Usually presented in last semester of residence.)

\_\_\_ **IX. APPLICATION FOR DEGREE** (Submit via myUK by about Feb. 10, June 20, Sept. 20, for May, August, December degree.)

\_\_\_ **IX. FINAL CHECK OF GRADES** (Secure official transcript to check all grades and courses. Have all S and I grades (except for any *residence* courses) converted to regular, letter grades. Minimum 45-60 days in advance.)

Date \_\_\_\_\_

\_\_\_ **X. FINAL DOCTORAL EXAMINATION** (To be given not later than 8 days before the last day of classes of the semester in which the degree is to be awarded. Must be scheduled with the Graduate School at least two weeks ahead of time Can have no outstanding I, SI or UI grades.)

- a. Notification of Intent to Schedule Final Doctoral Examination (8 weeks minimum in advance). Outside Examiner appointed. After this, may begin trying to schedule final oral exam.

Date \_\_\_\_\_

- b. Dissertation sent to committee for initial approval (should be at least 1 month prior to examination date)

Date \_\_\_\_\_

- c. Dissertation Approval Form brought to Director of Graduate Studies for signature (minimum 14 days in advance).

Date \_\_\_\_\_

- d. Request for Final Doctoral Examination submitted to Graduate School for approval (minimum 14 days before scheduled final defense).

Date \_\_\_\_\_

- e. Approved Dissertation sent to Outside Examiner

Date \_\_\_\_\_

\_\_\_ **XI. SUBMISSION OF PHD DISSERTATION** (Final, corrected, checked, accepted, and signed copy must be submitted to the Graduate School within 60 days of date of final examination.)

Date Dissertation Submitted and Accepted \_\_\_\_\_

\_\_\_ **XII. DEPARTMENTAL CHECK-OUT** (Complete Separation form.)

## APPENDIX D. TA EXPECTATIONS

Teaching Assistants are the face of the Chemistry Department. Some of our students have more hours of contact with Teaching Assistants than they do with the faculty. While students themselves are ultimately responsible for how much they learn, the degree to which they find the learning experience enjoyable or frustrating is determined by the quality of our Teaching Assistants.

A typical Teaching Assistantship entails 20 effort-hours of work per week in duties related to the overall academic mission of the Department. Exact duties will be assigned by the supervisor of the course which you are teaching. Certain duties and responsibilities could begin two to three weeks prior to the first day of classes including but not limited to, for example, TA orientation as noted below.

Employment as a teaching assistant is not a grant or a fellowship; it is a job with very specific expectations. You are offered this position with the understanding and expectation that you are technically qualified for the position and that you will conduct yourself in a professional manner at all times. Among the minimum requirements, you are expected to:

- Abide by and enforce all UK and Departmental safety guidelines.
- Attend and participate in TA orientation sessions as directed. All TAs are required to report to the department in person on the first day of orientation. Failure to do so will result in immediate revocation of TA support for the semester.
- Attend all TA meetings.
- Schedule, publicize, and attend office hours.
- Participate in a TA development sessions, as directed.
- Proctor and grade exams, as assigned.
- Refrain from using resources in the teaching labs for tasks unrelated to your TA assignment. Building and/or room access related to your TA assignment will be programmed to end when your assignment ends.
- Be on time to all meetings, class sessions, proctoring assignments, and grading sessions.
- Return grades promptly to students and/or the supervisor. This typically means within a week of collecting the assignment, but may be shorter or longer, as directed by the supervisor.
- Promptly submit information such as attendance.
- Read and answer your mail and email every day. Prompt answers to both student and supervisor email messages is expected (within 24 hours of receipt). TAs are expected to use a UK email address to correspond with students. Regardless of what system used to monitor messages, TAs should never contact a student from a personal email account.
- Other duties as assigned by the supervisor to further the teaching mission of the Department which may include, but are not limited to, such things as: proctoring, grading, working in the Learning Center.

Unprofessional behavior or behavior unbecoming of a teacher will not be tolerated. This behavior can include failure to meet the minimum expectations listed above, belligerent or demeaning treatment of students, or other behaviors that the supervisor or DGS view as unacceptable. Failure to meet one or more of these expectations can result in dismissal or non-renewal of the Assistantship in future semesters.



## APPENDIX E. CLASSIFICATION OF CHE COURSES (500-, 600-, AND 700-LEVEL)

Course	Assigned Division
510 Advanced Inorganic Chemistry	<b>Inorganic</b>
514 Descriptive Inorganic Chemistry	<b>Inorganic</b>
516 Inorganic Materials Chemistry	<b>Inorganic</b>
520 Radiochemistry	<b>Analytical</b>
524 Chemical Instrumentation	<b>Analytical</b>
526 Chemical Separations	<b>Analytical</b>
532 Spectrometric Identification of Molecules	<b>Excluded</b>
535 Synthetic Organic Chemistry	<b>Organic</b>
536 Org Mat: Electronic and Photonic Properties	<b>Organic</b>
538 Principles of Organic Chemistry	<b>Organic</b>
547 Principles of Physical Chemistry I	<b>Physical</b>
548 Principles of Physical Chemistry II	<b>Physical</b>
550 Biological Chemistry I	<b>Biological</b>
552 Biological Chemistry II	<b>Biological</b>
555 Homonuclear NMR	<b>Cross-disciplinary</b>
558 Hormone Receptors and Cell Signals	<b>Biological</b>
559 Molecular Biophysics	<b>Biological</b>
565 Environmental Chemistry	<b>Cross-disciplinary</b>
566 Org Mat: Characterization and Devices	<b>Organic</b>
576 Polymer Chemistry	
580 Topics in Chemistry	
610 Chemistry of the Transition Metals	<b>Inorganic</b>
612 Inorganic Chemistry of the Non-Metals	<b>Inorganic</b>
614 Organotransition Metal Chemistry	<b>Inorganic</b>
620 Electrochemical Methods of Analysis	<b>Analytical</b>
623 Chemical Equilibrium and Data Analysis	<b>Analytical</b>
625 Spectrochemical Analysis	<b>Analytical</b>
626 Advanced Analytical Chemistry	<b>Analytical</b>
640 Chemical Crystallography	<b>Physical</b>
643 Spectroscopy and Photophysics	<b>Physical</b>
646 Chemical Kinetics	<b>Physical</b>
666 Proteomics and Mass Spectrometry	<b>Cross-disciplinary</b>
668 Symmetry and Chemical Applications	<b>Cross-disciplinary</b>
736 Topics in Organic Chemistry	<b>Organic</b>
746 Topics in Physical Chemistry	<b>Physical</b>

Excluded courses cannot be used to satisfy the Out-of-Area requirement

## APPENDIX F. RUBRIC FOR THE WRITTEN QUALIFYING EXAM

### Written Qualifying Exam Rubric University of Kentucky, Department of Chemistry

**Instructions:** Enter a whole number score for each rubric component. *For any failing scores (1-2) in a single component, justification should be provided in the comments section.* The rubric will calculate the average. A score greater than or equal to 2.5 passes. Assign pass/fail to the proposal. Additional comments that do not fit in the fields provided may be included in a separate document and sent to chemistry@uky.edu along with the scored rubric.

#### Scoring Criteria and Range

	5	4	3	2	1	Scores	Comments:
<b>Hypothesis/ Purpose, Specific Aims</b>	Pass			Fail			
General Background:	General background is well organized and clearly identifies a problem and/or question	General background lacks organization and clarity but identifies a problem and/or question	General background includes excess detail and lacks organization and clarity but identifies a problem and/or question	General background lacks relevance within the context of the problem and/or question identified	There is no background or the background does not identify a problem and/or question		
Hypothesis and Purpose:	Hypothesis and purpose are logical, organized, and contain all essential details	Hypothesis and purpose are logical and contain most essential details, but lack some organization	Hypothesis is logical, but lacks essential details; purpose may be hard to discern	Hypothesis is hard to identify, illogical, and lacks essential details; purpose does not exist	Hypothesis does not exist or proposal is not hypothesis driven		
Specific Aims:	Specific aims are well-defined, effectively organized, and address central hypothesis/purpose	Specific aims help address the central hypothesis/purpose, but organization needs improvement	Specific help address central hypothesis/purpose, but are unorganized and lack detail	Specific aims are unorganized and relation to central hypothesis/purpose is unclear	Specific aims do not address the hypothesis/purpose OR there are no specific aims		
	5	4	3	2	1	Scores	Comments:
<b>Significance/ Background</b>	Pass			Fail			
Significance and Application:	Both overall significance and the application are well defined	Both overall significance and application are well-defined, but exhibits some issues with clarity	Identifies an application but overall significance is not clearly stated OR clearly states the overall significance yet not an application	Significance is not well defined and the application of the proposal unclear	Does not clearly identify either the overall significance or application		
Impact:	Long-term impact of the work is evident to a general audience	Long-term impact of the work is evident, but only to experts in the field	Long-term impact of the work is unclear, but short-term impact is clear to a general audience	Neither long-term nor short-term impact are clear or the impact is misrepresented	The impact of the work is not discussed		
Innovation and Originality:	Research proposal is innovative and the gap in the knowledge of the indicated field is discussed thoroughly	Research proposal is innovative, but the discussion of the existing gap in knowledge needs further elaboration	Research proposal is somewhat innovative and the discussion of the existing gap in knowledge needs further elaboration and attention to clarity	Research proposal is somewhat innovative and fails to discuss the gap in the knowledge	Research proposal as written is not innovative or has been done before (specify in comments)		
	5	4	3	2	1	Scores	Comments:
<b>Approach</b>	Pass			Fail			
Data Collection and Analysis:	The plan for data collection/generation and analysis is clear and concise	The plan for data collection/generation is clear and analysis is clear but not concise	The plan for either data collection/generation or analysis is clear, but the other is not	The plan for data collection/generation and analysis is not clear	There is no plan for data collection/generation and analysis		
Interpreting Results:	The plan for identifying key findings is evident, logical, and supported by examples in the literature.	The plan for identifying key findings is evident and logical, but lacks sufficient support from the literature.	The plan for identifying key findings is vague, but examples in the literature are provided.	The plan for identifying key findings is vague.	There is no plan for identifying key findings OR the plan written could lead to misidentification of key findings.		
Anticipated Results and Alternative Approaches:	Anticipated results are plausible and clearly described. Alternative approaches are relevant.	Anticipated results are somewhat plausible but not clearly described. Alternative approaches are relevant.	Anticipated results are somewhat plausible but not clearly described. Alternative approaches lack relevance.	Anticipated results are not plausible OR alternative approaches not provided	Anticipated results not provided AND alternative approaches not provided		
	5	4	3	2	1	Scores	Comments:
<b>Overall Structure</b>	Pass			Fail			
Structure and Writing	Writing is clear and concise; proposal logic flows well	Writing is mostly clear and concise; proposal logic flows well with a few errors	Writing is not clear and concise; logical flow is adequate	Logical flow OR clarity is absent from a significant portion of the proposal	The proposal generally lacks both clarity AND appropriate logical flow		
Figures	The figures depict ideas/data relevant to the proposal and are easily interpretable	The figures depict ideas/data relevant to the proposal and are interpretable but are grainy or hard to read	The figures depict ideas/data relevant to the proposal and are difficult to interpret	The figures depict ideas/data relevant to the proposal but there are too few within the proposal	The figures are not relevant to the proposal OR there are no figures in the proposal		

Final Score

	Pass Fail
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Additional  
Comments

## APPENDIX G. TIMELINE FOR THE WRITTEN AND ORAL QUALIFYING EXAM

### **Fall semester start date:**

April 15 of 4<sup>th</sup> semester – Submit one-page pre-proposal.

- Pre-proposal approved or revisions requested within five working days.
- Revised pre-proposal submitted by student, if required, within five working days of receiving faculty comments.
- Process repeated on same timeline if more revisions are requested.

August 15 of 5<sup>th</sup> semester – WRP submitted to Canvas.

September 12<sup>th</sup> – Faculty grades and comments returned to students.

September 26<sup>th</sup> – Revised WRP submitted, if revision is required.

October 10<sup>th</sup> – Second round of faculty grades returned to students, if resubmission of WRP was required.

CHE 790 report – Students must submit their CHE 790 report at least 4 weeks before their oral examination. This report may be submitted before or after the WRP is submitted.

### **Spring semester start date:**

November 1<sup>st</sup> of 4<sup>th</sup> semester – Submit one-page pre-proposal.

- Pre-proposal approved or revisions requested within five working days.
- Revised pre-proposal submitted by student, if required, within five working days of receiving faculty comments.
- Process repeated on same timeline if more revisions are requested.

January 3<sup>rd</sup> of 5<sup>th</sup> semester – WRP submitted to Canvas.

January 31<sup>st</sup> - Faculty grades and comments returned to students.

February 14<sup>th</sup> - Revised WRP submitted if revision is required.

February 28<sup>th</sup> - Second round of faculty grades returned to students if resubmission of WRP was required.

CHE 790 report – Students must submit their CHE 790 report at least 4 weeks before their oral examination. This report may be submitted before or after the WRP is submitted.