

HANDBOOK FOR GRADUATE STUDENTS

DEPARTMENT OF CHEMISTRY

UNIVERSITY OF KENTUCKY

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HANDBOOK FOR GRADUATE STUDENTS
DEPARTMENT OF CHEMISTRY, UNIVERSITY OF KENTUCKY

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*, which is kept up-to-date at the Graduate School Web Site (<http://www.rgs.uky.edu/gsbulletin/bullinfo.html>), 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, degrees, writing of dissertations, scheduling of various exams, and so forth. The *Student Rights and Responsibilities* 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.

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APPENDICES

The Graduate Program

1.1. Graduate Degrees

1.1.1. The Department of Chemistry at the University of Kentucky offers two graduate degrees -- the M.S. and the Ph.D. (doctoral) degree. In the M.S. degree program, the student has the option of pursuing the M.S. Plan A, which involves research and a thesis, or the M.S. Plan B, a nonthesis or coursework-only option. A Masters degree is not a prerequisite for the Ph.D. 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 interpretations of existing academic requirements are different. When these are made, they are usually effective immediately upon notification.

1.1.6. In addition to the M.S. and Ph.D. 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. All applicants for admission to the degree programs in the Graduate School of the University of Kentucky must submit *official* scores on the aptitude portion (Verbal, Quantitative, Analytical) of the Graduate Record Examination. In the rare case where this has not been done prior to the student's admission to the Department of Chemistry, then it must be done during the student's first semester of residence. Failure to do so can result in the student's being dismissed from the University by the Graduate School.

1.3. Course Work

1.3.1. Course work for both the M.S. and Ph.D. shall include four core courses, one from each of four of the five areas of chemistry: analytical, biological, inorganic, organic and physical. The four courses selected must include one 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 (Spring Inorganic); CHE 538 (Fall Organic), CHE 535 (Spring Organic); CHE 547 (Fall Physical), CHE 548 (Spring Physical).

1.3.2 The content of each core course shall be decided by the respective division. 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. The curriculum and topics of each core course shall be fixed by the division so that continuity is maintained and the advanced courses can build upon known background knowledge.

1.3.4. One of each pair of these courses shall be offered in fall term and one in spring term so that any student, regardless of when he or she enters the program, will have the opportunity to take all of the required core courses in the first year.

1.3.5. 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.

1.3.6. 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 M.S. 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 M.S. 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.

1.3.7. 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 a bypass, a student need only to have the approval of his advisory committee to do so.

1.3.8. 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 70th percentile or above on at least one proficiency exam topic, may petition his / her

advisor and advisory committee to bypass up to 12 credit hours of course requirements for the Ph.D., subject to approval by the GPC.

1.3.9. Students will not be considered to 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.

1.3.10. 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.

1.3.11. 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.

1.3.12. 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 in a particular degree program. To exercise the option, the student *must* complete the necessary form from the Graduate School, which is then signed by the Director of Graduate Studies. You should complete and file this document before the beginning of the semester in which you retake the course. 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.

1.3.13. 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 fill any other requirement imposed by the instructor.

1.3.14. 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 M.S. degree in Chemistry. Up to a maximum of 8 credits in CHE 780, Individual Work in Chemistry, may be used for the M.S. 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*, <http://www.research.uky.edu/gs/bulletin/bullinfo.shtml>, independent study or research courses (like CHE 780) must not duplicate thesis work.

1.3.15. 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 M.S. degrees in Chemistry.

1.3.16. All Ph.D. students must present one Divisional Seminar each year until passing their oral qualifying exam, 3 seminars minimum. M.S. students are required to present 2 Divisional Seminars. Students who are not registered for credit will register for audit.

1.4. Master of Science Degree, Plan A

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

1.4.2. The general requirements for the M.S. Plan A in the Department of Chemistry are the following:

1. A minimum of 24 graduate credit hours, 12 of which must be at the 600- or 700-level (Graduate School requirement). The advisory committee may require additional courses.
2. At least two thirds of the *minimum* requirements for the master's degree (16 credits) must be in "regular" courses. (Excludes research and independent study courses, CHE 748, and CHE 768. Graduate School requirements.)
3. The Chemistry Department will not permit CHE 790 to be used toward the minimum of 24 course credits, but up to a maximum of 8 credits of CHE 780 may be used as long as research in CHE 780 does not duplicate thesis work. [Note that some CHE 790 may be used to satisfy the Graduate School's requirement of 12 credits of courses at the 600- or 700-level.]
4. Credit in CHE 748 and 768 cannot be used to fulfill the 24 credit-hour minimum course requirements.
5. Four core courses must be taken, each from a different area (analytical, biological, inorganic, organic, and physical) of chemistry. Two of the four core courses selected must be in the areas in which the student's entrance proficiency examination scores were the lowest.
6. A minimum of 16 hours of Chemistry courses at the 500-, 600-, or 700-level. This constitutes the student's "major area" of study.
7. A maximum of three credits in seminar, practicum, and colloquium courses, such as CHE 772 and 776, toward the minimum of 24.
8. All Graduate School requirements must be fulfilled.
9. A final oral examination is required, and must be scheduled at the Graduate School a *minimum* of two weeks in advance.

1.4.3 A convenient "Checklist for the M.S. -- 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 Masters Degree, 1-6 cr, may be used by M.S. students *who are writing a thesis*. They may sign up for credit and pay fees. No zero credit.

1.4.5. CHE 748, Masters 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 for Master's students in the same manner as CHE 749 and 767 do 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 M.S. 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. 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*.
2. At least two thirds of the *minimum* requirements for the master's degree (20 credits) must be in "regular" courses. (Excludes research and independent study courses, Graduate School requirements.)
3. Four core courses must be taken, each from a different area (analytical, biological, inorganic,

organic, and physical) of chemistry. Two of the four core courses selected must be in the areas in which the student's entrance proficiency examination scores were the lowest (unless successfully bypassed).

4. One additional course in 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.
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.
6. A maximum of three credits of seminar, practicum, or colloquium courses, such as CHE 772 and 776, may be used toward the 30-credit minimum.
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.
8. Credits in CHE 748 and CHE 768 cannot be used in any way toward the M.S. Plan B because these deal with research and the writing of a thesis, which are not applicable to this degree.
9. All Graduate School requirements, of course, must be fulfilled.
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 M.S. -- Plan B" is provided in the Appendix for the student. 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 Ph.D. Degree

1.6.1. It is assumed that all students entering the Department of Chemistry are in the Ph.D. program unless they elect or are required to complete their studies with an M.S.

1.6.2. The general requirements for the Ph.D. degree are --

1. Four core courses must be taken, each from a different area (analytical, biological, inorganic, organic, and physical) of chemistry. Two of the four core courses selected must be in the areas in which the student's entrance proficiency examination scores were the lowest (unless successfully bypassed).
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 courses 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.
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 students of the 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 multidisciplinary, as listed in appendix F.
4. Teaching a minimum of one-quarter time (10 hours/week appointment) for a minimum of one semester.
5. Successful completion of the Department's cumulative exam requirements, which constitute the written portion of the qualifying examination.
6. Presentation of a departmental seminar on the student's dissertation research. This is usually done in the last semester of residence.
7. All Graduate School requirements such as residence requirements and the qualifying oral must be

fulfilled.

1.6.3 For a Ph.D. student to be 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 Ph.D.

1.6.5 A convenient "Checklist for the Ph.D." 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 -- Cumulative Exams

1.7.1 The qualifying examination for the Ph.D., which is required by the Graduate School, consists of two parts -- a written part and an oral part. In the Department of Chemistry, the periodic cumulative exams shall constitute the written portion of the qualifying examination.

1.7.2 It is assumed that all students entering the Department's graduate program are doctoral students in the Ph.D. program. All students are strongly urged to take cumulative exams on entry. If a student does not successfully pass these exams as outlined for whatever reason, including simply choosing not to take the exams in the manner prescribed, then that student will be in a terminal M.S. program.

1.7.3 In the first four semesters of residence, a student shall take cumulative exams to complete the written portion of the qualifying examination. The cumulative exam system shall be the same, whether the student enters the Department with a Bachelor's or Master's degree.

1.7.4 There shall be 8 cumulative exams given per year -- one each month in September through December and February through May -- for analytical, biological, inorganic, organic, and physical chemistry. There shall be 4 cumulative exams given per year in radionuclear chemistry; these shall be in November, December, April, and May. The student may take only one exam from the packet of exams available on each test date.

1.7.5 These exams will be graded without knowledge of the identity of the student taking the exam and scores will be decided by divisional consensus. Possible scores are 3 (high pass), 2 (pass), 1 (marginal pass) or 0 (fail). As with the oral qualifying exam, cumulative exam scores are final.

1.7.6 A student must accumulate a *minimum* of 8 points, a maximum of 4 by scores of 1, in no more than 16 exams. A student who does not shall then be in a terminal M.S. program.

1.7.7 A student's advisory committee shall decide on any distribution of point requirements among the areas of chemistry.

1.7.8 The cumulative exam requirements of a part-time student not in residence shall be set by the student's advisory committee. The student should prepare and submit a petition to the Director of Graduate Studies during the first semester in the program presenting the student's situation and proposing a plan for taking these exams.

1.7.9 The cumulative exams will be carefully designed to test Ph.D. level ability and preparation. Each division is required to decide on general guidelines for exam content which must be made available in writing to the Graduate Program Committee and the students. A cumulative exam must be reviewed beforehand by at least 1 faculty member other than the writer of the exam. Cumulative exams shall be graded and the results made known to students within 2 weeks of the date of each exam.

1.7.10 The Graduate Studies staff assistant will announce the topic of each cumulative exam on the

Wednesday before the exam is scheduled to take place. The exams will be two hours in length and will be administered and graded without knowledge of the student's identity. Feedback on the cumulative exams should be available in the form of a posted key or in discussion group by the division which prepared the exam.

1.7.11. A file of copies of previous cumulative exams is maintained in the department office. Students may check these out through the receptionist for overnight use.

1.7.12. Graduate students classified as post-baccalaureate may not take cumulative exams.

1.7.13. If a student misses one of more of the cumulative exams for a substantive reason -- for example, serious illness, a death in the immediate family, attendance at a professional meeting -- the student should submit as soon as possible a petition to the Graduate Program Committee for extending the allowed time so that the exam missed can be taken (if needed) at a regularly scheduled date. Only in very unusual circumstances will approval be given to take an exam at a different time from the normally scheduled cumulative exam dates and times.

1.7.14. A student who earns an M.S. degree from the University of Kentucky Chemistry Department and is not enrolled for a minimum of one year (two semesters), may then enter the cumulative exam system after being admitted to the Ph.D. program.

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*, which can be found at <http://www.research.uky.edu/gs/bulletin/bullinfo.shtml>.

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.

1.8.3. When a student has met all of 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. The "Recommendation for the Qualifying Exam," http://www.research.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm, must then be submitted online within the first *six weeks* of the semester in which the qualifying exam will be held. (The exam date must be settled with the advisory committee before this form can be filed.)

1.8.5. The oral qualifying examination shall normally include, but not necessarily be limited to, a defense of the student's research proposal. A written research proposal shall be supplied to the members of the advisory committee a minimum of two 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.

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 no 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 Ph.D. degree. This requirement should be fulfilled in the first three years of graduate study. A student entering with an M.S. degree should complete this requirement within two years, but equivalent teaching experience (at the University of Kentucky or elsewhere) in an M.S. 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, even the most appropriate plan of courses cannot be detailed until the student has chosen an advisor and research area. It is therefore of importance that these be chosen as soon as possible. A student must choose an advisor, and have an advisory committee appointed, by the end of the first semester in residence. For students entering in January, it is recommended that this be done 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 students consider a wide range of possible advisors before deciding on one. Each student should discuss faculty members' research interests 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 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 Studies Staff Assistant. 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 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. Every student conducting research that is to be used in connection with a master's thesis or doctoral dissertation should be registered for a minimum of one semester hour or the equivalent. A student who has fulfilled all other residence requirements for the Ph.D. degree must register for CHE 767, Dissertation Research, for two credit hours every semester until the Ph.D. defense is completed. (Exception: Students who joined the program prior to Fall 2005 may register for CHE 769 for 18 credits over two or three semesters, then CHE 749 for up to six semesters thereafter until the Ph.D. defense is completed.) Registration in CHE 767 is considered to be equivalent to full-time status.

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 signed 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. No more than two members of the committee may be associate members of the Graduate Faculty. 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 to serve on their committee, Ph.D. students must complete the "Formation of an Advisory Committee Form" online at http://www.research.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm to make their committee official.

1.11.1.2. The M.S. 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. M.S. students must complete the form at http://www.research.uky.edu/gs/masters_exam.pdf and submit it manually through the DGS office.

1.11.2. The advisory committee must meet early in the student's career. The first meeting must be held by the end of the second semester in residence. This initial meeting is required for a student to make satisfactory progress toward the degree. An early meeting is important to discuss and initially approve the program of courses to be taken by the student, the important question of the area(s) of the cumulative exams in which the student must earn points, initial ideas on the student's research project, and other topics pertinent to the student's program. A short written report of the meeting, including the committees' decisions on the course plan and the areas of cumulative exams to be passed, must be sent to the Director of Graduate Studies within two weeks of the meeting. Advisory committees are involved in the administration of the oral qualifying examination, the supervision and preparation of the thesis, and the final examination.

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. A short written report of each meeting must be sent to the Director of Graduate Studies within two weeks. These meetings are required for a student to make satisfactory progress toward the degree. 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 scheduled with the Graduate School, through the Director of Graduate Studies, a *minimum* of two weeks in advance. The necessary forms can be found at http://www.research.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm (completed online) and <http://www.research.uky.edu/gs/RequestFinalDocExam.pdf>. Ordinary, "routine" meetings of the student's advisory committee to monitor progress do not need to be scheduled 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 Requirements

The following rules come from the Graduate School's Policies and Procedures Manual for Directors of Graduate Studies, which can be found at <http://www.research.uky.edu/gs/dgshandbook.pdf>. 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 M.S. degree. However, Master's students may wish to enroll in CHE 748 after completion of coursework until the final exam if their visa status requires it, if they need to maintain eligibility for student loan deferment, etc.

1.12.2. Pre-Qualifying Residence.

1.12.2.1. The Ph.D. 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 Ph.D." 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 coursework (including research credit), and must be completed within 5 years of entry into the doctoral program. A portion of these credit hours (up to 18 hours), can come from a prior-awarded master's degree from UK or another accredited school upon petition and approval of the GPC.

1.12.3. Post-Qualifying Residence.

1.12.3.1. Ph.D. 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 Ph.D. successfully (inclusive). CHE 767 is a nine-credit course, but only two hours of tuition are charged for it.

1.12.3.1.1. Students defending their Ph.D. during a summer term do not need to enroll in CHE 767 for that term.

1.12.3.2. A student may register for CHE 767 in the semester of the oral qualifying examination, *if* the student files the "Recommendation for the Qualifying Exam," <http://www.research.uky.edu/gs/RecommQualExam.pdf>, within the first *six weeks* of that semester. If the qualifying exam is postponed, if the student fails to pass, or if the "Recommendation for the Qualifying Exam" is not filed within the first six weeks of the semester, CHE 767 will be dropped in favor of 9 credits of CHE 790, and the corresponding amount of tuition will be charged to the appropriate account. Students on Research Assistantships will want to take advantage of this option.

1.12.4. Audited credits do not count in any manner toward the total number of credits nor toward making a "full-time" semester, in the Graduate School's pre-qualifying-exam residence requirements. Only graduate-level courses taken for credit do.

1.12.5. Upon petition to the Graduate Dean, through the student's advisory committee and the Director of Graduate Studies, an M.S. degree from an accredited American university will normally be accepted as satisfying one of the two years of pre-qualifying-exam residency.

1.12.6. See the "Checklist for the Ph.D." and Section 1.16. for a listing and current description of the various residence courses in Chemistry.

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 effort 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 Ph.D. students submit a dissertation.

1.13.3. Grammar and style as well as scientific content are important. The latest copy of the "Instructions for the Preparation of Theses and Dissertations," <http://www.research.uky.edu/gs/thesdissprep.html>, should be studied carefully and then followed. There are many very specific format and other requirements for 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 subdiscipline involved.

1.13.5. Note that if numbered references are used in the thesis or dissertation, those references must be numbered consecutively, in order of citation, throughout the entire document. If this is not the case, then the student must additionally prepare an alphabetized bibliography. See the "Instructions for Preparation," <http://www.research.uky.edu/gs/thesdissprep.html>, for details.

1.13.6. 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 exceptions that one hundred percent rag paper is not required and temporary pagination is acceptable. The following requirements must be met:

1. All data entered,
2. Headings or captions of tables or figures completed,
3. Table of contents and lists 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," <http://www.research.uky.edu/gs/thesdissprep.html>, 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.

1.13.7. The Department of Chemistry requires that four copies of the thesis or dissertation be prepared. The original and the first copy (both on 100% rag paper) are to be presented to the Dean of the Graduate School. The second and third copies are to be placed in suitable binders; the second copy is to be

presented to the advisor, and the third copy is to be retained by the student.

1.13.8. IT IS ABSOLUTELY 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 urged to consult the *Graduate School Bulletin*, which can be found at <http://www.research.uky.edu/gs/bulletin/bullinfo.shtml>, 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 M.S. or Ph.D.

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 credits. However, students defending their Ph.D. during a summer term do not need to enroll in CHE 767 for that term. Students who took the CHE 769 option should be registered in CHE 749 or CHE 769 for 0 credits.

1.14.2.2. An M.S. 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," <http://www.research.uky.edu/gs/DegreeCard.pdf>, within *thirty days* of the start of the semester (fifteen days for the summer term). This form must be signed by the Director of Graduate Studies. If the requirements for the degree are not fulfilled by the end of the semester, a new application must be submitted in the subsequent term.

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," <http://www.research.uky.edu/gs/NotificationFinalDocExam.pdf>, at least *eight weeks* before the exam is to be scheduled. This form must be signed by the Director of Graduate Studies. The purpose of this form is to give the Graduate School sufficient time to find an outside member of the advisory committee. 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. Ph.D. candidates should settle on a date for the final examination with all committee members as soon as the Graduate School assigns an outside examiner. The date must be at least *four weeks* in the future from when it is chosen. MS candidates should settle on a date for the final examination with all committee members as soon as they know they will be defending. The date must be at least *two weeks* in the future from when it is chosen.

1.14.3.4.1 Ph.D. 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 "Dissertation Approval Form," <http://www.research.uky.edu/gs/DissertationApproval.pdf>, must then be signed by a majority of members of the Advisory Committee and the Director of Graduate Studies and submitted to the Graduate School 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.

1.14.3.4.2 MS candidates must provide the research advisor the thesis (or an advanced draft) at least *four weeks* before the planned date of the defense. The "Thesis Approval Form," <http://www.research.uky.edu/gs/ThesisApproval.pdf>, must be signed by the research advisor and the Director of Graduate Studies and submitted to the Graduate School at least *two weeks* before the planned date of the final oral examination. All committee members need to receive the *completed* thesis *two weeks* before the planned date of the defense.

1.14.3.5. To schedule the final oral examination, the appropriate form ("Request for Final Master's Degree and Specialist in Education Examination," <http://www.research.uky.edu/gs/FinalExamRecomm.pdf>, or "Request for Final Doctoral Examination for the Ph.D.," <http://www.research.uky.edu/gs/RequestFinalDocExam.pdf>), signed by the Director of Graduate Studies, must be submitted *at least two weeks* in advance of the planned date of the defense.

1.14.4. The final oral examination will *not* be scheduled by the Graduate School if there are any outstanding requirements for the degree not completed other than courses in progress. Only students having a 3.0 or better graduate GPA may sit for a final examination. All "missing", I, and S grades (except for S grades in CHE 748, 749, 767, 768, and 769) must be removed before a final examination may be approved.

1.14.5. The final oral examination for the Ph.D. must be scheduled on a day on which classes are "normally" in session -- that is, *not* in the periods between terms, on weekends, or on official University holidays. Only in extremely unusual circumstances may an exception may be made, by prior petition to the Graduate Dean through the Director of Graduate Studies.

1.14.6. The examination is a public event, and its scheduling is published and announced beforehand. The administration and judgment of the final oral examination shall be done by the advisory committee supplemented by an outside examiner appointed by the Dean of the Graduate School.

1.14.7. After the final oral examination, the degree candidate has 60 days to submit to the Graduate School the signed final copy of the thesis or dissertation, including any corrections required by the advisory committee, on 100% rag paper.

1.14.8. Students who are research assistants in the semester of their defense should consult section 2.16 of this handbook.

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, which can be found at <http://www.research.uky.edu/gs/dgshandbook.pdf>. 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. (Students who entered the program before Fall 2005 have eight 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 extensions 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. In the event that 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 769, 749, or 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 immigration purposes, an 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 credits), CHE 749 (0 credits), or CHE 748 (0 credits) confers full-time status.

1.16.2.2. An international MS Plan B student in his or her last semester may take fewer than 9 credits and remain in legal status by filing a request for reduced course load. The form can be found at http://www.uky.edu/IntlAffairs/students_scholars/pdfs/F1/Reduced%20Course%20Load%20Graduate.pdf.

1.16.2.3. International students with health problems may request a reduced course load for up to a total of 12 months with the same form.

1.16.2.4. International students experiencing severe language difficulties may request a reduced course load for one semester only (generally, the first semester) with the same form.

1.16.3. *For pre-qualifying examination residence only*, a student in the Department of Chemistry who is a full-time teaching assistant (20 hours/week), will be considered to be a full-time student if he or she is taking at least 6 credit hours per semester (for credit, not audit). You still have to amass a total of 36 credits prior to the qualifying examination, but this will help you get the two consecutive semesters of full-time residence. Other graduate students are considered to be full-time if they satisfactorily complete 9 credit hours per semester. During the summer, graduate students are full-time if they satisfactorily complete 9 credit hours, 3 credits during the 4-week session and 6 credits during the 8-week session. Audited courses do not count toward these totals for residency purposes.

1.16.4. 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 I, SI, U, and "missing" grades in CHE 780 or CHE 790 must be officially converted to regular letter grades prior to scheduling a Qualifying Ph.D. Oral Exam or a final oral exam for the Ph.D. or M.S.

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. A minimum of 45 days prior to the anticipated date of the exam is desirable. At the latest, the grade change forms can be submitted to the registrar immediately prior to scheduling the qualifying or final exam, as long as copies are included with the scheduling form sent to the Graduate School at least two weeks before the meeting date.

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 DGS 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 a week in advance of the due date of the change of grade forms. The voting can be done by a paper routing sheet, e-mail poll or a committee meeting. Written documentation of the vote and a copy of the report or first page must be submitted to the DGS office with the change of grade forms.

1.17.7. SI and U grades can not 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 whose 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 Credit for Doctor's Degree (2 cr). 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 769: Residence Credit for Doctor's Degree (0-12 cr). A doctoral candidate who joined the program prior to Fall 2005 and who has passed the oral qualifying examination may choose instead to register for two full-time semesters (9 credits each) of CHE 769 residence credit, followed by CHE 749 or CHE 769 for zero credits until the dissertation is completed.

1.18.2.1. Up to 3 credits of course work may be substituted in each of the two full-time semesters of CHE 769, but an absolute minimum of 6 credits of CHE 769 is required.

1.18.2.2. The semester during which the student takes the qualifying examination may be counted for credit for dissertation study only if the date of successful passage is within six weeks (three weeks for the 8-week summer session) of the first day of classes. In this situation, students normally advance-register for 9 credits of CHE 769; if the qualifying examination is not successfully passed, the student must then substitute CHE 769 with CHE 790.

1.18.2.3. Enrollment in CHE 769 prior to successful completion of the oral qualifying examination is not permitted.

1.18.3. CHE 749: Dissertation Research (0 cr). The DGS office recommends that doctoral candidates who have completed two semesters of full-time residence credit in CHE 769 register in subsequent semesters for CHE 749 - 0 credit rather than CHE 769 - 0 credit. Students who take CHE 767 during the regular academic year should also be registered for CHE 749 - 0 credit during the summer term. Students registered for CHE 749 - 0 credit are regarded as full-time students for purposes such as deferring student loans, health insurance coverage, certifying student status to a granting agency or foreign students' visa requirements. A requirement for CHE 749 is that a student must actually be doing research or writing a dissertation at least half-time. CHE 749 may be repeated for a maximum of six semesters or the equivalent in calendar years.

1.18.4. CHE 768: Residence Credit for Master's Degree (1-6 cr). 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.

1.18.5. CHE 748: Master's Thesis Research (0 cr). 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 for CHE 748 is that a student must actually be doing research or working on a thesis at least half-time. This course is the M.S. equivalent of CHE 749.

1.18.6. Credit in CHE 748 and 768 cannot be counted toward the minimum 24 or 30 credits needed for the M.S. degree, nor toward the minimum number of credits needed at the 600 or higher level.

1.18.7. The DGS office will automatically reregister qualified students in zero-credit courses such as CHE 748, 749 or 769. 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 B.A. and B.S. options at the undergraduate level and the Plan A and Plan B options at the M.S. 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 admission 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 M.S. 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 M.S. thesis research. Scholars pursuing the Plan B M.S. 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 or 514, 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*, <http://www.uky.edu/StudentAffairs/code/>, which is revised annually. This booklet includes sections 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. 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.

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 supervisors 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 Protection, 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. These classes are --

1. An OSHA "right to know" class, which tells you of your rights to know about the hazards of chemicals in your workplace, the hazard labels on chemical containers, safety practices when dealing with hazardous materials, and so forth. The Department is required to keep records that show all employees and lab workers have attended one of these classes.
2. A Chemical Hygiene class conducted by Occupational Health, which describes safe laboratory practices. (You must take either the OSHA (1) class or the Chemical Hygiene (2) class.)
3. A class on the disposal of hazardous waste, conducted by the Office of Hazardous Waste Management, which covers the University's plan and procedures for disposal of such waste. Certification classes are conducted at various times during the year.
4. A Fire Safety class, presented by Fire & Accident Prevention, which covers procedures to be followed in the event of fires, proper use of fire extinguishers, and so forth.

2.1.2. The Department provides Material Safety Data Sheets (MSDSs), which contain information on all chemicals used in the Department, in the Chemistry-Physics Library. Also, these may be accessed on-line at (<http://www.chem.uky.edu/resources/welcome.html>).

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 Laboratory Manager. Cases involving negligence will be referred to the Graduate Program Committee and/or Department Chairman for consideration. A brief written report, including the time, place, materials, and persons involved, and nature of the accident must be submitted to the Laboratory Manager. Special forms for this purpose are available in that office.

2.1.5. Any use of a fire extinguisher must be reported to the Laboratory Manager 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.

2.1.6. Smoking is not permitted in the Chemistry-Physics Building; it is officially designated a

non-smoking building for reasons of safety and health. Smoking areas are located outdoors, on the two porches at the front of the Building toward Rose Street.

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 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 inspection are published and individuals in those areas are expected to correct immediately any unsafe conditions that are reported.

2.1.9. Hazardous chemical wastes must be collected and disposed of in properly approved manners. Every teaching and research laboratory must have properly labeled hazardous waste containers for (temporary) storages of such wastes. These must be kept closed (cap screwed on) when not in use. At appropriate intervals, the containers need to be taken to the basement Stockroom for disposal. Forms are available, which must be completely and properly filled out, to characterize the nature of the wastes brought for ultimate disposal. The Stockroom personnel will *not* accept unknown or unlabeled chemical wastes. Minimally, hazardous waste must first be properly characterized before being presented for disposal.

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 Laboratory Manager (CP-120). Procedures for handling and working with radioactive sources can be found in the booklet "University of Kentucky Radiation Safety and Control Procedures," a copy of which can be obtained from the University Environmental Health and Safety Office.

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 from the basement Stockroom. Empty cylinders should be checked back into the basement Stockroom and returned to the cylinder-storage building by the loading dock as soon as possible.

2.1.12. Many research laboratories have "crash panels," thin pressboard panels in the rear of the room, to provide emergency exit from the room should the usual exit be blocked by fire. Do not block access to these panels in any way, either with furniture or by piling personal belongings in front of them. Not only do you have to be able to get out, but your neighbor might have to come through from the other side some day.

2.1.13. Teaching Assistants must keep safety utmost in mind in the Teaching Laboratories, and strictly enforce all Departmental safety practices in the courses they teach, as well as any special safety practices particular to the course at hand. The wearing of safety glasses and proper attire must be strictly enforced at all times. Failure to follow proper safety practices and regulations is grounds for dismissal as a Teaching Assistant.

2.1.13.1. Teaching Assistants will not permit strangers and others not actually registered as students in the course to enter a Teaching Laboratory without the express permission of the Instructor in the course or the Chairman of the Department. [The only obvious exceptions would be bona fide University personnel about their assigned duties, such as maintenance workers. Even in this case, they must be wearing safety glasses if a lab is in progress. Be polite but firm.]

2.1.13.2 All accidents and untoward incidents that occur in a Teaching Laboratory must be promptly reported to the Instructor in charge of the course and to the Laboratory Manager, preferably in writing. This is a litigious society. If for no other reason, you need to enforce safety practices strictly in order to protect yourself.

2.2. First Aid

2.2.1. First-aid supplies are available from the storerooms, and a first-aid kit is available in the Graduate Student Lounge (CP-131) 24 hours a day. 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. A charge is incurred whenever someone is taken to the hospital by ambulance, payable by the injured person. Accidents and injuries must be reported as soon as possible to one of the Storekeepers or to the Laboratory Manager.

2.2.3. For a variety of reasons, including personal liability, every accident or injury should also be reported in writing to the Laboratory Manager 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.

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 fill out and file a special form, which is available in the Office of the Laboratory Manager.

2.3. Keys and Security

2.3.1. A graduate student may be issued a card key to the Building, and keys to a graduate office, the laboratory in which he or she works, and some instrument rooms, normally at the request of the Advisor. KEYS AND MAGNETIC KEY CARDS 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. (Immediate family members of graduate students may be admitted to the building, provided they observe the rules and regulations to which the student is subject).

2.3.2. For security purposes, the Chemistry-Physics Building is locked at those times when classes are not normally in session, and when the Chemistry-Physics Library and Computer Laboratory are not open. The Building is also locked during official University holiday periods. During the Academic Year, official hours may vary but you can determine present policy by inquiring at the Laboratory Manager's Office, CP-120.

2.3.2.1. Doors to the building must never be propped open. If you exit when the building is locked, please ensure that the door locks securely behind you.

2.3.3. The Laboratory Manager (Office in Room CP-120) is custodian of keys and magnetic key cards for the Department. Upon request, he or she will issue to properly authorized persons a permit sheet and/or a permit card.

2.3.3.1 For keys, secure the proper forms, from the Laboratory Manager, have them properly signed, and then present them at the Key Shop on the first floor of the Service Building, which is located in the triangle at the confluence of Limestone and Upper streets. The keys are issued on payment of a deposit, usually one dollar per key; the permit sheet form will be marked as to what keys were actually issued. This form is then returned to the Laboratory Manager's office.

2.3.3.2. For a magnetic key card to the Building, obtain your student ID card from room 107 in the Student Center (#30 on Campus Map) between 9 a. m. and 5 p. m. Monday through Friday. You will need a valid form of identification. Take this ID card to the Business Manager's office, room C-P 120 to have your name entered in the building security computer.

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 Laboratory Manager, who will then notify University Security about the incident.

2.3.6. In case of an emergency or serious incident, University Security can be obtained by dialing 911 on a University telephone. This will connect you directly to University Security, who will decide if City or State emergency offices should be summoned.

2.4. Library

2.4.1. The Chemistry-Physics Library is a branch of the University of Kentucky Library system. The Librarian is a member of the Library faculty. She determines policy and procedures for all patrons, including graduate students in this Department. The Department of Chemistry does not set policy for this Library.

2.4.2. Graduate students can be issued keys to the Chemistry-Physics Library after they have joined a research group and have been in the Department for at least one semester, at the discretion of the Librarian. They will also receive a list of rules and policies for the use of the Library after hours. The keys and after-hours Library use are privileges which may be revoked if the rules regarding use are not obeyed. Graduate students may apply for a library card which is valid at all University Libraries.

2.4.3. The University Library system has over 3 million volumes and subscribes to over 28,000 journals. The Chemistry-Physics Library contains over 79,000 volumes, subscribes to over 400 paper journals, and has provides access to over 12,000 full-text electronic journals. The library subscribes to numerous databases such as Beilstein, SciFinder Scholar (Chemical Abstracts), the Cambridge Scientific Data Bases, Web of Science (Science Citation Index), Analytical Abstracts, and more. This list expands continually so we suggest you visit the Library home page for more information. Also, the library faculty and staff is always willing to help you find what you need.

2.4.4. The Chemistry-Physics Librarian does computerized literature searches on a cost-recovery basis. Every effort is made to keep the costs of the searches as reasonable as possible by searching during discounted time periods. If you are interested in this service, make an appointment with the Librarian to discuss your subject. A sign up sheet for appointments is available in the library technician's office.

2.4.5. The Chemistry-Physics Library also provides inter-library loan service (on-line), reference service, and bibliographic instruction. The Library hopes to provide help in obtaining the information you need in the most efficient and timely manner possible. If you have any questions regarding library services or need any help in using the library, please ask the Librarian.

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 considered to be an integral part of graduate education, and funds for them are provided by the Graduate School on the assumption that they are principally for the benefit of graduate students. Questions on Cumulative Exams, the qualifying examination, and M.S. and Ph.D. 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 M.S. degree.

2.5.3. Regardless of registration status or whether a seminar will be presented or not, full participation and attendance in at least one Divisional Seminar is required of every graduate student in residence.

2.5.4. Final copy for divisional seminar abstracts (which must be legible and is not to exceed two single-spaced typewritten pages) should be given to the Receptionist for duplication and distribution a *minimum* of three working days in advance of the seminar. Late copy will be returned to the student. In this case, it becomes the obligation of the student to duplicate the material at his or her own expense and distribute the Seminar abstract.

2.5.5. The University provides on-line journals as well as methods for searching the literature. Students are expected to learn how to use these resources.

2.5.6. All Ph.D. candidates will present a general Departmental Seminar on their dissertation during their final year of residence. The student must schedule the seminar with the Chairman of the Seminar Committee and the student's Advisor before the start of the semester in which it will be given. The seminar will be scheduled as part of the regular Departmental Seminar series (currently the fall and spring semesters, Thursday or Friday afternoons at 4:00 p.m.). Under extenuating circumstances, the student may petition the Graduate Program Committee for permission to present their Departmental seminar at an alternate time. 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: Business Affairs, Graduate Program, Information, Seminar, 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 = 3.0 or better) and should have a minimum of two academic years of residence in the graduate program of the Department 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

2.7.1. The University computing facilities may be used by graduate students in connection with their research. See the Laboratory Manager for details. Special arrangements and short courses are available for beginners at the Computer Center.

2.7.2. A number of PC and MacIntosh microcomputers are available within the Department for word processing, database management, graphics, and other kinds of computation. Auto-tutorial programs are available. Most faculty have one or more personal computers in their offices or laboratories for use by their students.

2.7.3. The University of Kentucky Library system operates a large, well staffed "Computer Laboratory" in the M. I. King Library. This is a large computer cluster networked to the University mainframe computers and is open for general use by all University students.

2.7.4. An entering graduate student is normally automatically provided a computer account to use for electronic mail. Please check your Email account frequently because this is the primary medium of communication both within and outside the Department.

2.7.5. The Department of Chemistry maintains a Listserver for the convenience of its faculty, staff, and students. The main advantage of this Listserver is that individuals do not have to maintain their own mailing lists to contact various groups within the Department. Dr. Holler is the "owner" of the List and must approve all subscriptions to the Sublists involved.

2.7.6. The main list for the Department of Chemistry is actually composed of five separate sublists:

- Main Chemistry Department list
- Faculty Sublist
- Staff Sublist
- Graduate Student Sublist
- Undergraduate Student Sublist
- Sublist for Analytical Grad. Students

You may send messages to all at the main list, or you may send messages to the individual lists. Thus it is important that everyone subscribe to the proper list.

2.7.7. Shortly after arrival, all graduate students are added to at least one of the departmental discussion lists corresponding to the various graduate student seminars.

2.8. Storeroom Checkout Procedures

2.8.1. Graduate students may check materials out from the Chemistry Storeroom in the basement. All items removed from the Storeroom must be associated with needs for a chemistry course, a sponsored research project, student dissertation research, or a faculty member's personal research. The data requested by the Storeroom are placed in a computer file and frequently provide proper records for certain contract agencies and the OSHA; the information also permits better planning in anticipating Storeroom needs. The information requested includes the account number and the user code to be charged. The Storeroom is open from 8:00 a.m. to noon and from 1:00 to 4:30 p.m., Monday through Friday.

2.8.2. Any request for an item or service not available from the Storeroom is to be made through your Advisor or Project Director using a Departmental requisition form, which is available from the office of the Laboratory Manager, CP-120. All items ordered must show the account number and the user code to be charged. Any order for a chemical must also show the chemical formula and CA number for the compound, and the number of the room in which the chemical will be used.

2.8.3. In addition to the regular stock of chemicals sold by the Storeroom, the Department has a collection of free chemicals. These are usually opened bottles of varying ages which have been turned in by researchers who no longer need them. A list of these chemicals is kept in the stockroom. Check this list first, and if you find what you need, go to the Storeroom (CP-33) and ask for it. There is no charge for these surplus chemicals. In addition, there is another list in the Library which has all the chemicals which have been purchased on an individual basis by members of the Department, with their storage locations indicated. Ideally, this list should be an inventory of all the chemicals in the entire Department, and efforts are made to keep it up to date. You may be able to get a chemical you need free, or more quickly, by consulting this master list and then asking the faculty member who has the chemical if you may use it.

2.9. Research Laboratories and Equipment

2.9.1. 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 brochure.

2.9.2. 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. Members of the Departmental staff

make periodic safety and housekeeping inspections. All graduate students are expected to cooperate with these staff members and to follow their suggestions promptly.

2.9.3. Research and certain course instruments may be used only by students who have been checked out on them by the faculty members or staff in charge of those instruments. Where there are instrument logs, proper entries about each use *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.

2.9.4. All laboratory apparatus built into more or less permanent equipment by a student must be listed by the Laboratory Manager or his representative.

2.9.5. All equipment taken from the Stockroom must be checked out. Students are fully responsible financially for all equipment which they have checked out. Upon leaving the University all equipment and supplies must be turned over to the Advisor, and laboratory and desk areas thoroughly cleaned up.

2.9.6. If needed items are not available in the Stockroom, Research Advisors will aid you in obtaining them. All business arrangements outside of the Department should be made through the Laboratory Manager's office. This also applies to any services and material provided by other Campus agencies.

2.9.7. 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. Do not place chemicals and food in the same refrigerator. Lunches can be stored in the refrigerator in the Graduate Student Lounge, CP-131.

2.9.8. 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.

2.9.9. The ventilating system in this building is constructed to operate best when the doors to large rooms are kept 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.

2.9.10. The current hood ventilation system is designed to draw substantially more air when the hood door is opened. In order 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 Laboratory Manager, as well as to the advisor or course supervisor for hoods in the teaching labs.

2.9.11. Each student's name and semester schedule should be posted on the door of his research laboratory or office.

2.9.12. Laboratory doors should be kept locked when no one is in the room.

2.10. Chemistry Services

2.10.1. Glassblowing, electronic repair services and NMR analyses are available within the Department of Chemistry. Appropriate forms may be obtained at the relevant facility.

2.10.2. 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 filled out.

2.10.3. The Staff in the Main Office, when time permits, will duplicate teaching or research related materials for graduate students. Instructions may be obtained in the Main Office, CP-125.

2.11. Travel, Absences, and Vacations

2.11.1. Doctoral students who will present papers at national and regional meetings on results of their research can apply for reimbursement of travel expenses to the Dean of the Graduate School. There is an extremely limited budget for this most years. A "Graduate Student Support" form is available from the Graduate School or from the Director of Graduate Studies. The Graduate School processes these requests as travel "grants" and a check is often available before the trip.

2.11.2. The Department of Chemistry is able to provide a limited amount of travel support for graduate students who will be presenting papers at professional meetings beyond what the Graduate School provides. If you are planning such a trip, pick up the instruction pages titled "Reimbursement of Travel Costs for Graduate Students Presenting Papers at Professional Meetings" in the Chemistry Graduate Program Office.

2.11.6. Students holding Departmental service appointments (10 or 12 months) are entitled to a maximum of one month vacation each year. Periods when University offices are open but classes are not being held are *not* vacation periods for graduate students holding service appointments (unless they are counted as part of the yearly one-month maximum vacation period). Students who are supported by their Advisors on Research Assistantships must negotiate vacation leave with their Advisors.

2.12. Telephone Service

2.12.1. A telephone is available in the Graduate Student Lounge (CP-131) for local calls. Some public telephones are also located in the Chemistry part of the building. A number of Research Advisors have made telephones, or an extension phone, available for their research groups in their labs.

2.12.2. Incoming calls can be made through the public telephones (if the person calling knows the number). In the event of an emergency an incoming call for a graduate student may be made through the Main Office and an attempt will be made to locate the person being called. Other business or non-personal phone calls for graduate students may be made through the Main Office if they are of such nature that a message can be left in the person's mailbox asking them to return the call.

2.12.3. Personal long-distance telephone calls must not be made on Departmental telephones. This is considered a theft of services by the University and will be handled accordingly.

2.13. Alumni

2.13.1. The Department maintains a file in which are listed the current addresses and positions of its graduates. It is desirable to list other information of general interest also. The Department does everything within its power to keep these data current but the records can be complete only if each graduate will notify the Department of changes in address and position.

2.13.2. Approximately once a year, in the Spring, the Department publishes our Departmental Newsletter, *Chem-news*, which contains information about our Department and our graduates. After you leave, please do send us information about yourself periodically for inclusion. We in the Department and other alumni are interested in hearing about the great things you have accomplished.

2.13.3. We also use this Newsletter and up-to-date addresses to ask you to contribute to our various Departmental funds. On-board students profit from these various funds. Murrill and Tuttle Fellowships,

Graduate Student Outstanding Teaching Assistant and Research awards, the 100% Plus Award, the "Fast Start" Award, Thomas B. Nantz Memorial Scholarships and the Naff Symposium are all supported by donations from generous graduates and benefactors. Such amenities as refreshments at Departmental Seminars and some Department redecorating are also supported by alumni donations, which also provide partial support for Departmental Seminars.

2.14. Parking Permits

2.14.1. 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, only one.

2.14.2. Application forms for E permits are available from the Laboratory Manager, and must be signed by him before permits will be issued by the Public Safety Division (305 Euclid Avenue) of the University. Application for R, handicapped, and other permits may be made directly to the Public Safety Division. There are several options for paying the parking fee. The parking fee may be paid in a lump sum or may be payroll deducted.

2.14.2. Illegal parking on the campus (refer to the regulations provided with the parking permits) may result in violation tickets and/or towing of the vehicle in violation. Vehicles parked in a Handicapped area or along yellow-painted curbing (Fire Lane) are subject to immediate towing and impoundment. There is a substantial towing charge to get your vehicle back, plus the cost of the parking ticket itself. Note that the loading dock area behind the Chemistry-Physics Building is not a legal parking area.

2.15. Mail and Notices

2.15.1. Each student is provided a mailbox. The mailboxes are located in Room 125 and access to these is provided by use of individual combination-locks from the hallway. Please do not retrieve your mail from inside the Main Office as this leads to considerable noise and disruption for the office personnel.

2.15.2. Please check your mailbox for any mail, notices, and/or telephone messages at least twice each day.

2.15.3. 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 E-mail.

2.15.4. Electronic mail 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 E-mail account frequently.

2.16. Tuition and Fees

2.16.1. 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.

2.16.1.1. If a CHE 767 student is a research assistant in the semester that 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.

2.16.2. Tuition payments can be made in one of three ways: (1) The student pays the entire amount by the deadline (approximately three weeks after the start of the semester). (2) The student must make some sort of formal arrangement for payment with the Student Billings Office *before* the deadline date. (3) Regular graduate Teaching and Research Assistants who are paid biweekly may have tuition costs payroll-deducted during the semester.

2.16.3. In addition to tuition, there is a mandatory student health fee, which provides use of the Student Health Service. The fee is optional for the summer, but if it is not paid, students will be charged on a per-visit basis. There is also a small, mandatory fee for "recreation". This fee carries over to summer, so there is no additional charge.

2.17. Registration

2.17.1. Advance Registration, Registration, and Add/Drop are now handled on the University's UK-VIP system, which is accessed via any touchtone telephone. Full instructions for each term are contained in the appropriate University "Schedule of Classes," and should be consulted carefully.

2.17.2. All continuing students are expected to advance register each semester for the next semester. New students and readmitted students are assigned a specific date for registration. Any students who register after their regular pre-registration (continuing students) or registration period (new and readmitted students) will be charged a \$40 late registration fee.

2.18. Stipends, Scholarships, and Fellowships

2.18.1. 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. Please see the Department's Administrative Support Associate (Nancy) in the Main Office for details.

2.18.2. Holders of Fellowships administered by the Graduate School, including the Chemistry Department Murrill and Tuttle Fellowships, may pick up their stipends at the Graduate School Fellowship Office, Room 365 Patterson Tower. The schedule of payment varies with the particular Fellowship, but is usually on the last working day of the month. Occasionally, arrangements can be made for checks to be sent to the Chemistry Department. Please see the Department's Administrative Support Associate (Nancy) in the Main Office for details.

2.18.3. The Provost's Office at the University currently provides Tuition Scholarships to all Teaching and Research Assistants which cover the full cost of graduate tuition. All fees, except the Student Health Service fee and the Recreation Fee, are also paid.

2.18.4. 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. Three times a year, the Director of Graduate Studies provides a listing of eligible students in the Department to the Graduate School. You generally need do nothing extra to be awarded these Tuition Scholarships, and 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 Student Billings threatening to cancel your registration for non-payment of fees.

2.18.5. Whenever you ADD or DROP classes such that there will be a change in your tuition fees, you *must* inform the Graduate School of this fact so that the proper correction can be made to your account.

2.18.6. 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.

2.18.7. 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 scholarships 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.

2.19. Graduate Student Association

2.19.1. All graduate students in the Department of Chemistry are urged to join the Chemistry Department Graduate Student Association whose purpose is to provide effective communication among graduate students and between graduate students and faculty, to represent graduate students in important departmental matters, and to encourage an atmosphere of enthusiasm and scholarship in the study of chemistry. Please get involved.

2.19.2. The Graduate Student Association holds elections each Spring to select a President and Vice-President for the coming academic year. The officers for 2002-2003 are Ashley Johnson (President) and Chad Landis (Vice-President). One of the functions of these officers is to serve as representatives and intermediaries for Chemistry graduate students with the faculty and other campus groups.

2.20. Leaving the University

2.20.1. At least three days should be allowed for the overall process of checking out of the Department. You must obtain clearance relative to supplies, library books, keys, etc., which is evidenced by the proper signatures on a clearance form (Final Separation Information Form) obtainable from the Departmental Office.

2.20.2. Before receiving a degree or leaving the University, graduate students must check in all chemicals and apparatus in their possession not built into equipment for continuing use, clear their account with the storeroom, and see to the proper identification and disposal of all hazardous waste and unlabeled bottles of chemicals for which they are responsible.

2.20.3. If a student has had any sort of teaching or research appointment at the University during your stay, we are required to fill out an official "separation form," which you need to review and sign.

3. GRADUATE ASSISTANTSHIPS AND FELLOWSHIPS

3.1. Appointments

3.1.1. Most graduate appointments, teaching and research, are provided on a 5-month basis. Most commonly, this consists of sequential 5-month appointments as a Teaching or Research Assistantship during the academic-year, and a two-month summer appointment.

3.1.2. Departmental support for a graduate student in the M.S. program will not be provided after three years of residence. University Administrative Regulations (AR II-1.0-7 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."

3.1.4. Departmental support for a graduate student in the Ph.D. program will not normally be provided after five years of residence.

3.1.5. 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 II-1.0-7 E)

3.1.6. Teaching and Research Assistants shall be notified by March 1 whether or not 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 II-1.0-7 F)

3.1.7. New Teaching and Research Assistants, as well as all other University employees, must process immediately on arrival an I-9 form at the Campus Employment Office, 252 East Maxwell St. You must bring with you *official* documentation proving your identity and your legal right to be employed in the States. For International Students, the usual documentation is a valid passport and an appropriate visa. For U.S. citizens, the usual documentation is a social security card and/or U.S. birth certificate and a driver's license or other state ID card if it has a photograph or other sufficient identifying information.

3.1.8. *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 of time. 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.

3.1.9. Graduate 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" (Univ. Administrative Regulation II-1.0-7)
- ** "Policies on International Teaching Assistants" (Univ. Administrative Regulation II-1.0-9)
- ** "Termination of Appointment. Graduate Student Staff" (Univ. Administrative Regulation II-1.0-1,G)

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 regular "full-time" Teaching Assistantship would mean service for not more than an average of twenty 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, and heavier loads for another semester, for example, in the fall and spring semesters. 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 10 days 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 Students and Scholars Office 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 participate fully 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 toward the minimum number of graduate credits for the M.S. (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. Classes are held, and the students perform certain of the general chemistry laboratory experiments, write typical reports, conduct experimental recitation sections, and so forth.

3.2.7. During each semester all of 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 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. In order 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 points 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 protective 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 in order 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 Storeroom 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 common 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 stations, and the like are located and be ready to act quickly and effectively in case of an emergency. Safety glasses may be obtained at the stockroom.

3.2.17. Only those Assistants who have definite assignments in stockrooms are permitted to be in the stockrooms -- and then only at the times 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 does not furnish office supplies for graduate Assistants. 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. Class roll books may be obtained from the Departmental Office.

3.3. Research Assistantships

3.3.1. 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 although they are not required to participate in the University and Department teacher-training activities.

3.3.2. Research Assistants are employed by a number of the faculty on sponsored research projects. Since the specific requirements and availability of these 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.

3.3.3. Faculty with external grant support are expected to make every effort to support their own graduate students during the Summer Term.

3.3.4. Summer Departmental Research Assistantships are only rarely available for graduate students not supported by other means. Announcements about the availability of these Assistantships and procedure for making application is circulated to all graduate students about February or March. Awards are made in April or May. The expectation associated with any Departmental Assistantships is that the student will be devoting two full months of full-time effort for June and July.

3.3.5. 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: Presidential, Lyman T. Johnson Minority, Academic Excellence (in-state tuition), Dissertation Year, Daniel R. Reedy Quality Achievement, Multi-Year Fellowships, and Kentucky Opportunity Fellowships (Chemistry gets one each year). For many of these, only the Department may nominate one (or two) students. The Graduate School gives some awards for research and travel which you can apply for on your own. To get more information and to check on current opportunities, consult the Fellowship Office web site:
<<http://www.rgs.uky.edu/gs/fellowship/fellowassist.html>>.

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 your Advisor prior to submission of any request.

3.4.5. 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. The Graduate School supplies acceptance forms. 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 in 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. For graduate Teaching or Research Assistants, employment outside of the Department, except for modest amounts of tutoring, is specifically forbidden without the express prior permission of the Chairman of the Department as well as the Assistant's Research Advisor. Although the Summer Departmental Research Assistantships sometimes do not carry a very large stipend, if you accept one, then the prohibition on outside employment is still in effect.

3.6.2. International Students are advised that securing employment outside the University of Kentucky of any kind can seriously jeopardize their visa status and possibly make them liable for deportation.

3.6.3. Graduate School Fellowship holders should contact the Fellowship office (365 Patterson Tower) if you 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 or not you are required to perform any services for this money or whether the services you perform are required for your degree.

3.7.2. On first arrival, all Teaching and Research Assistants must fill out and sign a W-4 tax withholding form, which is available from the Administrative Assistant in the Chairman's Office, who also processes all payroll forms to see that you are paid. If there is a change in your financial status which affects your withholding liability, you need to process a new W-4 form.

3.7.3. The minimum goal in withholding is to have enough money withheld such that at least 90% of your total year's tax liability is withheld. If you don't reach the 90% figure by automatic withholding, you are then required to file quarterly tax payments.

3.7.4. A number of 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 Payroll Office.

3.7.5. The University does not withhold Federal and State tax money from Fellowships awarded to American students. This includes the Departmental Murrill and Tuttle Fellowships, which are awarded through the Graduate School. They do withhold money on Fellowships awarded to Foreign students. Please be advised that all "Fellowship" money is fully taxable income, regardless of whether or not withholding is taken from the stipend.

3.7.6. The University will deduct FICA (OASDI and Medicare) and the Fayette County occupational tax from graduate students' salaries unless they are also officially "full-time students." There are several classes or categories which will grant this tax exemption. Currently, these are --

1. All graduate students registered for 9 credits (for credit, not audit) during a Fall or Spring Term, 3 credits during either the 4- or the 8-week session in the summer.
2. All TAs and RAs enrolled for at least 6 credits each semester during the academic year.
3. Graduate students registered for CHE 769, 749, or 748 for 0 credits or CHE 767 for 2 credits.
4. International students on F-1, J-1, or M-1 visa.

The requirements for exemption are still under review and could change.

3.7.7. The categories of students who are exempt from FICA during the Summer term are --

1. Graduate students registered for CHE 769, 749, or 748 for 0 credits or CHE 767 for 2 credits.
2. Graduate students carrying three credit hours in *either* the Four- or Eight-Week session

3.7.7.1. Four-Week enrollments and Eight-Week preregistration are pulled from the SIS on the last day to add for the Four-Week session. Students who were exempted on the basis of Eight-Week preregistration will be checked again on the last day to add for the Eight-Week session.

3.7.8. For exemption from FICA and city taxes, you must maintain full-time student status each term to

continue to be exempt except that, at present, full-time registration in either the 4-week or the 8-week Summer Term will cover the entire summer. If you drop from full- to part-time status during a term, then withholding of these taxes will begin.

4. OTHER UNIVERSITY INFORMATION

4.1. Federal Credit Union

4.1.1. The University of Kentucky Federal Credit Union offers membership to employees and their immediate families. Graduate Students who receive financial support from the University are eligible for membership after providing proof of employment, such as their offer letter.

4.1.2. The Credit Union is located at 1080 Export Street, off of Virginia Avenue near Broadway. A campus branch office is located in the Student Center. The services offered by the Credit Union include share (savings) and share draft (checking) accounts, direct deposit (except fellowships), credit cards, automatic teller cards, traveler's checks, and reduced price tickets to some amusement parks such as King's Island, north of Cincinnati. Other services are offered and can be explained in detail by the New Member Coordinator at the Credit Union. Phone: 257-2678.

4.2. Student Center

4.2.1. The Student Center consists of two buildings on the north end of the Campus. It houses a number of facilities which are intended to aid the student. Besides a cafeteria and grill, meeting rooms, television lounges and a music listening room, the Student Center contains the University Bookstore where books for courses offered through the Central Campus can be purchased. There is a game room on the first floor of the Student Center with a variety of games. The Check-Cashing Service, located in Room 253 and open from 9:00 a.m. to 3:00 p.m., is available to students on presentation of a valid student ID. Checks may be cashed for any amount less than \$50.00 for a charge of 25 cents per check. Movies are shown in the Worsham Theater on the first floor of the Center throughout the school year; for ticket information call 257-1287 or 257-8867.

4.2.2. The University Bookstore in the Student Center offers a 10% discount from retail prices on all purchases of non-sale items by Graduate Assistants -- TAs and RAs. The student becomes eligible for a discount when the list of currently enrolled graduate students is sent to the bookstore each semester. A new discount card is issued each semester at the service desk. In order to receive this discount, the student must present a student ID and discount card and sign the log of discount purchases.

4.3 Amusements

4.3.1. The University of Kentucky provides facilities for student use for several sports including basketball, volleyball, weight conditioning, racquetball, squash, tennis, football, softball, soccer, and swimming. Facilities include the Seaton Center, Alumni Gym, Memorial Coliseum, and several outdoor fields and courts. Access to the indoor facilities requires a valid ID card, spouse pass, or guest pass. There is a fee of \$50 per semester charged to every student for "recreation". Lockers are available for short-term daily use; monthly locker and towel rental service is also available. Rental payments are made at the Student Billings and Fee Collection Office on the second floor of the Old Student Center. Additional information regarding hours of availability, court reservations, and intramural competition can be obtained from the Campus Recreation Office, Room 145 Seaton Center. There is a mandatory recreation fee of \$50 for graduate students each semester.

4.3.2. Graduate students can get tickets for various intercollegiate athletic events. To be eligible for a student ticket for a home football or basketball game, you must be a full-time student, have a validated ID

card, and a current semester activity card. Tickets are issued on a first-come, first-served basis at Memorial Coliseum on the appropriate date prior to that home game. Admission to other sports activities is obtained by presenting your ID and activity cards. For students who have passed their qualifying examination and are no longer paying full tuition each semester, an activity card must be purchased in order to be eligible for a student ticket.

4.3.3. Tickets for concerts, lectures, and other events sponsored by the Student Activities Board go on sale approximately two weeks before the date of the event and may be purchased in the Student Center Ticket Office, Room 106 Student Center.

4.3.4. The Center for the Arts sponsors the University Artist Series, a series of concerts by acclaimed musicians. Students may purchase series tickets or single concert tickets at a reduced price at the ticket office in the Center.

4.3.5. The Lexington Philharmonic Orchestra gives a series of performances each year at the Center for the Arts. Students may purchase discounted tickets for these concerts.

4.4. Housing

4.4.1. Married and Graduate Student Housing Office operates over 700 apartments for full-time single graduate students and student families. Because there is usually a waiting list for these apartments, particularly at the start of Fall Term, arrangements should be made well in advance by writing: Apartment Housing Office, University of Kentucky, 700 Woodland Avenue, Lexington, KY 40508-3400. Phone: 606-257-3721.

4.4.2 Biweekly, the Off-Campus Housing Office publishes a list of rooms and apartments available. Annually, they publish a list of major apartment complexes in Lexington. These lists may be obtained by writing: Off-Campus Housing, University of Kentucky, Lexington, KY 40506.

4.5. Medical Care

4.5.1. Full-time Lexington-campus students are eligible to use the University Health Service (Student Health) and enroll in the Student Group Insurance Plan. Part-time students are eligible to use the Student Health Service and pay the Health Fee, which is currently \$93.75 per semester; or may use the Health Service on a fee-for-service basis, as with any other medical provider. The Health Fee is a voluntary, additional charge for the summer sessions. The cost is also 93.75 for the whole Summer.

4.5.2. Spouses of eligible students who are not students themselves are welcome at the Health Service. They may use it as they would any other medical facility. They are charged for all services rendered.

4.5.3. The Student Health Service is located in the Warren Wright Medical Plaza across Rose Street from the Chandler Medical Center, near the confluence of Limestone and Rose Streets. The building entrance is just below the overhead walkway on Rose Street. The Health Service is open Monday-Friday, from 8:00 a.m. to 4:30 p.m. Saturday hours are 9:00 a.m. to 11:00 a.m. for limited services. There are no Saturday morning hours during breaks and during the summer sessions. The Health Service is closed on national holidays and the week between Christmas and New Year's Day.

4.5.4. The Student Health Service is now operating on an appointment, rather than a "walk-in" basis, in order to eliminate the long waiting periods students sometimes encountered in the past. Schedule a visit by calling 323-APPT (323-2778); the Mental Health Service number is 323-5511. "Emergency visits" are scheduled immediately. For a serious emergency, go directly to the emergency room at University Hospital, as well as for emergencies on weekends, holidays, and after hours.

4.5.5. Services available at, and further information about, the Student Health Service is available in the "Student Health Service Handbook," which is provided in your Orientation Package.

4.5.6. It is very important that graduate students understand that the Health Fee required of all full-time students does not cover the cost of hospitalization, accident care, or surgery. It covers only certain routine "illnesses," some first-aid and emergency care, and mental health services. The University assumes that students are either covered by their parents' plan or have made arrangements to have their own insurance policies. As of Fall 1999, degree-seeking, graduate students who hold full assistantships or are full institutional fellowship holders, will receive the MEGA health insurance plan offered by the University of Kentucky. If you have questions about your eligibility to be covered under this plan, consult the Fellowship Office in the Graduate School. If you are a full-time Teaching Assistant, coverage under this plan should be instituted automatically on the first day of classes each Fall Semester and is effective for 12 months.

4.5.7. Students must have some form of medical insurance. A single serious illness or accident can mean financial ruin for a student and the student's family, as well as possible legal action if the student is unable to pay the bills incurred. Many hospitals will simply refuse to treat you if you are not covered by health insurance. The Department of Chemistry requires that all graduate students who are working in the Building, including all Teaching and Research Assistants, *must* be covered by some form of health insurance.

4.5.8. All International Students are required by the University to carry medical insurance. Information about special health insurance plans for certain International Students may be available at the International Students and Scholars Office in Bradley Hall. International Students need to be aware that neither the Federal nor the State governments in the U.S. provide free medical care to students. Unless you are covered by some appropriate medical insurance, you are liable for all the costs incurred in routine and extraordinary medical care. Failure to pay medical bills may well affect your visa status in this country.

APPENDICES

- Appendix A. Checklist for the M.S. -- Plan A
- Appendix B. Checklist for the M.S. -- Plan B
- Appendix C. Checklist for the Ph.D.
- Appendix D. Divisional Guidelines for Cumulative Exams
- Appendix E. Classification of Advanced Courses
- Appendix F. Policy on participation in CHE 776 Seminar Courses

APPENDIX A.

CHECKLIST FOR THE MASTER OF SCIENCE DEGREE -- PLAN A (THESIS MASTERS)

Version 5.1, July 2003

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

- ___ **I. CORE COURSES** (select one each from 4 of the 5 pairs below, including the areas in which the 2 lowest proficiency exams 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 _____ Organic: CHE 538 or CHE 535 _____
Physical: CHE 547 or CHE 548 _____

- ___ **II. TOTAL CREDITS** (Minimum of 24 credits of graduate course work, G.P.A. of 3.0 or higher, maximum of three credits of seminar, colloquium, or practicum courses. CHE 790, 748, and 768 may not be used for these 24 credits, but up to a maximum of 8 credits of CHE 780 may be used. However, research in CHE 780 may not duplicate thesis work. Courses designated 400G or above in a department other than chemistry are graduate courses. Note the letter G must appear after the number for graduate credit.)

Course	Credits	Grade
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Total Credits _____ Total Quality Points _____ GPA _____

- ___ **III. CHEMISTRY COURSES** (Minimum of 16 hours in 500-, 600-, or 700-level chemistry courses, not including CHE 790, 748, 768.)

Course	Credits
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

- ___ **IV. UPPER-LEVEL COURSES** (Minimum of 12 hours in 600- or 700-level courses; CHE 790 may be used here, but not in II. above.)

Course	Credits
_____	_____
_____	_____

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

___ **V. GRADUATE RECORD EXAM** (Submission of GRE general exam scores must be done in first semester of residence if not done prior to admission to Graduate School.)

Semester _____ Already submitted _____

___ **VI. SELECTION OF RESEARCH ADVISOR** (Pick up "Interview" form from DGS, have 5 faculty sign form after interviewing, return with form to DGS.)

Date of final sign-off by DGS _____

___ **VII. ADVISORY COMMITTEE** (Chairman or cochairman must be full member of the Graduate Faculty; one member must be outside the area of specialization; minimum of 3 members. Use "Intradepartmental Memorandum". Must be done before obtaining any summer RA support.)

Date _____ Members _____

___ **VIII. APPLICATION FOR DEGREE** (File in Dean's Office 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 Grade Assignment Form sent _____

___ **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 Dean at least two weeks ahead of time. Can have no outstanding I or S grades.)

Date Request for Final M.S. Examination and Thesis Approval Sheet signed by Director of Graduate Studies _____ (See Attachments; bring examination copy of thesis.)

Date of Final M.S. Examination _____

___ **XI. SUBMISSION OF M.S. THESIS** (Final, corrected, checked, and accepted copy on 100% rag paper must be submitted to the Graduate School within 60 days of date of final examination.)

Date Thesis Submitted and Accepted _____

____ **XII. DEPARTMENTAL CHECK-OUT** (Keys, library books, lab cleanup, etc.) Obtain Final Separation Information form from DGS Staff Assistant, obtain signatures.

Date Final Separation Form completed and returned to Chemistry Chair's Administrative Assistant _____

APPENDIX B.

CHECKLIST FOR THE MASTERS DEGREE -- PLAN B (Coursework Masters)

Version 6.0, April 2007

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

- ___ **I. CORE COURSES** (select one each from 4 of the 5 pairs below, including the areas in which the 2 lowest proficiency exams scores were obtained. Must be completed or bypassed within 2 years, B or better in at least 3 courses.)

Analytical:	CHE 626 or CHE 623	_____	Biological:	CHE 550 or CHE 552	_____
Inorganic:	CHE 510 or CHE 514	_____	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	Credit
_____	_____
_____	_____
_____	_____

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

Course	Credit	Grade
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Total Credits _____ Total Quality Points _____ GPA _____

- ___ **IV. ADDITIONAL CHEMISTRY COURSES** (Beyond the core courses in I. above. One additional course in each of three of the following: analytical/radiochemistry, biological, inorganic, organic, and physical chemistry. Only courses having two or more credits may be counted. CHE 780, 748, 768, and 790 cannot be used.)

Course	Credits
_____	_____
_____	_____
_____	_____
_____	_____

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

Course	Credits
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

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

- ___ **VII. ADVISORY COMMITTEE** (Chairman or cochairman must be full member of the Graduate Faculty; one member must be outside the area of specialization; minimum of 3 members; selected in consultation with DGS. Use "Intradepartmental Memorandum.")

Date	Members
_____	_____

- ___ **VIII. APPLICATION FOR DEGREE** (File in Dean's Office by about Feb. 10, June 20, Sept. 20, for May, August, December degree.)

- ___ **IX. 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 Dean at least two weeks ahead of time. Can have no outstanding I or S grades.)

Recommendation Form for Final Oral M.S. Examination sent to Graduate School by DGS.

Date _____

Date Scheduled by Graduate School _____

- ___ **X. DEPARTMENTAL CHECK-OUT** (Keys, library books, lab cleanup, etc.) Obtain Final Separation Information form from DGS Staff Assistant, obtain signatures.

Date Final Separation Form completed and returned to Chemistry Chair's Administrative Assistant _____

APPENDIX C.

CHECKLIST FOR THE PH.D. Version 6.0, July 2003

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

___ **I. COURSES** (Course work completed within 5 semesters. All course work approved by Advisory Committee.)

a. Chemistry Core Courses (select one each from 4 of the 5 pairs below, including the areas in which the 2 lowest proficiency exams scores were obtained. Must be completed or bypassed within 2 years, B or better in at least 3 courses.)

Analytical: CHE 626 or CHE 623 _____ Biological: CHE 550 or CHE 552 _____
Inorganic: CHE 510 or CHE 514 _____ 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	Semester	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, CHE 533, CHE 522, research, seminar courses do not count, plan requires approval of advisory committee.)

Course	Semester
_____	_____
_____	_____

___ **II. TEACHING REQUIREMENT** (Minimum of one semester, one-quarter time.)

Semester _____

___ **III. CUMULATIVE EXAMINATIONS** (Minimum 8 points required in 16 exams in first 4 semesters; maximum of four 1's. Total points and distribution among areas must be approved by advisory committee.)

Date	Area	Points
_____	_____	_____
_____	_____	_____
_____	_____	_____
Date	Area	Points
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

- ___ **IV. SELECTION OF RESEARCH ADVISOR** (Pick up "Interview" form from DGS, have 5 faculty sign form after interviewing, return with form to DGS.)

Date of final sign-off by DGS _____

- ___ **V. ADVISORY COMMITTEE** (Minimum of 4 "core" members, who must be on the Graduate Faculty; 3 must be "full" members. Formed by end of 2nd semester and before obtaining any summer RA support.)

_____	_____
_____	_____
_____	_____

Date formed _____

- ___ **VI. 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 in order to obtain 36 credits in reasonable time.)

- ___ A. Year 1: 18 Graded graduate hours at UK (or Masters or transfer of one year of residency credit from an awarded M.S. at another accredited school (by petition)).
- ___ B. Year 2: Two consecutive semesters enrolled full-time (9 or more graduate credits per semester), may include the summer session;

OR, Three consecutive semesters enrolled part-time (at least 6 graduate credits per semester);

OR, 24 graduate credits at UK, exclusive of short courses, taken within three consecutive academic (or calendar) years. (No more than 9 may be earned in summer sessions.)

Full-time Semester _____	Credits _____
_____	_____
_____	_____

- ___ C. Minimum total of 36 graded, graduate credits.

- ___ **VII. ORAL QUALIFYING EXAM** (Normally scheduled in fifth semester. Intent to schedule should be filed within first six weeks of semester. GGPA must be 3.0 or higher; no outstanding I or "missing" grades. Recommendation for qualifying exam minimum 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.)

Date _____

___ **IX. APPLICATION FOR DEGREE CARDS** (File in Dean's Office by about Feb. 10, June 20, Sept. 20, for May, August, December degree; see Schedule of Classes for each term. Cards good for 1 semester.)

Date filed _____

___ **X. FINAL CHECK OF GRADES**

___ Check all grades, using Campus Management or other transcript, ensure that no I or S grades are present.

Date _____

___ **XI. FINAL DOCTORAL EXAMINATION** (Dissertation Defense.)

___ 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 Notification Filed _____

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

Date Sent to Committee _____

___ C. Dissertation, Request for Final Doctoral Examination, and signed Approval Sheet (attachments) brought to Director of Graduate Studies (together) for signature (minimum 14 days in advance).

Date _____

___ D. Dissertation, signed Request for Final Doctoral Examination, and signed Approval Sheet then taken together by student to Graduate School for approval (minimum 2 weeks before scheduled final defense, may require an appointment with the Graduate School).

Date forms taken to Graduate School _____

Date of examination _____

___ E. Approved copy of Dissertation taken to Outside Examiner

___ **XIII. SUBMISSION OF PH.D. DISSERTATION** (Final, corrected, checked, accepted, and signed copy on 100% rag paper must be submitted to the Graduate School within 60 days of date of final examination.)

Date Dissertation Submitted and Accepted _____

____ **XIV. DEPARTMENTAL CHECK-OUT** (Keys, library books, lab cleanup, etc.) Obtain Final Separation Information form from DGS Staff Assistant, obtain signatures.

Date Final Separation Form completed and returned to Chemistry Chair's Administrative Assistant _____

APPENDIX D.

DIVISIONAL GUIDELINES FOR CUMULATIVE EXAMS -- FALL 2003

Analytical Division Cumulative Exams

Preparation for Analytical Cumulative Exams can largely be accomplished by a thorough review and deep understanding of the material in any modern instrumental analysis text and any sophomore-level quantitative analysis text. "Instrumental" texts suggested are by Braun; Christian and O'Reilly; Skoog, Holler, and Nieman; or Willard, Merritt, Dean, and Settle. Among suitable quantitative analysis texts are those by Harris; and Skoog, West and Holler. Additional material from recent issues of *Analytical Chemistry*, particularly the A-page articles, and Departmental and ACS seminars is appropriate Cumulative Exam material. Material from analytical chemistry courses – CHE 522, 524, 526, 620, 623, 625, and CHE 626 – would of course be very useful, but the exams do not simply re-test course material. Folders of past years' cumulative exams are available in the main department office for checkout by students. These are quite valuable for review and practice.

An Analytical Cumulative Exam will frequently focus on a specific method or topic. Thus, in the course of a year, you might expect to see one or two Cumulative Exams on analytical spectroscopy, electrochemistry, kinetic methods, electronics/automation, separations, equilibrium, statistics, surface-analysis, and analytical "problem solving". You might be given a short article from the literature and asked to explain/critique some of the points and conclusions. Some exams will be more directly knowledge-based, while others will require more thought and application of your entire chemistry background to selected problems and issues.

Biological Division Cumulative Exams

The student who takes Biological Chemistry Cumulative Examinations should prepare for these examinations by:

- I. Mastering the material in a typical undergraduate/graduate biochemistry text such as the major texts authored by Garrett and Grisham, Voet and Voet, Lehninger, Rawn or Stryer. A thorough understanding of the following subjects would be of great use in passing these examinations:
 - A. Protein Chemistry.
 1. Structures and chemistry of the amino acids.
 2. Methods for the determination of the primary, secondary, tertiary and quaternary protein structure.
 3. Methods for the chemical synthesis of proteins.
 4. Chemistry of membrane-bound proteins.
 - B. The Chemistry of Enzymes and Coenzymes.
 1. Structure and mechanism of the major coenzymes: NAD, FAD, Thiamin pyrophosphate, Tetrahydrofolate, Coenzyme B₁₂, Pyridoxal Phosphate, Lipoic acid, Biotin and Cytochrome P 450.
 2. Steady-state enzyme kinetics.
 3. The chemical mechanism for the following types of enzyme-catalyzed reactions: acyl transferases (e.g., proteases), glycosyl transferases, and enzyme-catalyzed proton transfer reactions.
 4. Mechanism of enzyme inactivation: active-site directed and suicide enzyme inactivators.
 - C. The Chemistry of Cellular Metabolism. The student should be aware of the prominent features of the chemistry which occurs in the following metabolic pathways: glycolysis, Krebs cycle, fatty acid biosynthesis and degradation, aromatic amino acid biosynthesis, isoprene biosynthesis, biosynthesis and degradations of purine and pyrimidine nucleosides and nucleotides.

- D. The Chemistry of Carbohydrates.
- E. Lipid Chemistry.
- F. Membrane Structure and Function.
- G. Nucleosides, Nucleotides and Nucleic Acids.
 - 1. Structure and chemistry of the 4 mononucleotides.
 - 2. Structure and physical properties of RNA and DNA.
 - 3. Chemical syntheses of DNA and RNA.
 - 4. Sequence determinations of DNA and RNA.
- H. Molecular Biology.
 - 1. Mechanism for information transfer in the cell (DNA, RNA, Protein). Pathways for DNA replication, DNA transcription and protein biosynthesis.
- II. Attending all ACS and departmental seminars and being able to succinctly describe the salient points that are relevant to any biological chemistry topic.
- III. Studying the review articles related to biological chemistry in *Science*, *Nature*, and *Accounts of Chemical Research*.
- IV. Being current on exciting new developments, trends, etc. in biological chemistry such as those that are discussed periodically in *Chemical and Engineering News* or "Research News" in *Science*.

Inorganic Division Cumulative Exams

Inorganic Cumulative Examinations will test the overall basic and specialized knowledge in inorganic chemistry and the awareness of contemporary inorganic research. Basic knowledge can be demonstrated by a sound background in general chemistry and the topics covered in the inorganic core courses, CHE 510 and CHE 514. Specialized knowledge in inorganic chemistry may be gathered from textbooks (e.g., F. A. Cotton and G. Wilkinson: *Advanced Inorganic Chemistry*; or N. N. Greenwood and A. Earnshaw: *Chemistry of the Elements*); from periodicals (*J. Amer. Chem. Soc.*, *Inorg. Chem.*, *Organometallics*); as well as from divisional and departmental seminars.

Organic Division Cumulative Exams

The Organic Cumulative Examinations will test both an understanding of general principles of organic chemistry and their logical application to specific problems drawn from the chemical literature. The examinations will cover such topics as stereochemistry, structure elucidation (from NMR, IR, UV, and mass spectroscopic information as well as from chemical information on mechanisms and reactive intermediates), physical properties and behavior, functional group manipulations, and synthesis. Students are urged to read the *Journal of the American Chemical Society*, *Journal of Organic Chemistry*, and *Organic Letters* (among others) as the best means of preparing for these examinations.

Physical Division Cumulative Exams

The level of understanding generally expected on Physical Chemistry Cumulative Exams is that of a rigorous textbook such as I. N. Levine's *Physical Chemistry*, 3rd edition, or P. W. Atkins' *Physical Chemistry*, 4th edition. Students may be required to demonstrate understanding also of physical chemistry divisional seminars, and

departmental and ACS seminars dealing with physical chemistry. Articles dealing with physical chemistry in *Chemical & Engineering News* may also be subjects of questions.

Radio/Nuclear Division Cumulative Exams

The Radio/Nuclear Cumulative Exams will be designed to test a basic knowledge of the field and an ability to apply this general knowledge to specific problems. Suggested areas of concentration include: the material presented in CHE 520, CHE 521, CHE 616, and appropriate topics courses; material presented in "general" textbooks of the field such as *Nuclear and Radiochemistry* by Friedlander, Kennedy, Macias and Miller, *Essentials of Nuclear Chemistry* by Arnikar; or *Radiochemistry and Nuclear Methods of Analysis* by Ehmann and Vance; instrumentation used in the field (see *Radiation Detection and Measurement* by Knoll or *Techniques for Nuclear and Particle Physics Experiments* by Leo); current journals in the field such as the *Journal of Radioanalytical and Nuclear Chemistry*, *Physical Review Letters*, *Nuclear Instruments and Methods in Physics Research*, and *Applied Radiation and Isotopes*; Departmental seminars and Lexington Section ACS meetings.

APPENDIX E.

Classification of CHE Courses (500-, 600-, and 700-level)

Course	Assigned Division
510 Advanced Inorganic Chemistry	Inorganic
514 Descriptive Inorganic Chemistry	Inorganic
520 Radiochemistry	Radiochemistry
522 Instrumental Analysis	Excluded
524 Chemical Instrumentation	Analytical
526 Chemical Separations	Analytical
532 Spectrometric ID of Organic Compounds	Excluded
533 Qualitative Organic Analysis Laboratory	Excluded
535 Synthetic Organic Chemistry	Organic
538 Principles of Organic Chemistry	Organic
547 Principles of Physical Chemistry I	Physical
548 Principles of Physical Chemistry II	Physical
550 Biological Chemistry I	Biological
552 Biological Chemistry II	Biological
555 Homonuclear NMR	Cross-disciplinary
558 Hormone Receptors and Cell Signals	Biological
559 Intermolecular Forces: From Molecules to Materials	Biological
565 Environmental Chemistry	Cross-disciplinary
612 Inorganic Chemistry of the Non-Metals	Inorganic
614 Organotransition Metal Chemistry	Inorganic
616 Nuclear Chemistry	Radiochemistry
620 Electrochemical Methods of Analysis	Analytical
623 Chemical Equilibrium and Data Analysis	Analytical
625 Optical Methods of Analysis	Analytical
626 Advanced Analytical Chemistry	Analytical
633 Physical Organic Chemistry	Organic
643 Spectroscopy and Photophysics	Physical
646 Chemical Kinetics	Physical
710 Topics in Inorganic Chemistry	Inorganic
736 Topics in Organic Chemistry	Organic
746 Topics in Physical Chemistry	Physical

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

APPENDIX F. Policy on participation in CHE 776 Seminar Courses

The Department of Chemistry requires that every graduate student must officially register for a divisional seminar, CHE 776, for credit or audit every semester while in residence at the University. The only exception is an advanced student who would normally be registered for zero credit and for whom official registration would result in a tuition obligation for the student or advisor. Regardless of official registration, *every* student in residence at the University *must* fully participate in at least one divisional seminar series *each semester*.

Analytical and Radionuclear Chemistry

The Analytical and Radionuclear Divisions have stipulated some specific requirements in order to implement the general policy of the Department.

1. All graduate students who are nominally pursuing analytical or radionuclear chemistry, or whose mentor is a member of these divisions, must fully participate in the ARN Seminar series every semester in residence whether formally registered in CHE 776-001 or not. Exceptions are made for those who are fully participating in another divisional seminar series.
2. Postdoctoral fellows and scholars are considered to be pursuing additional professional training as well as performing professional work. As such, they are classified as both student and professional. In this dual classification, they also are expected to participate in one divisional seminar series.
3. Barring any excused absences, a graduate student may not miss more than 20% or 2, whichever is fewer, of the seminars and the initial organizational meeting during a semester: That is, 1 unexcused absence for 5-9 total seminars, 2 for 10 or more total seminars. If a greater number is missed, the student will be required to officially register in the seminar for credit and to present a seminar in the following semester. The student will be responsible for paying any extra tuition incurred by this registration.
4. Excused absences can be granted for valid cause by the faculty member who is in charge of the ARN seminar for the semester in question. At the discretion of the course instructor, valid reasons can include, but are not necessarily limited to, major illness, death or emergency of an immediate family member, and attendance at a professional meeting.
5. All Analytical/Radio/Nuclear Chemistry graduate students must present one formal, full-length, literature-type ARN seminar each calendar year of residence up to a total of three such seminars. "Full-length" implies a minimum of about 35-40 minutes of speaking time. Official registration in the class is required, but may be for either credit (for a grade) or audit.
6. ARN M.S. students may use their final, formal full-length seminar to present their master's research results, much in the manner of the Departmental exit seminar required of all doctoral students. Preferably, this should be in the last semester of the student's residence in the department.
7. Effective with the 2005 Spring Semester, the Department requires graduate students to submit an abstract for a divisional seminar in Adobe Acrobat PDF format for appropriate distribution, if the division requires an abstract to be prepared. Graduate Students presenting a seminar in the ARN Seminar series shall submit an abstract to the Receptionist as an email attachment **no later than noon three days prior to the date of the seminar** – that is, noon on Tuesday for a Friday seminar.
8. An abstract shall be short and descriptive of the topic to be presented. It must be **written in the student's own words**. The University rules regarding plagiarism apply to the abstract. [See www.chem.uky.edu/courses/common/plagiarism.html.] The abstract should be a paragraph or two in length and should contain a listing of no more than 6 key references used in preparing the talk. A comprehensive bibliography is not required. The English writing in the abstract should be polished and thoroughly edited for clarity, grammar, spelling, punctuation, and so forth.

9. An abstracts shall conform to a few minimal formatting  requirements: It shall be presented in 10- or 12-point font size with minimum 1-inch margins on all sides. The heading material shall begin with **University of Kentucky** and **Department of Chemistry** on the topmost line, followed by the (a) **Analytical/Radio/Nuclear Chemistry Seminar**, (b) full title of the seminar, (c) speaker's full name, (d) time and date of the seminar, and (e) location of the seminar – *in that order*. Font enhancement such as boldface or italics, etc. may be used in order to create a more pleasing appearance.

If there are any questions about the application of these policies in a specific situation, the student should consult the faculty member who is in charge of CHE 776-001 for the semester in question.

Biological Chemistry

All students in the Biological Chemistry Division are to attend and to participate in CHE 776-005 in all semesters in residence, regardless of registration status. Specific expectations are as follows:

1. Students are to register for audit during their first semester, to attend all class meetings, and to participate fully in discussions. They will not be expected to present a 50 minute seminar, but may be asked to present an article for discussion or to present a solution to a problem posed by the instructor.
2. In a student's second semester, he or she is to register for credit and will be expected to present a full seminar. Such seminars are to be built from a collection of related papers from the recent literature unrelated to the student's research topic (current or past).
3. In the second and third years, students will be expected to present a full seminar in one semester (for credit) and to register for audit credit in the other semester. Expectations are the same as the above. If during any semester a student misses more than 25 percent of the seminars, he or she would be required to register for a grade and give a seminar in the following semester. All University of Kentucky Senate rules regarding missed classes for legitimate reasons apply.

Inorganic Chemistry

The Inorganic Chemistry Division of the Department has the following requirements for students in CHE 776-002:

1. Students in their first semester must register for CHE 776-002 in audit status, attend all class meetings, and participate in discussions. They will not be expected to present a 50-minute seminar. For literature discussions, they must read articles to be presented by other students, generally circulated by e-mail several days before they are discussed, and will choose and prepare an article for discussion. They will participate in all cumulative examination discussions.
2. Students in their second semester must register for CHE 776-002 in graded (not audit) status, attend all class meetings, and participate in discussions. They must present a 50-minute seminar (including time for questions). Such seminars are based on a set of related papers from the recent literature not directly related to the student's current or past research topics.
3. Students in their second year must register for CHE 776-002 in graded status in one semester and audit status in another. Students may be asked to register in a particular semester to adjust the number of student seminars between semesters. Expectations for audit and graded semesters are described in (1) and (2).
4. Students in their third year must register for CHE 776-002 in graded status in one semester and audit status in another. Students may be asked to register in a particular semester to adjust the number of student seminars between semesters. Expectations for audit and graded semesters are described in (1) and (2), except that students who have completed cumulative examinations may skip cumulative examination reviews, and the 50-minute seminar may be an overview of the student's research rather than drawn from

the literature.

5. Students in their fourth and later years are expected to attend and actively participate in the seminar program, including presentation of a paper from the recent literature, even if they are in zero-credit status.

Organic Chemistry

The Organic Chemistry Division of the Department has the following requirements for students in CHE 776-003:

1. All students in the Division are to attend and participate in CHE 776 in all semesters in residence, regardless of registration status. Specific expectations are as follows:
2. Students are to register for audit during their first semester, to attend all class meetings, and to participate fully in discussions. They will not be expected to present a 50 minute seminar, but may be asked to present an article for discussion or to present a solution to a problem posed by the instructor.
3. In a student's second semester, they will be expected to present a 50 minute seminar (including time for questions). Such seminars are to be built from a collection of related papers from the recent literature unrelated to the student's research topic (current or past).
4. In a student's second year, they will be expected to present a 50-minute seminar in the fall (for credit) and to register for audit credit in the spring. Expectations are the same as the above.
5. In a student's 3rd year, they will be expected to present a 50-minute seminar (in either semester, as agreed to with the instructor). The content of this semester may be literature or it may be a research summary, as determined by the instructor.
6. In subsequent years in residence, students (presumably on '0 credit status') are still expected to attend and actively participate in the seminar program. This may include presentation of recent literature or of research progress

Physical Chemistry

All students in the Physical Chemistry Division are to attend and to participate in CHE 776 in all semesters while in the graduate program. Students registered for credit will be required to present a formal, full seminar as defined in the syllabus for the course. All students, regardless of registration status, may be asked to present an informal research update or review of some aspect of the recent literature in order to have a complete seminar schedule. Specific expectations are as follows:

1. Students are to register for audit during their first semester, to attend all class meetings, and to participate fully in discussions. They will not be expected to present a full seminar during the first semester.
2. A student will be expected to register for credit in the second semester and present a full seminar, and to alternate registration for credit or audit in subsequent semesters until they have given three full seminars for credit. After a student has fulfilled the three-seminar requirement, he or she must register for audit until the residency requirement is fulfilled.
3. In subsequent years in the graduate program, students (presumably on 0 credit status) are still expected to attend and actively participate in the seminar program. A student will be exempt from any seminar presentations during the semester when his or her Departmental seminar is presented.