The information contained in this document supersedes all previous versions and applies to the academic year 2014-2015. It is accurate and current, to the best of our knowledge, as of July 2014.
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INTRODUCTION

Dear Entering Graduate Student:

Welcome to the Graduate Program in the Department of Chemistry & Biochemistry at the University of Wisconsin–Milwaukee (UWM)! I am confident that you will find the Department a great place to work, study, and perform cutting-edge research, and that the time spent in our graduate program will benefit you throughout your professional career. The main focus of your graduate study will be a research program supervised by one of the Faculty in the Department. However, as in all organizations, there are rules and procedures to follow, partly to ensure that everyone is treated fairly and partly to ensure that high standards are maintained in the program.

This Handbook is the product of many authors who fine-tuned and updated its content over the years and includes many changes proposed by the Graduate Student Council. It attempts to outline the procedures that you will have to follow to successfully complete your advanced degree. Note that the Graduate School has established additional regulations that you need to follow – for more information, consult the corresponding sections on the Graduate School website at http://www.graduateschool.uwm.edu/students/policies/expanded/. (Note that the information in the printable version of the Graduate Faculty and Student Handbook is outdated).

If you have any suggestions for modifications or clarifications, you are encouraged to contact the Graduate Student Council or the Graduate Program Coordinator, Ms. Elise Nicks. Elise is typically your first point of contact for general questions; she will handle the processing of all forms relating to the program, and can answer most questions about program policies and procedures.

The general rules and information in this Handbook will serve you as a “road map“ through your advanced degree, summarizing the policies and procedures that were in effect for the academic year printed on the front cover. These rules will generally stay the same over time but
may evolve in minor and major ways; therefore, you should not consider this *Handbook* as a contract. You will be notified of any changes as they occur. Minor policy changes may become effective immediately, while for major policy changes, students will usually be allowed to work toward their graduate degree under the policies that were in effect when they were admitted. The Graduate Sub-Committee and the Department Chairman will consider cases where a particular change in policy would create undue hardship for a student on a case-by-case basis.

The entire Faculty and staff of the Department wish you every success in your journey toward a graduate degree – it will be a time of profound professional and personal development, full of the rewards and sacrifices of intense research activity, which we hope you will look back upon with pride.

Sincerely yours,

Jörg C. Woehl  
Chair of the Graduate Sub-Committee  
Department of Chemistry and Biochemistry
1 GENERAL DEPARTMENT POLICIES

The Department provides an extensive orientation for all new students entering the program. Each student is expected to attend all portions of the program.

1.1 Entrance Examinations

All entering graduate students must take entrance examinations in analytical, biochemical, inorganic, organic and physical chemistry. These exams are intended to measure your ability to perform at the bachelor’s degree level in each of the five disciplines. For M.S. students these exams are used for advising only, while Ph.D. students are required to pass at least four of the five exams at the 50th percentile level.

To satisfy the entrance exam requirement for the Ph.D. program, you may re-take any of the failed exam(s) multiple times until you obtain a passing score. The exams are given three times a year, at the beginning of the fall and spring semesters as well as the summer term. The exam schedule will be announced via email prior to their administration.

You are expected to have passed the required number of exams by the beginning of your fourth semester to remain in “good academic standing” with the Department. In addition, you may not advance to dissertator status (which should occur at the end of your third year) until you have fulfilled this exam requirement. It is your responsibility to register for courses and/or study with a list of recommended textbooks to fulfill this requirement.

1.2 Advising forIncoming Students

The courses that you take during your first semester will be developed in consultation with the
Graduate Advising Sub-Committee. This committee will serve as your *de facto* academic advisor until you have been approved for joining a Major Professor’s research group during your second semester. You will meet with this committee following the completion of the Entrance Examinations to determine the curriculum that will best meet your needs at this point of your graduate education. This may include courses that are necessary to make up for academic deficiencies. (For example, if you graduated from a program that did not include an upper-level course in inorganic chemistry, you may be required to take CHEM-511 “Advanced Inorganic Chemistry”). You should be aware that if you enter the program with academic deficiencies, you must address those in the manner recommended by the Graduate Advising Sub-Committee. Failure to do so will immediately remove you from “good academic standing” status and jeopardize your eligibility for continued Teaching Assistant (TA) support. Incoming students are required to register for the coursework recommended by the Graduate Advising Sub-Committee in the first semester, and are required to provide their class schedule to the Course Scheduler for scheduling TA assignments. Subsequent semester enrollment is decided between the student and advisor.

1.3 Teaching Assistantship: Training and Orientation

Any entering student who is accepting a TA position must attend the departmental and university-wide TA orientation programs designed to acquaint new graduate students with their professional responsibilities and duties. Familiarization with facilities and specific aspects of the UWM undergraduate curriculum, as well as philosophical and professional aspects of the teaching program, will be reviewed. The final session of the program will be a meeting with professors for whom you will teach during your first assignment.

1.4 Criteria for Continued TA Support

A graduate student in the Chemistry & Biochemistry Graduate Program will be offered full
TA support only if he/she is determined to be in “good academic standing“ in the Department. Good standing is taken to mean:

- Suitable academic performance (minimum GPA is 3.0)
- Language skills adequate to teach a chemistry course (see Section 1.6, p. 11)
- Adequate research progress (as ascertained by the student’s Major Professor)
- Successful and timely completion of program requirements.

Graduate students in the Department of Chemistry & Biochemistry will be limited to a total of five (5) years of TA support (10 semesters, excluding summers).

1.5 Disciplinary Policy for Teaching Assistants

Disciplinary action will ensue if a TA fails to follow Department of Chemistry and Biochemistry Work Rules for Teaching Assistants, to follow the directives and policies of the course instructor or to enforce safety regulations in the laboratory. This disciplinary action can result in a verbal reprimand, a written reprimand, suspension without pay, up to dismissal. The level of the sanction will depend up on the seriousness of the infraction, and repeated infractions (even if relatively minor) will lead to more severe consequences. Records of the disciplinary action will be recorded in the TA’s personnel file. Such information will be reviewed prior to making subsequent Chancellor Graduate Student Awards or teaching assignments. Students with a record of disciplinary action will see his or her Chancellor’ Graduate Student Award decreased or discontinued. The Department will not offer a TA position to a student with a record of serious/repeated disciplinary action.

Verbal and written reprimands may be imposed by the course instructor following an investigatory meeting. The student may file a grievance with the Undergraduate/Appeals Sub-Committee of Chemistry and Biochemistry within 10 working days of the reprimand.
1.6 **Language Competency Requirements**

In addition to the Departmental Orientation, international students are required to attend an international student TA orientation held at the beginning of each semester. International students should also be aware that continuing TA support depends on displaying minimal English competency, demonstrated by passing a MITAA language test upon their arrival and prior to the start of classes. (Note that the MITAA test is in addition to any language proficiency tests such as TOEFL and IELTS required for admission into the graduate program.)

There is also an “Oral Skills” course offered by the “English as a Second Language” Program (ESL) for students who are just below the required scores to take concurrently with their first semester Teaching Assistantship and for students working to increase their MITAA scores. The College of Letters and Science subsidizes part or all of the cost of this course. Students can learn more about this option by contacting the ESL Program Office in Curtin Hall 672 or at (414) 229-5757 (e-mail: esl@uwm.edu).

1.7 **Selection of Major Professor**

Selecting a Major Professor (i.e., your research advisor) is one of the most important decisions made by a graduate student. To this end, the following procedure will be followed:

There will be a series of Faculty research talks for incoming graduate students during orientation week. It is imperative that you attend these presentations because they provide an important opportunity for you to become aware of the full range of research being carried out in the Department.

You will be issued a form at the end of these research talks for you to list three (3) research groups in which you would like to spend a period of time (“rotate”) during the first semester of your graduate program. Return the completed form to the Graduate Program Coordinator within one week after the orientation period. The completed form will be checked by the Chair of the
Graduate Sub-Committee and the Faculty will be notified. After your selection has been approved, you will be issued a second form that must be signed at the end of each rotation by the corresponding Faculty.

Each rotation will last approximately four (4) weeks. The exact nature of the rotation is left to the discretion of the Faculty (e.g., attending Group Meetings, conducting a limited research project, study of the chemical literature); you will need to contact the Faculty of the current rotation to establish the requirements for satisfactory completion. At the end of each rotation, make sure to obtain the Faculty’s signature attesting satisfactory completion of your rotation.

When you have returned the signed form attesting your satisfactory completion of all rotations, you will be issued a third form in which you will list two research groups that you would like to join, in order of preference. Return this form to the Graduate Program Coordinator at the end of the semester. These choices do not necessarily have to be one of the three groups that you were doing rotations with. (Note: You may choose more than three groups and continue your rotations during the following semester; however, this is not recommended because it will delay the start of research towards your graduate degree.)

The entire Faculty will review your selections and assign a research group to you based upon your preferences. While every effort will be made to assign you to your first choice research group, you should be aware that this is not guaranteed (e.g., the group’s capacity and funding status bear upon this decision). Note that because TA support is requested by the Faculty on your behalf, failure to successfully complete these requirements may jeopardize your eligibility for TA support.

1.8 Change of Major Research Professor

In exceptional circumstances, you may find that you wish to change your research advisor at some point. Request this change by memorandum. Outline the change that you wish to make
including reasons for the change, and forward the memorandum to the Graduate Program Coordinator, your previous advisor and the future advisor. The Graduate Sub-Committee will consider your request and forward their recommendation to the Faculty for discussion and final decision.

1.9 Credits and Courses

The Graduate School requires a minimum credit load of 6 credits for all TAs and RAs that have an appointment of 33% or greater. However, all graduate students are strongly encouraged to take research or audit credits to the Graduate School’s maximum of 12. (The Graduate School specifies that an RA should be registered for a full-credit load each term.) Note that there are reduced credit requirements for the Ph.D. student who has achieved Dissertator status (see Section 2.5.4, p. 32). Also, the Department will accept a minimum of six credits including seminar for M.S. students who have already met or exceeded the 30 credit degree requirement during the previous term, and have one credit of research during the summer.

1.10 Part-time Graduate Students

Modifications of requirements and timetables may be made to accommodate special problems, which might arise for part-time graduate students. These include the following:

i. Part-time students must take entrance exams promptly but scheduling may be flexible.

ii. The Major Professor should be chosen before the completion of 12 credits or four semesters of study (whichever is soonest).

iii. In lieu of regular attendance at Graduate Seminars (if this is impossible because of other employment), the student may present two seminars for the M.S. degree; the second one in an area of research associated with outside employment or
thesis work. The student needs to request permission from both the Graduate Seminar coordinator and the Graduate Sub-Committee on a semester-by-semester basis.

iv. The rate of progress should at least average one course per semester, or its research equivalent. (Note the Graduate School places a limit of 5 years for the M.S. degree.)

v. Thesis research may be performed off-campus (i.e., in laboratories where the student is employed). Certain restrictions must be observed; the work must be freely publishable and be carried out under direct and active supervision of a Faculty member of the Department. The thesis should state in general terms what research was done off-campus. Any service work performed by technicians or others at the student’s place of employment must be clearly identified in the thesis. Although such service work is desirable in so far as it increases the student’s productivity, it should be considered an ”addition“ to the student’s personal research efforts, and not a replacement for it. The research must still be conducted by the student.

vi. Graduate School requirements prevent the Ph.D. degree from being granted entirely for part-time study. One year of full-time study beyond the M.S. level is required to satisfy the residence requirement (see Section 2.3.3, p. 20).

vii. The Graduate Admissions Sub-Committee may require that you identify a Major Professor who is willing to supervise your graduate program on a part-time basis. It may also require that you design a program of study in conjunction with your prospective Major Professor to ensure that you have a coherent and feasible plan for successfully completing a graduate program in a timely fashion.
1.11 **Graduate School Deadlines**

Under extenuating circumstances, the Graduate School deadlines may be extended. Special appeal forms are available for that purpose from the Graduate School. Consult with your Major Professor if you need to request an extension.

1.12 **Research Notebooks**

Each student should maintain a carefully documented research notebook. The notebook and other related research materials remain the property of the Major Professor and must be left with him/her when you leave the University. If you wish to retain a copy you should make arrangements with your Major Professor. It is strongly recommended to consult the American Chemical Society’s *Writing the Laboratory Notebook* (1985) by Howard M. Kanare and *The ACS Style Guide* (2006) by Anne M. Coghill and Lorrin R. Garson (Eds.) for reference.

1.13 **Safety**

Safety should be one of your primary concerns. Specific safety practices are described in the American Chemical Society publication *Safety in Academic Chemistry Laboratories* (you will receive a copy). *If you do not completely understand all of the requirements, see a member of the Safety Sub-Committee and/or your Major Professor.* All students are required to attend a “Safety Briefing” each year – this is an opportune time to ask questions!

1.14 **Security**

You will be able to complete your research only if the excellent facilities made available to you are kept secure. The Research Tower houses millions of dollars worth of irreplaceable equipment, subject to theft and vandalism. Your own personal safety is also of major concern. Several personal computers and laptops are stolen every year, with the consequent loss of
valuable data, so please lock the doors to your offices and labs when nobody is inside.

The Campus Police and Student Services provide escorts for students in the evenings. They can be contacted in an emergency from any campus phone by dialing 9-911 or by calling (414) 229-9911 from a cell phone. For non-emergencies, call (414) 229-4627. Because graduate students commonly work in the evenings and on weekends, it is especially important that the building remain locked for safety as well as security. Graduate students are given keys so that they can perform research in an unencumbered environment. With the privilege of 24-hour access comes your responsibility to ensure that the building remains secure.
2 THE PH.D. PROGRAM

The following is a typical outline for the Ph.D. program. General rules are explained in the first part, and the program is set out in chronological order in the second part. This guide is designed to assist you in planning your program so that you can complete your course of study in a timely manner.

2.1 Program Requirements

A Ph.D. student will pass through two major statuses, namely doctoral status (before passing the Preliminary Comprehensive Examination; see below) and dissertator status (once the Preliminary Comprehensive Examination has been passed).

Note that there is an additional TA pay scale classification, which distinguishes between different doctoral pay rates (called Non-doctoral, Non-doctoral Year 2, Doctoral, and Dissertator) according to specific credit milestones; see the Graduate School website for more details.

2.2 Summary

A Ph.D. student will fulfill the following general requirements, which are described in more detail below:

- Coursework (at least six graduate courses); see Section 2.4, p. 22
- Graduate Seminar; see Section 2.3, p. 18
- Advanced Seminar (e.g., group meeting); see Section 2.3.1, p. 19
- Satisfactory completion of entrance examinations; see Section 1.1, p. 8
• Annual Milestone Meetings; see Section 2.3.2, p. 19
• Advanced Qualifying Exam (AQE); see Section 2.4, p. 22
• Preliminary Comprehensive Examination (PCE, more commonly known as “the Orals”); see Section 2.5.3, p. 31
• Completion of research
• Thesis defense; see Section 2.5.5, p. 34

2.3 Graduate Seminar

All full-time graduate students must register for the Graduate Seminar (CHEM-912) each semester. Before receiving the Ph.D. or M.S. degree, you must present at least two seminars (or equivalent – see below). The seminar requirement is defined as follows:

i. The first seminar is a CHEM-912 seminar and is not directly related to the student’s area of research. The topic is selected in consultation with the student’s Major Professor and then approved by the student’s Division. The topic of the seminar must be approved by all of the student’s divisional faculty (before the start of the semester in which the seminar is to be presented). This requirement must be completed by the fourth semester of the student’s program.

ii. The second seminar is a presentation by the student at a regional or national meeting.

Registration for CHEM-912 is a unique process; inaccurate registration may pose difficulties in meeting seminar requirements:

• In semesters in which you do not present a seminar, register for one credit, audit.
• In the semester in which you do present a seminar, register for one credit, graded.

An important part of the Graduate Seminar series (CHEM-912) are colloquia that feature invited speakers from other universities, government, and industry periodically throughout the
year. The colloquia are often held at the same time as the Graduate Seminars, i.e., at 3:00 p.m. on Fridays, with refreshments and an opportunity to also informally meet the speaker. In addition to our Departmental colloquia, notice of seminars in other departments, and of the Laboratory for Surface Studies and the Center for Great Lakes Studies, are posted or circulated.

### 2.3.1 Advanced Seminar

After you have formally joined a faculty research group, you should register each semester for the appropriate divisional “Advanced Seminar“ for one credit:

- CHEM-931: Analytical Chemistry
- CHEM-932: Biochemistry
- CHEM-933: Inorganic Chemistry
- CHEM-934: Organic Chemistry
- CHEM-935: Physical Chemistry
- CHEM-936: Chemical Education

In these seminars, you will study and discuss current research results and important new developments, usually with your research colleagues. This will normally take the form of the periodic meeting (e.g., weekly) of your research group.

### 2.3.2 Annual Milestone Meetings

Each graduate student must form their faculty committee within the first year and must schedule meetings with this committee every other semester to discuss progress in research, teaching, and coursework. Prior to the annual Milestone Meeting the student will update their milestones checklist (which will be kept with their graduate student file) with the help of the Graduate Program Coordinator. At the meeting the student will present a synopsis of current progress, and discuss research strategies with the Committee, which will become a continuing
resource to the student and advisor, supplying additional ideas to improve the research product of the department.

The Committee will also discuss any deficiencies in maintaining good standing of the student in the graduate program. If the student fails to meet such a requirement, he or she is automatically placed on probation and must meet with their committee again in the subsequent semester.

2.3.3 Credit and Residence Requirements

The Graduate School requires a minimum of 54 graduate credits beyond the bachelor’s degree. In addition to this credit requirement, you must also fulfill two residence requirements before you can achieve dissertator status. The residence requirements are satisfied by (a) completing at least 27 graduate credits at UWM as a Ph.D. student, and (b) by completing 8 to 12 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters. **Note:** Credits taken during the summer session are not counted under this requirement.

You may be eligible to register for only one credit during the semester in which you prepare for the Preliminary Comprehensive Examination (international students should check with the Center for International Education for more information). You can obtain a form from the Graduate School requesting this reduced credit load. Course requirements per division are detailed in Section 2.4, p. 22-27.

2.3.4 Quality of Coursework & Repeating Courses

According to Graduate School requirements, all graduate students must retain a 3.0 grade point average (GPA) in all coursework. You may repeat a course once in which a grade of B- or lower was received. Both grades remain in the permanent record and are used in calculating the
official graduate GPA, but the credits for the course count only once toward meeting credit requirements. In some instances it may be advisable to repeat one of the basic graduate courses if a low grade has been received.

2.3.5 Time Limits

If you do not perform any graduate work for a period of five consecutive years, it is Graduate School policy that you lose all credit toward your degree. The Graduate School has established additional specific time limits for the M.S. and Ph.D. degrees. Note that for the Ph.D., the limit is ten (10) years — a student will be dropped from the graduate program if they do not graduate within this period, without appeal. For a master’s student, the Graduate School limit is five (5) years.

2.3.6 Summer Appointments

You may be given a summer appointment as available. Registering for credit during the summer depends on many factors; please contact the Graduate Student Coordinator for the proper summer registration details that apply to your case.

2.3.7 Grades Issued for Research

Graduate students in the Ph.D. Program receive a grade of S (satisfactory progress) or U (unsatisfactory progress) for research credits (CHEM-990 through CHEM-996). These grades will not be included in the GPA nor will they appear on an official transcript.

Graduate Students in the M.S. program will receive a letter grade (A, B, C, etc.) for research credits.
2.3.8 Changing from Ph.D. to M.S. Program

No Ph.D. student who wishes to change from the Ph.D. program to the M.S. program will be provided with TA support without a positive recommendation from the student’s current Major Professor and the explicit permission of the Graduate Sub-Committee. All entering graduate students are assumed to be in the Ph.D. program unless formally indicated by the student upon admission to the Graduate Program.

2.4 Divisional Requirements

Course requirements for the Ph.D. program include:

- A minimum of nine graduate credits in the major area
- A minimum of nine credits in the minor area carrying graduate credit (600-level and above in Chemistry, or 500-level and above in other disciplines) that are tailored to the needs of the student and approved by the student’s Major Professor. These credits do not necessarily need to be from the same division.
- Other courses required by your major area Division and Major Professor.

Course requirements for each Division are summarized below.

2.4.1 Analytical Chemistry

A minimum of three courses in the major area are required, which include

- CHEM-724 (Electrochemistry),
- CHEM-726 (Separations), and
- CHEM-726 (Special Topics).

A minimum of three courses in the minor area are required (600-level and above), carrying
graduate credit tailored to the needs of the student and approved by the student’s Major Professor. For example, a student wishing to minor in Physical Chemistry could have the following curriculum: Major requirements: Electrochemistry (CHEM-724), Separations (CHEM-726), Analytical Special Topics course (CHEM-726); Minor requirements: Thermodynamics (CHEM-661), Kinetics (CHEM-662), Spectroscopy (CHEM-762).

In the Analytical Division, the Advanced Qualifying Examination consists of a series of monthly examinations based on contemporary analytical literature. Each exam comprises both an oral component in which the student critiques an assigned journal article and a written component focused on the fundamental aspects of the analytical approach and methodology employed in the article. Students are required to obtain a passing score on three of the six exams that are administered.

2.4.2 Biochemistry

A minimum of three courses should be completed before taking the Advanced Qualifying Examination and at least three more must be completed as partial satisfaction of the Ph.D. degree requirements. The courses that should be completed before taking the Advanced Qualifying Examination are:

- CHEM-601 (Biochemistry: Protein Structure and Function),
- CHEM-602 (Biochemistry: Cellular Processes), and
- CHEM-604 (Biochemistry: Metabolism).

Additional courses in the minor area carrying graduate credit (600-level and above) will be tailored to the needs of the student and approved by the student’s Major Professor. If a student has previously taken one or more of CHEM-601, CHEM-602 and CHEM-604 as an undergraduate student, appropriate courses for substitution include: CHEM-701 (Topics in Biochemistry), CHEM-781 (Pulsed NMR Spectroscopy), CHEM-614 (Bioinorganic Chemistry),
or CHEM-741 (Topics in Organic Chemistry – Bioorganic Chemistry).

The Biochemistry AQE consists of three exams given in the areas of Protein Structure and Function (CHEM-601), Cellular Processes (CHEM-602), and Metabolism (CHEM-604). Each exam occurs in a different week and one or more articles are provided one week before each exam. Each exam covers the provided article(s) as it relates to the area as well as material from the related course. Thus you are expected to read and understand the article(s) thoroughly and to have taken related courses prior to taking the AQE. Generally two attempts to pass the AQE are allowed.

2.4.3 Chemical Education

A minimum of three courses in the major area are required that include

- a special topics course in Chemical Education,
- Educational Psychology 624 (Educational Statistical Methods I), and
- Educational Psychology 631 (Cognition: Learning, Problem Solving and Thinking).

Additionally, Educational Psychology 724 (Educational Statistical Methods II) is also recommended. A minimum of three courses in the minor area are required, carrying graduate credit (600-level and above) tailored to the needs of the student and approved by the student’s Major Professor. As an example, a student may take the three required courses and in addition take Physical Inorganic (CHEM-611), Intermediate Chemical Thermodynamics (CHEM-661) and Chemical Kinetics and Dynamics (CHEM-662). Similarly, if a student were interested in teaching at an undergraduate institution where only general and organic chemistry courses are offered, a combination of graduate organic chemistry courses would be more appropriate (CHEM-640, CHEM-647, and CHEM-740, for example). The major courses should be taken prior to a student taking the Advanced Qualifying Examination.
2.4.4 Inorganic Chemistry

Three courses in the major area (minimum), which include

- CHEM-611 (Physical Inorganic Chemistry),
- CHEM-612 (Transition Metal Chemistry), and
- A Physical Chemistry/Physics course from the following:
  - Physical Chemistry: Intermediate Thermodynamics (CHEM-661), Kinetics (CHEM-662), Quantum Chemistry (CHEM-767), Statistical Thermodynamics (CHEM-765), Spectroscopy (CHEM-762).
  - Physics: Quantum Physics (PHY-441 & PHY-442), Quantum Mechanics (PHY-531 & PHY-532), Solid-State Physics (PHY-651 & PHY-751), or Surface Physics.
- It is also strongly recommended that the students take Special Topics courses when offered, particularly courses in inorganic mechanisms, bonding theory, and catalysis.

Three additional courses (minimum) carrying graduate credit tailored to the needs of the student, typically Biochemistry or Organic Chemistry courses; Physical Inorganic students might use Physical Chemistry, Physics, or Analytical Chemistry courses. Special Topics courses may count towards this requirement. The following example is one of many possible programs: Major requirements: CHEM-611, CHEM-612, CHEM-767; Minor requirements: Inorganic Mechanisms (Special Topics course), Spectroscopy (CHEM-762), Statistical Thermodynamics (CHEM-765).

The Inorganic Division AQE is comprised of three exams. They are:

- Exam 1: Spectroscopy and Bonding
- Exam 2: Kinetics and Thermodynamics
• Exam 3: Research Group Specific

Exams 1 and 2 are each based on two papers, which will be given to the student a week ahead of the exam, and the student will be allowed one day to complete the exam. Any materials/resources that the student may wish to use are allowed for these two exams. Exams 1 and 2 are given at different times, not on the same day. Exam 3 is specific to the research group, so see your research advisor for complete details.

2.4.5 Organic Chemistry

The Organic Chemistry Faculty has established the following guidelines for minimum Ph.D. course work in the Division. Your Major Professor may specify more detailed requirements for you:

• CHEM-640 (Advanced Survey of Organic Chemistry) or previous equivalent third semester courses in advanced organic chemistry

• Recommended courses for preparation for the Advanced Qualifying Examination and Preliminary Comprehensive Examination should be selected from:
  o CHEM-740 (Advanced Organic Chemistry-Methods In Synthetic Chemistry).
  o CHEM-741 (Special Topics, such as Medicinal Chemistry, Organometallic Chemistry, Nanomaterials, Biomolecular Recognition, etc.)
  o CHEM-748 (Physical Organic Chemistry).
  o CHEM-647 (Physical Methods of Organic Chemistry)
  o Other more “topical” courses

A minimum of three courses in the major area (nine graduate credits) are required, which include CHEM-640 (required) and two from the above list of courses. For your minor: three courses outside of Organic Chemistry, including at least two in one area.
Students are qualified to take the Advanced Qualifying Examination (AQE) only if he/she is determined to be in “good academic standing” in the Department. Each year, there are three AQEs generally given at the end of February, June, and October. The exam will be written by all 6 organic faculty members (1 hour each/100 points each). The research advisors will pick four faculty members’ exams. The students will have four hours to complete four exams. Students have three chances to take the AQE to obtain a passing score of 65%.

2.4.6 Physical Chemistry

All graduate students earning a Ph.D. in Physical Chemistry must take at least seven courses. Amongst the seven, the four required courses are:

- CHEM-765 (Statistical Thermodynamics), which has CHEM-661 (Intermediate Thermodynamics) as prerequisite,
- CHEM-767 (Basic Quantum Chemistry), and
- CHEM-662 (Chemical Kinetics and Reaction Dynamics).

Other courses, including the Surface Science sequence, will be agreed to by the student and his/her Major Professor.

No separate Advanced Qualifying Exam (AQE) is given in the Physical Chemistry Division; the AQE is considered achieved as soon as all four required courses have been passed with a grade of B or better.

2.5 Recommended Course of Study

2.5.1 First Year

First Semester. You are required to take a minimum of two courses (six credits) in the first semester. If you feel capable of doing so, you may register for three courses. These are to be
selected in consultation with the Graduate Advising Sub-Committee, which meets with you during Orientation. You will typically register for:

- Two courses (six credits),
- Graduate Seminar (CHEM-912; one credit, audit)

You will also be assigned teaching duties in the Undergraduate Program if you are supported on a TA (see Section 1.3, p. 9). If you enter the Department supported on a Research Assistantship (RA) you should then select the courses for your first semester in conjunction with the Major Professor who is sponsoring your RA. You must nevertheless meet with the Graduate Advising Sub-Committee to apprise them of your status. By the end of this semester, you must have earned a minimum grade point average (GPA) of 3.0 and have selected a Major Professor (see Section 1.7, p. 11 for details).

Second Semester. You are required to re-take entrance exams at the beginning of this semester in areas for which you received a score of < 50th percentile on the first attempt. You will take a minimum of two courses during this semester, which are selected in consultation with your Major Professor. Full-time (50%) TAs have to register for 6-12 credits, while RAs should register for 8-12 credits. Typically, you will register for the following courses this semester:

- Two courses (six credits),
- Graduate Seminar (one credit, audit, unless you are presenting a seminar this semester),
- Advanced Seminar (from CHEM-931 to CHEM-936; typically one credit), and
- Four credits for Research (from CHEM-990 to CHEM-996)

You will typically accumulate at least 17 credits by the end of this semester. You are expected to move your office from CHEM-164 into the Research Tower and formally embark on your research project during this semester. By the end of the semester, you must have maintained a
GPA of 3.0 to maintain “good academic standing”. During the course of the semester, you should discuss the completion of your course work with your Major Professor.

During your second semester, your Major Professor will assist you in selection of your Thesis Committee (five members total). The Committee members will serve as the examiners during your Final Thesis Defense. At least two members shall be from outside your Division and one may be from outside the Department. You will have to schedule a first annual Milestone Meeting with your Committee at the end of your second semester (but in any case before the beginning of the next semester) in which your academic, teaching, and (to a lesser extent) research progress will be discussed.

Summer. You are strongly encouraged to re-take entrance exams in areas for which you received a score of < 50th percentile on the previous attempts. You should continue your research during the summer. See Section 2.3.6, p. 21 for enrollment requirements.

2.5.2 Second Year

First Semester. You are required to re-take entrance exams at the beginning of this semester in areas for which you received a score of < 50th percentile on the previous attempts. You should also attempt to complete your course requirements in your third semester. This will normally entail taking

- Two courses (six credits), selected with the advice of your Major Professor,
- Graduate Seminar (for one credit, graded, during the semester you are presenting, otherwise for audit),
- Advanced Seminar (one credit), and
- Research (four credits)

By the end of this semester, you you must have achieved a minimum GPA of 3.0 in formal
courses and Graduate Seminar and should have accumulated at least 28 credits (or 29 if you have presented your Graduate Seminar), which makes you eligible to change from Non-doctoral to Doctoral TA pay scale status. You should make that request in writing to your Graduate Program Coordinator. Your research program should be well underway at this juncture.

You are eligible to take the Advanced Qualifying Examination in your major area as long as you have satisfied residency requirements (Section 2.3.3, p. 20). This exam must, in any case, be passed by the end of the fourth semester to continue in the Ph.D. program and remain in “good academic standing”. The format of this examination is established by the Faculty in each Division — the requirements vary by Division (see Section 2.4, p. 22). Passing of the Advanced Qualifying Examination is required for admission to Ph.D. candidacy. Successfully passing this examination means that you are formally recognized by the Graduate School as a doctoral candidate. Several forms must be completed and signed by your Division before and after the completion of your Advanced Qualifying Examination; please contact the Graduate Program Coordinator for submission requirements.

Second Semester. You are expected to have passed the required number of entrance exams by the beginning of this semester to remain in “good academic standing”. If this is not the case, you are required to re-take entrance exams at the beginning of this semester in areas for which you received a score of < 50th percentile on the previous attempts (remember that the entrance exam requirement needs to be completed before you can advance to Dissertator status).

The second attempt at the Advanced Qualifying Examination (if necessary) must be made by the end of this semester. Students who fail to pass the exam on the second attempt (or third attempt, depending on the Division) will be admitted to the M.S. program to complete a terminal master’s degree and should plan a curriculum which will allow for timely completion of the M.S. degree (see Section 3, p. 40). Students in this situation must re-apply to the Graduate School for re-admission as a Master’s Student.
Any other outstanding courses should be completed during this semester (maintaining an overall GPA of 3.0). Typically you will register for

- Graduate Seminar (for one credit, graded, during the semester you are presenting, otherwise for audit),
- Advanced Seminar (one credit), and
- Research (nine credits)

Your research project should be well underway at this point, and you will need to schedule your second annual Milestone Meeting with your Committee in which your academic, teaching, and research progress will be discussed.

### 2.5.3 Third Year

**First Semester.** Having passed the AQE, you will now be formally recognized as a Doctoral Candidate and register for:

- Graduate Seminar (one credit, audit)
- Advanced Seminar (one credit), and
- Research (nine credits)

You will have accumulated approximately 49 credits (excluding any additional credits accumulated during the summer) by this stage.

**Second Semester.** You will continue to focus on your research and should register for

- Graduate Seminar (one credit, audit)
- Advanced Seminar (one credit), and
- Research (nine credits).
You should plan to take the *Preliminary Comprehensive Examination* during this semester; this requires that you to have completed all entrance exam requirements. The *Preliminary Comprehensive Examination* also constitutes the “Preliminary Examination” requirement as stipulated by the Graduate School, and will serve as your third annual Milestone Meeting with your Committee. You must formally apply to the Graduate School to take this examination by completing the electronic *Application for the doctoral Preliminary Examination*, located in the online *Doctoral Milestones System*. You may also request a reduced credit load of only one (1) credit during the semester in which you prepare for and take the *Preliminary Comprehensive Examination* (see Section 2.3.3, p. 20).

Before convening your Committee for this examination, you must have a well-defined problem and significant preliminary results. The *Preliminary Comprehensive Examination* focuses on work completed and on your plans for finishing your dissertation research over the course of the next 12-18 months. A short (~2 page) abstract of your presentation should be provided to the members of your Committee at least one week prior to the examination (consult with your Major Professor for format requirements). This exam can be repeated until the student performs satisfactorily, at the Committee’s discretion. However, this exam must be completed by the end of the third year to remain in “good academic standing”.

### 2.5.4 Completion of the Ph.D.

With the satisfaction of formal requirements you are expected to concentrate fully on completion of your research project and deliver updates on research progress to your Committee during the annual Milestones Meetings. Students who have completed the *Preliminary Comprehensive Examination* requirement are eligible to be placed on Dissertator status *after they have completed the credit and residence requirements* (see Section 2.3.3, p. 20). In Dissertator status, you must be registered for exactly three credits per term (including summer). This will normally consist of
Graduate Seminar (one credit, audit)

Advanced Seminar (one credit), and

Research (two credits)

The regulations for Dissertator status are documented on the Graduate School website as follows (Section “Milestones of Doctoral Study – 3. Dissertator Status”):

“You are eligible to become a dissertator when you have:

1. Completed all major and minor course requirements.
2. Passed the doctoral preliminary examination.
3. Submitted a dissertation topic summary or proposal hearing in the online Doctoral Milestones System.
4. Met residence requirements.
5. Cleared incomplete and "progress" grades/reports in non-research courses.
6. Achieved a 3.0 or higher cumulative GPA.
7. Completed the language requirement (if required).
8. Completed other departmental requirements (if any).

You must submit an Application for Doctoral Dissertator Status, located in the online Doctoral Milestones System, for this information to be verified and approved by the Graduate School and your graduate program unit. You must submit the online form before the semester begins.

Your dissertator status is confirmed with an e-mail from the Graduate School doctoral specialist to you and your department’s graduate representative.

Continuous Registration
Doctoral students with dissertator status must maintain continuous registration.

- A dissertator must register for 3 graduate-level dissertation or research credits (at the current per-credit dissertator rate) each semester until the dissertation is accepted by the Graduate School. During any summers in which you use University facilities or faculty time, are a fellow or research assistant, or plan to graduate, you must register for 3 graduate-level credits (dissertator rate) in the regular eight-week summer session. Three is the minimum (and the maximum) number of graduate credits required per semester.

- The Graduate School will monitor your registration every semester to be sure that you are registered properly. The Graduate School has the authority to remove you from dissertator status if you are not in compliance with dissertator regulations. The Graduate School will notify you and your program unit of dissertator status requirements and of any registration problems. If you do not maintain continuous registration, you will be placed in a default status.

- Default status: If you break the continuous registration requirement after attaining dissertator status, you will be assessed a completion (dissertator default) fee of 12 credits. After re-entry, the 12-credit completion fee is reduced by 3 credits per semester for each consecutive semester of enrollment. If you return for at least 4 consecutive semesters following a break in registration, the completion fee is not assessed.”

2.5.5 Final Year(s)

The student delivers a “Thesis Seminar” to the entire Department near the time of completion.
of the thesis, preferably in the regular Graduate Seminar time slot. This presentation may be combined with the Pre-Thesis Review (vide infra), which should occur approximately six months before the Final Thesis Defense, or the seminar may be combined with the Final Thesis Defense. In some instances, a Laboratory for Surface Studies seminar (or other presentation) may serve as the thesis seminar if it is clearly announced as such, is presented in a form appropriate to the entire Department, and is given at the time of the Pre-Thesis Review or the Final Thesis Defense.

Prior to the completion of your dissertation, you should assemble your Thesis Committee for a Preliminary Thesis Review. This must be done no later than one month before the Final Defense – six months before the Final Defense is strongly recommended to allow you sufficient time to make changes as directed by your Committee. The Preliminary Thesis Review is intended to be a review of the major points that will be included in your thesis. It is intended to avoid major re-writing at the stage of the Final Thesis Defense and is essentially there for your benefit. The abstract should be succinct and include proposed chapter headings. It should not be a lengthy manuscript that describes your entire research project, but rather an outline of what you have accomplished and the final experiments you are planning to complete your research. The Preliminary Thesis Review is neither an examination nor a “dress rehearsal” of your Final Thesis Defense. Its function is to assist you in focusing your ideas for completion of your dissertation and to allow your Committee to approve (a) the overall structure of your dissertation, and (b) the remaining laboratory work that must be completed prior to the Final Thesis Defense.

Last Semester. You should plan to spend most of this semester writing your dissertation. Be aware that the time and effort involved in this task is always underestimated, so plan accordingly! You are required to provide copies of your dissertation to the members of your Committee at least two weeks (14 days) prior to your Final Thesis Defense. The format of your dissertation must comply with Graduate School guidelines, which are published on the
Every spring and fall semester, the Graduate School holds a workshop to help acquaint graduates-to-be with rules on formatting and submitting theses and dissertations and requirements for graduation. For more information on these workshops, check the Graduate School website.

### 2.6 Steps for Completion of the Ph.D. Degree

**Note:** You are advised to consult the Graduate School website (Section “Milestones of Doctoral Study – 6. Dissertation Defense & Graduation”) as specific procedures may change.

i. No later than the second week of the semester during which you plan to graduate, you should complete and submit the online form entitled Application for Doctoral Graduation. This form will initiate a review of your records by the Graduate School, following which the Department will be asked to list the members of your Committee and proposed date for the Final Thesis Defense. In order to graduate in the semester you applied for, the dissertation defense must be held at least two weeks before the graduation ceremony date. The Spring and Fall semesters are the best for scheduling defenses; scheduling during the summer may be very difficult.

ii. You must also pay a non-refundable $40 graduation processing fee, which will be billed by the Bursar’s office during the semester. (This need only be paid once, in the event that you do not graduate during the intended semester.)

iii. Thesis Seminar: You are required to present a public seminar (i.e., advertised to the Department) describing your thesis research. Note that the seminar may also be given as the ”presentation“ portion of the Pre-Thesis Review (see Section 2.3, p. 18).

iv. When you have the dissertation assembled in rough draft, you are strongly encouraged to take a copy to the Graduate School for approval of the format (the doctoral student specialist is Pat Hayes, hayes@uwm.edu). If you wait until your final draft to do
this, you may find that you have to make significant revisions!

v. The Final Thesis Defense may not be undertaken until all other requirements have been satisfied. The warrant required for the final examination is sent to the Department by the Graduate School in response to a form returned by the Department, listing the Committee’s members.

vi. Present a copy of the completed thesis to the members of your Committee at least two weeks before the date of the Final Defense. Your Committee will tell you the proper format to use, e.g., spiral binding.

vii. After the examination, you should make all corrections recommended by the Committee. A signed copy printed on quality bond paper will be sent to the Graduate School, which, in turn, deposits it in the Golda Meir Library at UWM. An unbound copy is sent to the Department, and an additional copy will be hardbound for your Major Professor. You may wish to have additional copies bound for yourself at the same time.

viii. The completed dissertation (signed by your advisor on the Official Title Page, on the Abstract, and on the Vita Sheet) must be submitted to the Graduate School by the posted submission deadline. Dissertations received later than this will be accepted for graduation at the end of the subsequent semester, and will require a new application for graduation.

ix. At the time you submit your thesis electronically to the Graduate School through the ProQuest ETD Administrator, you will also submit the forms Survey of Earned Doctorates and Thesis & Dissertation Approval and Publishing Options Form (with an original signature from you and your major professor).

After you have successfully completed your Final Defense and before leaving the Department, obtain a graduate student “Clearance” form (see
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Appendix B

x. Appendix, p. 46) from the Graduate Program Coordinator to indicate that you have cleared your laboratory, given the requisite number of copies of your thesis to the Department, returned your keys, and left a forwarding address. Failure to accomplish these actions will result in a “hold” on graduation and a “hold” on records for transcript purposes.
3 THE M.S. PROGRAM

The following is a typical outline for the M.S. program.

3.1 Program Requirements

3.1.1 Summary

A M.S. student will fulfill the following general requirements, which in many cases are the same as for Ph.D. students and are described in more detail in the sections indicated below:

- Coursework (at least five graduate courses); see Section 3.2, p. 41
- Graduate Seminar; see Section 2.3, p. 18
- Advanced Seminar (e.g., group meeting); see Section 2.3.1, p. 19
- Annual Milestone Meetings; see Section 2.3.2, p. 19
- Completion of research
- M.S. Final Oral Examination or Capstone Experience; see Section 3.2, p. 41

3.1.2 Repeating Courses

The rules are the same as for Ph.D. students (see Section 2.3.4, p. 20).

3.1.3 Time Limit (Graduate School Requirement)

A candidate for a Master’s degree must complete all requirements for the degree within five years from the date of his/her enrollment as a graduate student at UWM (see Section 2.3.5, p.
Note carefully that the Department expects you to complete the M.S. requirements in a much shorter period of time, namely three years. In special circumstances, the Graduate School may approve a petition for a longer time, if supported by your Major Professor.

3.1.4 Entering the Ph.D. Program after Completing an M.S.

A student who has received an M.S. degree in Chemistry from UWM may be admitted to the Ph.D. program providing the Entrance Examination requirement has been completed (see Section 1.1, p. 8). If you were originally admitted to the M.S. program, you must formally go through the procedure of re-applying to the Ph.D. program and seek permission for admission from the Admissions Sub-Committee, even though you remain at UWM the entire time (whether you are awarded the M.S. degree or not — this is a Graduate School regulation). It is not necessary to pay a second application fee.

3.2 Recommended Course of Study

M.S. students have the same course requirements as Ph.D. students (see Section 2.4, p. 22), with the exception that only two (instead of three) courses in the minor area have to be chosen; research credits should be substituted for the third course. M.S. students must obtain at least 30 graduate credits before becoming eligible for graduation.

3.2.1 First Year

First Semester. Same as Ph.D. program of study (see Section 2.5.1, p. 27).

Second Semester. Same as Ph.D. program of study (see Section 2.5.1, p. 27).

3.2.2 Second Year

First Semester. You should complete your course work in this semester. This will ordinarily
be (at least) one course. You must have a minimum GPA of 3.0 at the end of this semester to maintain “good academic standing”.

3.3 Steps for Completion of the M.S. Degree

Note: You are advised to consult the Graduate School website as specific procedures may change.

Thesis Option. Under this option, a written thesis is required of the Master’s degree candidate. The thesis is essentially a formal report of the research performed. The format of your dissertation must comply with Graduate School guidelines, which are published on the Graduate School website. Every spring and fall semester, the Graduate School holds a workshop to help acquaint graduates-to-be with rules on formatting and submitting theses and dissertations and requirements for graduation. For more information on these workshops, check the Graduate School website.

The candidate must defend the thesis in a final MS Final Oral Examination administered by a Faculty committee. At the direction of the Committee, the MS Final Oral Examination may include topics in addition to the thesis.

i. Early in the semester during which you expect to finish, complete the form entitled Master’s Graduation Application and submit it electronically. Submission of this application initiates a review of your files by the Graduate School. If this review indicates the degree requirements are met (or will be met) during the semester in progress, the form will then be forwarded to the Department. You will be notified of any ”incomplete“ requirements that must be removed, or any other irregularities. If you do not finish during the term you had planned, it will be necessary to fill out this application again.

ii. You must also pay a non-refundable $40 graduation processing fee, which will be
billed by the Bursar's office during the semester. (This need only be paid once, in the event that you do not graduate during the intended semester.)

iii. After consultation with your advisor, ask two other Faculty members to serve on your Committee. Normally, one member of your Committee should be from outside of your major area.

iv. For the thesis defense, obtain a form entitled MS Final Oral Examination from the Graduate Program Coordinator. This will be signed by members of your Committee after the examination (if successful), and should then be taken to the Chairman of the Graduate Sub-Committee.

v. When you have the dissertation assembled in rough draft, you are strongly encouraged to take a copy to the Graduate School for approval of the format (for more information call 229-6569). If you wait until your final draft to do this, you may find that you have to make significant revisions!

vi. The MS Final Oral Examination may not be undertaken until all other requirements have been satisfied. The warrant required for the final examination is sent to the Department by the Graduate School in response to a form returned by the Department, listing the Committee's members.

vii. At least two weeks before your examination, you must present a complete copy of the thesis to your Major Professor for approval. At this time your Major Professor should confirm that it meets the requirements of the Graduate School. Each member of your Committee should have a copy of thesis at least one week before the examination. In general, you should have a minimum of four copies of the thesis at the time of the exam: one for yourself and one for each of the Committee members.

viii. After the examination, you should make all corrections recommended by the Committee. A signed copy printed on quality bond paper will be sent to the Graduate School, which, in turn, deposits it in the Golda Meir Library at UWM. An unbound copy is sent to the Department, and an additional copy will be hardbound for your
Major Professor. You may wish to have additional copies bound for yourself at the same time.

ix. The completed thesis (signed by your advisor on the Official Title Page, on the Abstract, and on the Vita Sheet) must be submitted to the Graduate School by the posted submission deadline. Theses received later than this will be accepted for graduation at the end of the subsequent semester, and will require a new application for graduation.

x. At the time you submit your thesis electronically to the Graduate School through the ProQuest ETD Administrator, you will also submit the Thesis & Dissertation Approval and Publishing Options Form (with an original signature from you and your major professor).

After you have successfully completed your Final Defense and before leaving the Department, obtain a graduate student “Clearance” form (see Appendix B, p. 46) from the Graduate Program Coordinator to indicate that you have cleared your laboratory, given the requisite number of copies of your thesis to the Department, returned your keys, and left a forwarding address. Failure to accomplish these actions will result in a “hold” on graduation and a “hold” on records for transcript purposes.

“Capstone Experience” Option. The requirements under this option are identical to those of the Thesis Option with the single exception that the thesis requirement is replaced by a more general "Capstone Experience" requirement. Each student will be required to have a Major Professor as an advisor. The sub-discipline with which the Major Professor is affiliated (e.g. analytical, biochemical, chemical education, inorganic, organic or physical) will establish "capstone experiences" required for graduation from that sub-discipline. Within that sub-discipline, the student, in conjunction with the advisor, will select an appropriate capstone experience on a case-by-case basis.

The list of capstone experiences is:
• Write and defend a thesis with a committee membership of three faculty, one being the thesis advisor;
• Three years of prior industrial laboratory experience and two survey papers written by people currently working in industry, with approval of three faculty members including the thesis advisor;
• A written report on research in Chemical Education, with approval of three faculty members, including the thesis advisor.
4 APPENDICES

4.1 Appendix A

The following checklist is a general guide for your graduate career as a Ph.D. or M.S. student in the Department of Chemistry & Biochemistry at UWM. Unless otherwise indicated, the requirements apply to both degree programs. It is your responsibility to complete these requirements in a timely manner through regular consultation with your adviser.

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<td>☐ Course 6 (PhD only): ____________</td>
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<td>☐ Group Meeting (931-936)</td>
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<tr>
<td>☐ Research (990-996)</td>
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<tr>
<td>☐ Complete Entrance Exams (PhD only)</td>
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<td>☐ Research (990-996)</td>
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<tr>
<td>☐ Annual Milestone Meeting</td>
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<td>☐ Advanced Qualifying Exams (PhD only)</td>
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<th>6th Semester (= MS Final Semester)</th>
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<td>☐ 912-Seminar (Audit)</td>
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<td>☐ Research (990-996)</td>
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<td>☐ Preliminary Comprehensive Exam (PhD only)</td>
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<td>☐ MS Final Oral Examination (MS only)</td>
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<td>☐ Annual Milestone Meeting (if no exam)</td>
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<th>&gt;7th Semester</th>
<th>10th Semester (= PhD Final Semester)</th>
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<td>☐ Thesis Pre-Defense (PhD only) before Final Semester</td>
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<tr>
<td>☐ Dissertation Defense (PhD only)</td>
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4.2 Appendix B

DATE: __________________

FROM: __________________________________________

RE: Chemistry Graduate Student Clearance Form

Prior to graduation each graduate student must clear several areas in the Chemistry and Biochemistry to ensure that important administrative functions are accomplished before the student departs. These areas are: (1) thesis copy for the department; (2) lab checkout by the major professor; (3) key return to the department; and (4) forwarding address to the department. When each function has been accomplished, the responsible person will sign and date this form to verify that it has been done. The completed form will be given to the Department Graduate Coordinator for placement in the student’s file.

FAILURE TO ACCOMPLISH THESE ACTIONS WILL RESULT IN A HOLD ON THE GRADUATION AND A HOLD ON THE RECORDS FOR TRANSCRIPT PURPOSES!

1. Lab Clearance: _____________________________  __________
   (Major Professor Signature)  (Date)

2. Thesis Copy: _____________________________  __________
   (Department Administrator Signature)  (Date)

3. Key Return: _____________________________  __________
   (Dept Admin. Or Purchasing Coordinator)  (Date)

4. Forwarding _____________________________  __________
   (Graduate Coordinator)  (Date)

Forwarding Address: Company Address:
______________________________  __________________________
______________________________  __________________________
______________________________  __________________________
Tel: _________________________  Tel: _________________________

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