

WAYNE STATE UNIVERSITY

DEPARTMENT OF CHEMISTRY

GRADUATE PROGRAM REQUIREMENTS

FOR

DOCTORAL DEGREES

Approved by the Graduate Studies Committee and Department Faculty

Revised August 2012

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Ph.D. Degree Requirements

The requirements for a Wayne State Chemistry Ph.D. degree are listed below.

[Requirement keys: D = Department rule, GS = Graduate School requirement.

Failure to complete the requirement leads to delay (d) in progress or termination (T) from the program or loss of graduate assistantship (GA)]

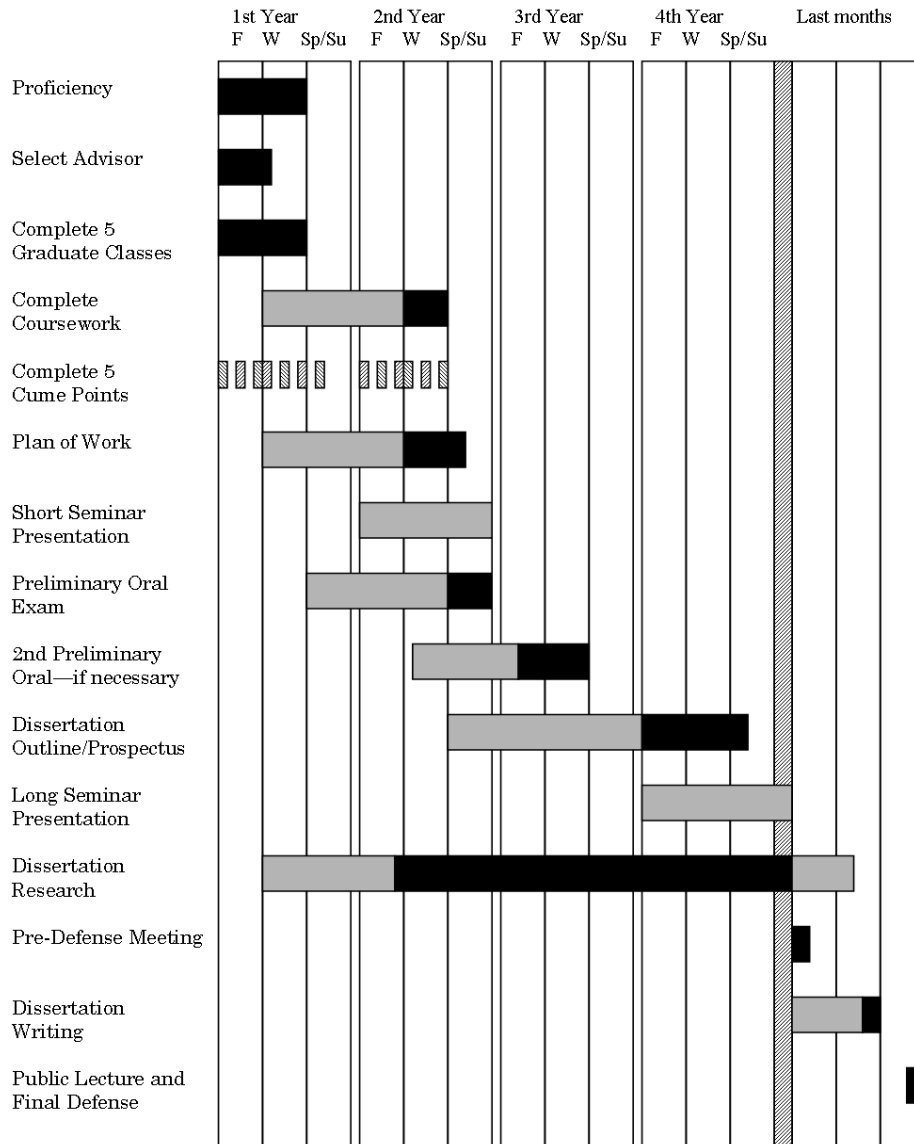
- 1) Satisfy the proficiency requirement (*i.e.*, demonstrate adequate undergraduate/graduate knowledge in three areas) by the end of the first academic year of full-time study. (D, T)
- 2) Complete five graduate classes during the first academic year with satisfactory HPA (D, GA, T)
- 3) File a Plan of Work indicating how the 90-credit (including 18-21 credits of coursework, 4 credits of seminar, CHM 6740, CHM 8850, 30 credits of CHM 9991 9992 9993 and 9994, and 33-36 credits of other work) requirement will be completed. (GS, D, GA)
- 4) Complete two semesters of participation in CHM 7740 – Responsible Conduct of Research during the first and second years of study.
- 5) Written and Oral Qualifying Examinations
 - a) Complete written (cumulative) examination requirement by obtaining 5 points in no more than 13 attempts; includes 3 points in *major*, 3 full-point passes. (D, GS, T)
 - b) Academic Services Officer will appoint the Doctoral Committee.
 - c) Pass preliminary oral examination before beginning of third academic year. (D, GS, GA, T).
- 6) Seminar Requirement
Successfully present two seminars. The first is typically presented during 2nd year. The second is typically presented in year 3 or 4, but in any case prior to Pre-Defense Meeting. (D, T).
- 7) Advance to Candidacy
 - a) Prior to registering for Doctoral Dissertation (CHM 9991) credits: Complete Recommendation for Doctor of Philosophy Candidacy Status form and obtain approval of all four Dissertation Committee members. (D, GS, d)
 - b) Prior to registering for CHM 9992: Draft a 15-20 page prospectus describing the thesis, complete a Dissertation Outline form, and obtain Dissertation Committee approval of both. (D, GS)
- 8) Provide pre-defense documentation and present an oral presentation of thesis research to gain Dissertation Committee approval to begin writing dissertation ("Pre-Defense Meeting"). (D,d)
- 9) Complete the dissertation and obtain approvals of the Dissertation Committee and Graduate School. (GS, d)
- 10) Present Public lecture on dissertation work and pass a Final Oral Examination administered by the Dissertation Committee. (GS, d)

Departmental rules have been established by the Chemistry Graduate Studies Committee and approved by the Chemistry Faculty. Graduate Studies Committee monitors student compliance with program requirements. Modifications of or exception to departmental rules are allowed only with permission of the Graduate Studies Committee.

Note: A full-time student is one who is enrolled for eight or more credits during the Fall and Winter semesters.

Ph.D. Degree Requirements

Timetable Overview



Ph.D. Requirements Detailed

Since a Ph.D. degree requires several years of full-time work and the demonstration of several skills and accomplishments, a student's graduate career is most easily described in two stages: 1) preliminary requirements - a variety of early requirements leading to candidacy; and 2) final requirements - the culmination of the research, writing the dissertation, presentation of a public lecture, and passing the final oral examination.

Upon admission to the Ph.D. program a student is assigned the status of Ph.D. applicant. It is in this status that a student takes their class work, attempts the cumulative examinations, submits the plan of work, takes the preliminary (qualifying) oral examination, and prepares for the dissertation research project.

The status of Ph.D. candidate is conferred on students who, through the passing of written and oral preliminary examinations and the writing of a research prospectus and a dissertation outline, have demonstrated a broad knowledge of chemistry, an in-depth knowledge of the field of specialization, and a coherent plan for the research project.

All forms mentioned are available from the Graduate Academic Services Officer, and most are available online at the graduate school website gradschool.wayne.edu. Questions regarding policy and procedures should be addressed to Chemistry Graduate Academic Services Officer. All completed forms must be returned directly to this office.

Academic Integrity

All forms of academic misbehavior are prohibited at Wayne State University, and violation of the principles of academic integrity may lead directly to expulsion from the Ph.D. program regardless of the progress the student may have otherwise made. Examples of these include cheating on course exams or cumulative exams, falsification of research data, or plagiarism. Any questions about these matters should be discussed with a faculty member or the Graduate Studies Chair.

Proficiency Requirement

All graduate students are required to demonstrate proficiency in at least three of the five areas (analytical, biological, inorganic, organic, and physical) of chemistry, including the *major* area, **before the end of the first year of full-time study**. (Part-time students must satisfy this requirement by the time they acquire 12 credits.) Proficiency can be demonstrated by 1) passing a written exam in the specific field (offered in August, January, and May), or 2) by taking and passing, with a grade of B or higher in a 7000-level course in the area. **A grade of B- can be used only with permission of the Graduate Studies Committee.**

Exams are given prior to the start of each term at times announced by the Graduate Studies Committee. Entering students who fail to pass any proficiency exam are required to take seven courses (21 credits) rather than the usual 18 credits. They must also demonstrate proficiency in four areas of chemistry, rather than three. Petitions for a one-term extension of the proficiency deadline (or for any variation from the above rules or procedures) must be made in writing to the Chair of the Chemistry Graduate Studies Committee. Extensions are rarely granted.

Students are urged to take all of the proficiency exams for which they have a basic preparation. Exams, which take approximately two hours each, are designed to cover basic undergraduate topics and are frequently of the ACS type. The exam results are posted outside the office of the Graduate Academic Services Officer as soon as they are available.

Students who do not complete the proficiency requirement by exam must register for the courses needed to complete the requirement at the earliest opportunity. 7000-Level courses are offered by each division during the fall term and by several, but not necessarily all, divisions during the winter term. However, graduate course offerings are subject to changes as faculty availability and student enrollment vary. Also, the 7000-level courses offered during the winter term may be a continuation of a fall term course or may assume, at least, that one has mastered the material taught in a fall-term course.

There have been cases where students chose to delay their attempt to satisfy proficiency only to find that a less than satisfactory grade, a schedule conflict, or a course cancellation actually precluded their completion of the requirement or, at least, forced them to attempt to gain proficiency in an area or by a course for which they had little or no preparation or interest.

All chemistry graduate courses (with a B or better grade) may be used to satisfy degree requirements for the Ph.D. or the core requirements in the M.S. or M.A. degree programs. Thus, using coursework to satisfy proficiency does not, necessarily, impede a student's progress toward their chosen degree. If proficiency coursework has any disadvantage, however, it is that 1) it restricts a student's course selection, and 2) s/he has less control of the time when a particular course will be taken. Taking proficiency courses can, depending upon the schedule, diminish the number of major courses a student can take during any given term.

Graduate Course Listing

Graduate courses offered regularly and/or occasionally, listed by division and term are as follow:

Division	Fall Term	Winter Term	Irregular Offering
Analytical	<u>7100</u> or 7180	none	7120, 7160, 7142*
Biological	<u>7600</u> or <u>7620</u>	<u>7640</u> , 7635 ⁺	<u>7660</u>
Inorganic	<u>7010</u> ,		7020* ⁺ , 8090 ⁺
Organic	7200	7220 ⁺ , <u>7240</u>	8290
Physical	<u>7430</u> , 7470	7410 ^{+#} , 7480 ^{+#}	<u>7440</u>

* course offered every other year

⁺courses which have a formal prerequisite or rely heavily on the material taught in an earlier course

[#]courses alternate

Underlined courses are recommended choices for satisfying proficiency requirements.

Selecting an Advisor

The selection of the research advisor is one of the important choices facing new students. The department wants to ensure that before the student selects an advisor s/he gathers sufficient information about the faculty members' interests, resources, and current student roster to make an informed choice. The department would like every student to be associated with a research group of his/her choice as soon as possible, but definitely before the end of the student's first term except under special circumstances. In an attempt to achieve a fair distribution of students among the faculty and to accommodate the interests of the students, the department has adopted the following procedure for matching student and faculty interests in the advisor selection process.

First-year students must participate in the advisor selection process which is the only allowed procedure for matching students with advisors.

- 1) Each first year student should obtain an ADVISOR SELECTION FORM from the chair's office. This form is usually given to students during the orientation program.
- 2) Each student should arrange to meet with faculty whose research interests him/her. Many divisions require that students meet with all faculty within the division.
- 3) After the meeting in which research projects, etc. are discussed, the student should have the faculty member sign the Advisor Selection Form
- 4) When the student has completed his/her meetings s/he should complete the form by listing the faculty with whom s/he would like to work in order of preference, and return the form to the Chair's Office by the appointed date. If the department chair feels that a student has a) overlooked a faculty member in his/her chosen research field, b) has not listed at least two choices, or c) has not interviewed a sufficient number of faculty, s/he can require the student to interview one or more additional faculty.
- 5) The department chair will survey the forms and notify each faculty member of those students who have listed him/her as one of their choices.
- 6) From the list described in #5 above, the faculty member will submit a ranked list of the students who s/he would like to have join his/her research group.
- 7) The departmental chair will, based on both student and faculty preference lists and other factors (such as the faculty member's current, desired and optimum group size, his/her grant funding, the status of students currently in the group, similar factors for the student's second choice, etc.), assign each student to one of his/her preferred faculty.

In the past, almost all students have been assigned to their first choice, those assigned to their second choice had listed as their first choice a faculty member whose group was full and whose laboratory could not accommodate all the students who had selected him/her.

- 8) The department chair will notifies the students and faculty members of group assignments by email before the Thanksgiving break. All questions, concerns, and/or complaints should be directed to the department chair.

Students arriving on campus for the summer prior to the start of their first year of graduate school must go through the same laboratory selection process as everyone else. Prior to joining a laboratory for the summer, they must sign the "Summer Research Agreement for Pre-First Year Students" together with their summer advisor. While we recognize that many students may wish to remain in the lab in which they spent that initial summer, they are not officially members of any group until after the laboratory match process described above has occurred.

Student Evaluations

The Graduate School mandates that all graduate students receive regular evaluations regarding their progress toward degree no less than once per year. The Chemistry Department has their own procedures which satisfy this requirement.

First Year

Student academic progress is reviewed by the Graduate Studies Committee after every term. This evaluation takes into consideration course completion, G.P.A., proficiency requirements, cumulative exam attempts, and acceptance to a research laboratory.

After two semesters, The Chemistry Graduate Studies Committee judges a student to be in good academic standing if s/he

- 1) has satisfactorily completed five graduate level courses with a grade of B or better with a GPA of 3.0 or above,

- 2) has completed the proficiency requirement,
- 3) has accumulated at least one point on the cumulative examinations, and
- 4) has joined a research group.

Failure to meet these criteria will result in the student being placed on a probationary status.

This may cause an academic hold to be placed on their record and will affect their financial status. Students who fail to maintain good academic standing can be terminated from the Ph.D. program.

Continuing Students

Each summer every doctoral student will meet with their research advisor to conduct a formal progress review. During this discussion, the student and advisor will talk about overall progress toward degree, student development over the prior year, and set research, performance, and development goals for the next year. This process should be a two-way discussion resulting in the completion of the Annual Review Form. This form must be signed by the student, the advisor, and the Director of Graduate Studies. This form is collected by the Graduate School annually and used during evaluation for competitive fellowships.

Advancing to Candidate Status

Ph.D. Course Requirement and the Plan of Work

For each graduate degree there are specific and general course requirements. Some requirements specify only a particular number of credit hours, others specify credit hours plus the area in which the courses must be taken; a few requirements are for specific courses which are listed by course number, e.g., CHM 6740, CHM 8850.

The classroom work required of Ph.D. students will be completed during the first or second years of study. The intent of the coursework requirement is to ensure that as students enter the research-intensive portion of their work they have an adequate background in the fundamentals of chemistry as well as a grasp of the state-of-the-art knowledge in their chosen specialty. The Ph.D. coursework requirement clearly promotes both goals by forcing an intensive study of one subject (the *major* field) and a breadth requirement by taking courses outside this major.

Each student must complete at least 90 graduate credits* distributed as follows:

- a) 18 credits, or more, in coursework**. A student who does not pass any proficiency examination upon entrance to our graduate program will be required to pass an additional graduate course, for a total of seven courses. (21 credits);
- b) 4-6 credits of divisional seminar - CHM 8800, 8810, 8820, 8830, or 8840;
- c) 1 credit of Laboratory Safety - CHM 6740;
- d) 1-6 credits of Frontiers in Chemistry - CHM 8850;
- e) 30 credits of Dissertation Research and Direction - CHM 9991, 9992, 9993, 9994;
- f) at least 90-(a+b+c+d+e) additional graduate credits - usually CHM 8700, and 1 credit of Responsible Conduct of Research - CHM 7740.

* may include up to 30 credits transferred from other institutions (see Transfer Credit section below)

** Coursework refers to regularly scheduled classes of lecture, laboratory, or directed study which have a final examination or project and are completed in one term. Entering students who fail to pass any proficiency examination are required to take 21 course credits.

The student notifies the Department and the Graduate School of the sequence of courses that s/he wishes to use to satisfy the course requirement by filing a PLAN OF WORK. It is normally filed during the student's second year of studies; it may be filed earlier, but it must be filed prior to the Preliminary Oral Examination. Appendix B lists the courses and credits that should be listed on the Plan of Work.

The Plan of Work is a document prepared by the student in consultation with their research advisor. This form must be approved and signed by both the advisor and the Chemistry Graduate Officer. The Plan of Work is a listing of the credits already taken as well as those that the student will take in the future to complete the degree requirement.

The Plan of Work has five columns. Department and number, semester, and course titles are the first three columns. Courses that already have been taken are listed as they appear on the student's transcript. Courses yet to be taken follow. Credits to be taken over several terms (*i.e.*, CHM 8700, and seminars) should be listed only once with the semester column left blank. The Doctoral Candidate Status courses (CHM 9991, 9992, 9993, and 9994) should be listed separately for 7.5 credits apiece. The credit hours (and grade if known) for each course are listed in the Major, Minor, or Other column depending upon the appropriate designation.

Major

Normally, a student will take four courses (12 credits) in a single subject area in what may be loosely defined as a *major* field of study. In a few fields (divisions) a student easily can accumulate the necessary credits from courses in one specific field within one or two academic years. In some fields there may not be a sufficient number of courses offered in the student's intended *major* during a reasonable time period or the student's research project may make courses in other divisions/departments appropriate. In such cases, the Department recommends that the student complete the course requirement with relevant courses from other divisions or other science departments. Courses from divisions outside the Department of Chemistry must be at the 5000 level or above.

The credit hours and grades, if available, are to be listed in the Major column on the Plan of Work on the same line(s) as the Major Course Number(s) and Title(s).

Minor

During Winter 2011, the graduate school voted to make minors optional for Ph.D. students. In Fall 2011, the department followed suit, removing the requirement that a minor be completed. The completion of a minor, and the listing of a minor on the plan of work, is optional. The information described below only applies to students who *elect* to declare a minor on their plan of work.

The Department and the Graduate School allow for a *minor* field of study. The minor may be satisfied in one of three ways, each of which requires the completion of six graduate credits (normally, two courses) in the *minor* area.

Chemistry (Distributed) Minor (the most common option) - Completion of six credits (usually two courses) taken in two fields (divisions) of chemistry or three credits in chemistry and three credits in some other related field. The chemistry credits must be at the 7000 level while the outside credits must be at the 5000 level or above.

Completion of a distributed minor will result in a member of a division represented in the student's minor courses being selected for the committee which administers the student's preliminary oral examination.

The credit hours and grades, if available, of the student's *minor* courses should be listed in the Minor column of the Plan of Work on the same line(s) as the Minor Course Number(s) and Title(s).

Chemistry (Concentrated) Minor - Completion of six chemistry credits (usually two courses) at the 7000 or 8000 level in a single division outside the major division.

Selection of a *concentrated minor* in one of the chemistry divisions results in a member of that division being appointed to the committee which administers the student's preliminary oral examination.

Outside Minor - Six credits from a single department. The outside department is usually in a science (e.g., Biology, Computer Science, Genetics, Pharmacology, Physics, etc.) or a science-related area (e.g., Chemical Engineering, Civil Engineering, Electrical and Computer Engineering, Mathematics, etc.). The *minor* field must meet the approval of the advisor, the Chemistry Graduate Studies Committee, and the Graduate School. In most departments, the requirement can be satisfied by completing two courses at the 5000 level or above.

Completion of a *minor* in an outside department will result in a member from that department being appointed to the doctoral committee and participating in the student's preliminary oral examination, pre-oral examination, and final dissertation defense. The Graduate Studies Committee will ask for the student's and the advisor's recommendations in selecting the committee member.

Other

All credits which are not classroom courses and/or are not assignable as Major or Minor should be placed in the Other column. Thus, seminars (CHM 8800-8840), Frontiers in Chemistry (CHM 8850), Laboratory Safety (CHM 6740), Responsible Conduct of Research (CHM 7740), Research in Chemistry (CHM 8700), and Dissertation Research and Direction (CHM 9991, 9992, 9993, 9994) should have their credit hour totals listed in the Other column.

Repeat Courses

The department may allow a student to petition to repeat a graduate course in which a grade of B- or lower is received. No more than two graduate courses may be repeated. Permission to repeat a course must be obtained from the Chemistry Graduate Officer. (See Chemistry Academic Services Officer to secure permission.) The original grade for the course will remain on the student's transcript, but only the final grade received in retaking of the course will be used in computation of the student's grade point average. **Students will not receive tuition assistance for repeated courses.**

Transfer Credit

Up to nine graduate course credits earned at other accredited and recognized institutions can be transferred provided that a minimum grade of "B" (3.00) was earned in the course(s). Courses in which a grade of "B-" was earned are not acceptable for transfer, nor are courses in which grades of satisfactory-unsatisfactory, pass-fail, or pass-no pass were awarded.

Doctoral dissertation credits will not be transferred.

A student wishing to transfer graduate credit toward the Ph.D. degree must obtain a TRANSFER OF CREDIT FORM from the Graduate School web site and discuss their plans with the departmental Academic Services Officer. This form, along with a transcript from the former institution, is submitted at the time the Plan of Work is filed. You must fill out a separate form for every previous institution you wish to transfer credit from.

Wayne State University allows no more than 30 graduate credits earned elsewhere to be counted toward a Ph.D. degree. Actually, the university requires that 60 graduate credits toward the Ph.D. be earned at Wayne State. So, transferring more than 30 credits is unnecessary.

From the foregoing one can see that the Plan of Work serves more than one function. Indeed, it indicates to the Graduate School how the student will satisfy the Ph.D. course requirement. The Graduate School closely reviews the Plan of Work to ensure that the student's proposed courses will meet all degree requirements. When the Graduate School agrees that the Plan of Work (or a revision of the Plan) satisfies the requirements, the form will be signed by the Dean. Electronic copies are returned to the student and the department after approval. When the student applies for a degree, the Graduate School closely compares the student's transcript with the approved Plan of Work. **Any discrepancies between the two will require some action on the part of the student and will delay the completion of the degree.**

During the student's graduate career, changes to the Plan of Work may be proposed and an amendment may be submitted. Such changes must be approved by the thesis advisor, and the Chemistry Graduate Officer.

Finishing the Plan of Work is a necessary but not sufficient condition for completion of the Ph.D. degree. Submitting an approved dissertation, presenting a public lecture on the dissertation, and passing the final oral examination are additional requirements. The amount of time needed to complete the research leading to the dissertation is difficult to estimate with any exactness. During that time students wish to receive support and fringe benefits. This means that preparing the Plan of Work should be undertaken with care and caution.

Preliminary Examinations

Preliminary Written (Cumulative) Examination

In chemistry the written preliminary examination consists of a series of cumulative exams. Seven examinations are given each year: one each in October, November, December, February, March, April, and June. The requirement is completed when the student obtains 5 points (3 of which must be in the student's major field and 3 points must be from one point passes) in 13 or fewer attempts.

The dates, times, and location of the examinations are announced during the first month of each academic year. Examinations from all of the five divisions (analytical, biological, inorganic, organic, and physical) are given during each scheduled examination period. After viewing any (or all) of the examinations, a student may select any one examination to complete within the specified period of time. Examinations are prepared, evaluated, and graded by the respective division faculty. The topic of an examination may be announced, and preliminary instructions or suggested readings may be posted by the division.

Grades of one, one-half, or zero points are awarded to individual students according to whether their performance on the examination is satisfactory, nearly-but-not-quite satisfactory, or unsatisfactory, respectively. Clearly, one point passes demonstrate a greater depth of knowledge than one or more half-point passes; therefore, **each student must obtain at least three one-point passes to complete the requirement.** In addition, since the student is expected to have an in-depth knowledge in the field of specialization (the *major*), 3 of the accumulated points must be in the *major* field.

Examination results are posted outside the office of the Graduate Academic Services Officer as soon as the division faculty report the grades. When a student nears completion of the cumulative examinations, s/he should file a Plan of Work and request that the department appoint an oral examination committee so that the next stage of the preliminary requirement can be undertaken.

At the end of the academic year, the Chemistry Graduate Studies Committee reviews the record of every first and second year graduate student. The committee may waive the remainder of the cumulative examination requirement for a student who has satisfied the proficiency requirement and has done very well both in cumulative examinations and in coursework. The committee may inform first-year students who have not accumulated at least one cumulative point that they are not making adequate progress toward the doctoral degree and may terminate the Ph.D. applicant status of a student who has done poorly in either cumulative examinations or in courses.

Cume Alternative Proposal

Under exceptional circumstances, students who fail to satisfy the cume requirements may, with the permission of the advisor and the Graduate Studies Committee, develop an original research proposal as an alternative means of meeting this requirement. The proposal requirements are summarized below:

1. It should be a full proposal in the NSF or NIH style including:

-Title page

- Abstract or Project Summary
- Proposal narrative
- References

A budget is not necessary. The NSF or NIH websites should be consulted as to format and length. Ideally the advisor should provide a model for guidance.

2. The proposal should be entirely the work of the student, with no editing or written contributions from the advisor.
3. The student will have 60 days to complete the proposal.
4. The proposal must not bear any direct relation to research in the group, especially to the student's thesis work. The topic should be presented to the graduate studies committee for approval before proceeding.
5. The proposal will be evaluated by the graduate studies committee, possibly with input from other faculty in the student's division.

Preliminary Oral Examination

Formation of the examination committee - The student's qualifying oral examination committee normally will consist of three faculty: the dissertation advisor (or advisors), one member of the *major* division, and one member from a division other than the major. If a student has elected to complete an "outside" minor, the committee will include a fourth faculty representative from that area.

Following submission of the Plan of Work, the student should see the Chemistry Academic Services Officer regarding the formation of the committee.

Arranging the Preliminary Oral Examination - The Graduate School rule states that the oral examination must follow within 60 days of completing the written examination. The department believes that this would force many students into an oral examination before they have had sufficient coursework. Thus, the department's rule is that the oral exam must take place before the student begins a third year of graduate work.

Normally, the student and the advisor make the arrangements for the oral exam. Each committee member is contacted to identify times when the oral can be held. Note: the oral examination could last for two or more hours, and the committee must be present in the oral examination room from start to finish; thus, the oral should be scheduled at a time when all participants have 2-3 hours available.

When a suitable and agreed-upon time has been set, the student contacts the Chemistry Academic Services Officer who will then prepare the REPORT ON ORAL EXAMINATION – DOCTOR OF PHILOSOPHY FORM. This form requires 1) the name of the student, 2) the proposed date of the oral, 3) and the names and access ID's of the committee members. The form will be given to the student who will take it with him/her to the oral examination.

After arrangements have been agreed upon, and prior to the examination, the student and/or the advisor should notify the members of the committee, in writing, of the arrangements. Reminders to often-forgetful faculty members are also advised, including a phone call on the day before, and/or the day of, the oral. Please note the reservation of a room in which to hold the oral exam is the responsibility of the student. Please contact Mary Wood if you wish to reserve a room within the Chemistry building, or Erin Bachert if you wish to reserve a room in any other building on campus.

On the day of the oral, the student and advisor should arrive several minutes ahead of the arranged time to ensure that the assigned room is not occupied, that the boards are clean, writing instruments (chalk or markers) are available, needed projectors and screens are in place, and sufficient chairs or desks are on hand. The oral is a closed session. No guests, except invited and/or interested faculty, may be present.

A member of the committee shall serve as the moderator and complete the evaluation form. The moderator is responsible for seeing that the paperwork is signed and returned to the Chemistry Academic Services Officer following the examination. Please note that the oral exam form must be signed by both the student and the Chemistry Graduate Officer signifying their knowledge of the result of the exam.

The specific requirements for an oral exam may vary from division to division. Students are strongly encouraged to consult with their advisor regarding the need to prepare a written document for their oral examination. Appendix A summarizes current divisional requirements. Some divisions in the chemistry department require their students to prepare a written document in preparation for their oral exam. This document is subject to division rules and is not standardized across the department. Please consult with your advisor well in advance of your exam to determine if you are expected to complete such a document. Typically, such documents are 10-15 pages in length and describe the background to your project as well as the experimental progress you have made during the first 2 years of your graduate studies. The document must be completed and submitted to your oral exam committee ~10 days in advance of your oral exam so that your committee members have time to read and evaluate it prior to the examination.

Examination formats differ from division to division. Some committees set the format at the beginning of the examination time, usually while the student is out of the room. In some cases the student will have prepared a formal presentation focusing on the thesis project. In other cases the student will be asked to informally summarize the project. In still others, little or no mention of the project will be made. In all cases, however, members of the committee must ask questions of the student; and each member must, based on the student's responses to his/her own questions and to those of others, determine if the student is adequately prepared to proceed to the next phase of graduate work. Each committee member may ask questions for a specified period of time or the committee members may ask single questions in turn. Questioning may proceed for an hour or more at which point the moderator may poll the committee to determine if additional questioning is needed or desired. If none is requested, the committee chair likely will excuse the student. During the student's absence the committee will discuss the student's performance, knowledge, and skills. The committee then will decide whether the student should pass or fail; or, if the exam should continue before a decision is made.

When the oral examination has ended, the committee must decide whether the student passes or fails, no other choice is allowed. (A student may be passed if there is not more than one negative vote.) If the committee decides to fail the student, the members will explain to the student the reasons for the decision. The student may be advised to review particular topics or to emphasize certain areas in his/her preparations for a second oral. At least one full academic term must pass before a second, and last, oral can be scheduled; and, the second examination must be held within one calendar year following the first examination. The student will be on academic probation for the period between the first and second attempts of the oral exam. The committee will be the same for the second exam as the first. The foregoing procedures pertain to the preparation for and conduct of the second oral. The outcome of the second oral is final.

A pass allows the student to continue toward completion of the candidacy requirements. A fail on the second exam automatically terminates the student status as a Ph.D. applicant.

The oral is the one time when the student needs to bring all his/her background and knowledge to the fore. The oral will more likely probe how well the student knows basic and essential matters rather than how much or how many things the student knows. The student should realize that the interactive nature of the oral examination allows continued questioning on one or more topics.

Seminar Requirement

Students are required to present two seminars over the course of their Ph.D. work. The content and requirements may vary between divisions. Students are strongly encouraged to discuss with their advisor the requirements and expectations for these seminar requirements. Appendix A summarizes current divisional requirements.

The first seminar is usually presented some time during the fall or winter term of a student's second year. Some divisions may have a literature review, whereas some may require a presentation on the

research topic. The second seminar is usually given during the third or fourth year of a student's research. However, this seminar may be delayed due to scheduling or a lack of progress in the laboratory. In any case, it should be presented before the Pre-Defense Meeting is scheduled.

Recommendation for Candidacy Status

Following successful completion of both the written and oral qualifying examinations, a student must file for Candidacy by filing a Recommendation for Doctoral of Philosophy Candidacy Status form. Students should retrieve the form from the Graduate School website, or contact the Graduate Academic Services Officer. This establishes the Dissertation Committee which is composed of four faculty members.

The critical step in this process (*i.e.*, the part which has caused the most confusion/problem) is in the formation of the four-person dissertation advisory committee. By the rules of the Graduate School, the committee which administers the preliminary oral examination is dismissed when its final pass/fail decision has been made and a new committee, the dissertation advisory committee is formed to oversee the latter portion of the student's Ph.D. work. Since the members of the oral examination committee are familiar with the student, know his/her abilities, and have become somewhat conversant with the student's proposed research, it is most convenient for the department (and advantageous to the student) to retain the student's preliminary oral examination committee as the dissertation advisory committee. The department, in fact, assumes that the oral examination committee will become the dissertation advisory committee.

The rules of the Graduate School, however, require that, when possible and practical, one of the members of the dissertation advisory committee must be a graduate faculty member from a department other than chemistry. This committee member may also be from outside the university if approved by the Graduate Studies Committee and the Graduate School. This rule normally produces a committee of three chemistry faculty and one outside member. When such a member is difficult or impossible to find, the student's advisor and the Chair of the Chemistry Graduate Studies Committee can request that a fourth faculty member from chemistry serve instead. Such requests are rarely granted.

Normally, for students with an outside minor, the minor representative becomes the non-chemistry member of the dissertation advisory committee. Such should be considered when the minor faculty member of the oral examination committee is selected.

This paperwork must be signed by 1) the advisor, 2) all members of the dissertation advisory committee, 3) Chair of the Chemistry Graduate Studies Committee, and 4) Dean of the Graduate School. Approval must be secured prior to obtaining permission to register for the initial block of dissertation credits (CHM 9991).

Dissertation Outline and Prospectus

The fourth requirement which must be met to complete candidacy requirements involves the DISSERTATION OUTLINE. The Dissertation Outline form itself is a simple form on which the student briefly describes some of the key aspects of his/her proposed research. The form is available on the Graduate School website. Submission of the Dissertation Outline also requires that the student present a prospectus -- a written preliminary statement of the dissertation project including some background, the significance of the work, the objectives, plans or strategies, experiments to be carried out, and the criteria employed. The form and prospectus together are treated as a single document we call the Dissertation Outline.

Specifically, the Dissertation Outline form states:

The student should prepare a prospectus (approximately 20 pages) of the proposed dissertation research and submit it with this form.

Write a brief, typed statement for each of the following four sections:

1. Statement of the problem, its scope, and rationale
2. Source of the materials, subjects, etc.
3. Method and design (statistical analysis where applicable)

4. Hypothesized results (where applicable)

The form is signed by 1) the student, 2) the advisor, 3) all members of the dissertation advisory committee, 4) the Chair of the Chemistry Graduate Studies Committee, and 5) the Dean of the Graduate School.

The Dissertation Outline is more than just a formal candidacy requirement. It is an agreement between the student and his/her dissertation advisory committee. By filing this form, 1) the student informs the committee that his/her dissertation will focus on the proposed topic; 2) the committee agrees that when the student reaches the appropriate stages in his/her research that they will participate in the pre-defense examination; and 3) that when the student completes his/her dissertation, the committee will read it and then participate in the public lecture and final oral examination.

It is usually appropriate for the dissertation outline to be completed around the end of the 3rd year or beginning of the 4th year. Until the dissertation prospectus is approved by the graduate school, students will be ineligible for dissertation level fellowships including Dissertation UGRF awards and Summer Dissertation Fellowships.

Conflict of Interest Form

Beginning Fall 2012, all doctoral candidates will be required to submit a Conflict of Interest Form in concurrence with the Prospectus and Record of Approval Form. The candidate and each member of the dissertation committee must disclose any potential conflicts and sign the form. Given the length of time required in the dissertation process, students will be required to resubmit the Conflict of Interest Form prior to the dissertation defense. This form can be obtained on the Graduate School Website. If a real or perceived conflict of interest is declared or identified, the Graduate School has procedures in place to further review the situation and may propose changes to the membership of the dissertation advisory committee.

Pre-Defense, Dissertation, Public Lecture, and Final Oral Defense

Pre-Defense Meeting

The pre-defense examination is a means of presenting the essential findings -- including critical data, pertinent discussion and conclusions -- of the research project to the dissertation committee and typically occurs before any significant thesis writing begins. The Pre-Defense Meeting/Examination can be convened at the request of the student, the research advisor or the thesis committee, but typically is done with concurrence of the student and the research advisor with the understanding that the research which will comprise his/her dissertation is nearing completion. This meeting must occur no less than two months before the student plans to leave the campus (for example, to write the dissertation elsewhere).

Prior to the exam, appropriate documentation must be provided to the committee to evaluate the original research contributions of the student that will constitute the Ph.D. thesis. This should be given to the committee members and the Chair of the Graduate Studies Committee for approval 7-10 days in advance of the meeting so that the committee has time to read the document and prepare for the meeting. There are two ways to document research progress:

A) A short 1-2 page thesis outline **AND** 2 or more 1st author research papers (co-first author is fine with approval of the research advisor) that have been published or accepted for publication in major journals. In general, this should not be a communication and a full paper on the same topic as this does not provide evidence of two independent chapters worth of work.

Or

B) A detailed outline not to exceed 10 single spaced pages that elucidates the major discoveries associated with each chapter of the thesis.

In rare circumstances, if there is sufficient written documentation of research productivity and the committee cannot be convened in person, the student and advisor can together request that the meeting be skipped. A waiver must be requested in writing by both the student and the research advisor, explaining why the meeting is unnecessary. This waiver then requires written approval of the director of graduate studies and all members of the thesis committee.

A department PRE-DEFENSE EXAMINATION REPORT FORM is used to transmit the committee's decision to the Graduate Studies Committee. Because this is a departmental requirement, the form is only available from the Graduate Academic Services Officer. Each member of the dissertation committee signs the form indicating agreement with the recommended course of action for the student. The four options are:

- 1) The student may commence writing the dissertation.
- 2) The student may commence writing the thesis after a few suggested experiments have been carried out.
- 3) The student should not commence writing the thesis and must carry out certain work after which another pre-oral will be held.
- 4) The student should not begin writing the thesis because the work is not sufficiently well developed to allow an evaluation of its significance and another pre-defense should be convened in no less than three months.

In reality, the pre-defense examination is a defense of the research work before the dissertation is written. Its principal function is to prevent the generation of an unacceptable dissertation.

Following completion of the Pre-Defense Examination, the student should make an appointment with the Chemistry Academic Services Officer to discuss the final steps in the graduation process. This meeting should take place at least one month prior to the Final Oral Examination.

Dissertation and Preparations for the Final Defense

Before writing the manuscript, students should review the WSU Theses and Dissertation Format Guidelines, available at the Graduate School web site. This guide is updated on a regular basis.

After receiving approval from the dissertation advisory committee to write, the student should compose, assemble, and edit the dissertation following the suggestions of his/her advisor and the guidelines published by the Graduate School. Students are urged to check with the Graduate School office (the final arbitrator if there are any questions regarding format, footnotes, reference lists, figures, figure captions, tables, table of contents, etc.).

Approximately four weeks prior to the defense, the student should secure a form entitled FINAL REPORT: DISSERTATION PUBLIC LECTURE PRESENTATION-DEFENSE from the Graduate School website, or the Chemistry Academic Services Officer and should enter the requested information at the top of the form. Once the dissertation is complete, a copy should be delivered to each member of the dissertation advisory committee for evaluation. At this time, an electronic copy should be provided to Chemistry Academic Services Officer as a .pdf file. This electronic copy will be assessed for plagiarism using plagiarism detection software. The student and his/her advisor should arrange with the dissertation advisory committee for a suitable time for the Final Public Lecture-Defense. In Part 1 of the form, the student should be careful to print committee names and their corresponding email addresses. The student must then obtain the signatures of all members of the dissertation advisory committee (indicating approval of the content of the dissertation) and of the Chair of the Chemistry Graduate Studies Committee on the form. The Final Report: Dissertation Public Lecture Presentation-Defense Form completed through Part One must be delivered two weeks prior to the final defense to the Graduate School for approval. The Conflict of Interest Form must also be signed by the committee and submitted to the Graduate School along with the Final Report Form.

The format check must also be completed at this time electronically through the Graduate School website.

Any committee member, as well as the student, may request that an external Graduate Examiner be present at the final oral defense. To request an external Graduate Examiner, two weeks prior to the defense the student must submit the Final Defense form to the Ph.D. Office and request a Graduate Examiner.

Public Lecture-Defense and Approval of the Dissertation

The final oral examination is conducted by the dissertation advisory committee and presided over by the graduate examiner. The role of the graduate examiner is usually filled by the faculty advisor. In the Ph.D. program the final defense actually consists of three parts: 1) a public lecture on the dissertation, 2) a final dissertation defense, and 3) an evaluation of the student's performance. A fourth part, the signing of the dissertation, may take place at the same time but can be handled later, if necessary.

The academic community is invited (an announcement of the Public Lecture, including time, place, topic, and speaker, must be posted in the Chemistry building and be circulated *via* campus mail, throughout the university at least one week prior to the lecture date) and encouraged both to attend and to ask questions about the lecture topic and the dissertation research.

The Public Lecture is an approximately 45 minute presentation during which the student formally presents the methodology, research, and results of the investigation. When the lecture is completed and the questions asked and answered, the public lecture ends. The audience members who are not part of the dissertation advisory committee are excused, and the Final Examination is begun. The dissertation advisory committee may further examine the student on the dissertation.

When the examination is completed, the dissertation advisory committee evaluates the student's performance and decides whether the student passed or failed the Public Lecture-Defense. If the student has passed, the committee members and the Graduate Examiner sign the Final Report Form. The Graduate Examiner must also fill out Examiner's Report Form which details the events that took place during the Public Lecture and Final Defense. Both of these forms need to be returned to the Graduate School within 48 hours of the Defense. If the student fails, another Final Public Lecture-Defense must be scheduled for a later date.

If the dissertation is acceptable or needs only minor corrections, the committee signs several copies of the dissertation. The student then has up to two weeks to perfect the dissertation. If the dissertation is unsatisfactory, the student must revise it to the satisfaction of the committee. At least three members of the dissertation advisory committee, one of which must be the advisor, must sign the dissertation for it to be accepted by the Graduate School. The final copy must be submitted electronically through the online submission followed for the format check, to the graduate school. The original signed title page must be delivered separately.

Time Limitation

Students have a seven-year time limit to complete all requirements for the Ph.D. degree. The seven-year period begins at the end of the semester during which the student was admitted to the doctoral program. Students must be registered during each academic semester they are working toward the degree. Specific documentation is required to extend beyond seven years, up to a maximum of twelve years, but requires annual meetings of the dissertation advisory committee to ensure ongoing progress. Chemistry students typically should not require such extensions.

Leaves of Absence

Students requiring a formal leave of absence for medical or other emergencies should request in writing such a leave to the Graduate Studies Committee, which will review the situation. If leave is granted, your formal clock regarding time to degree can be paused. Before requesting such leave, foreign students should consult with the personnel officer and OISS regarding consequences and procedures associated with reinstatement of student status.

Fellowship Competitions

Several types of internal and external fellowship opportunities are available annually. Announcements for these competitions typically occur by email and students are advised to pay attention to these notices. Examples of these include meeting/travel awards, Rumble Fellowships, Schaap Fellowships, Training Grant Appointments, and others. Selection criteria vary from program to program, but typically include classroom performance, research productivity (as evidenced by publications and conference presentations), as well as letters of recommendation, and annual reviews. Fellowships for senior students from the Graduate School regularly require the submission of the prospectus as a pre-requisite. Additionally, fellowships from major granting agencies (NIH, NSF, etc.), have regular deadlines and eligible students are encouraged to speak with their advisor and the director of Graduate Studies to explore such opportunities.

Exit Procedures

Students who have completed their degree programs and others who leave the department for various reasons, must settle their accounts with the university and return items borrowed from various offices, libraries and storerooms. Failure to do so may delay the issuance of the diploma and/or the date on which the degree is awarded. The department ensures this account clearance and loaned item return by requiring each departing student to complete a FINAL CHECK-OUT SHEET and EXIT QUESTIONNAIRE. The Check-Out Sheet has a list of locations where accounts must be cleared, items returned, or forms submitted. The exiting student must have a staff member at each location sign the check-out form indicating that, as far as that office is concerned, the account has been settled, all items returned, or necessary forms submitted.

Please note: a final copy of the dissertation must be given to the Graduate Academic Services Officer for the departmental library. The student is required to pay the binding fee to the departmental business office.

For purposes of employment, a student who has completed all the degree requirements may request a document from the Graduate School certifying completion of degree requirements and the date of formal awarding of the degree.

Definitions

Contract - Usually in the form of, or a document accompanied by, a letter which is signed by several university officials (e.g., department chair, Dean of the College of Liberal Arts and Sciences) and which offers a position having specific duties for a definite period of time. The offer becomes a contract when the student signs and returns the letter before a clearly specified deadline.

Degree Applicant - a student who has been admitted to the degree program but has not yet advanced to candidate status.

Degree Candidate - a student who has completed certain requirements and who has, largely, a research project and thesis to finish to earn a degree.

Directed Study - An individualized course of study for one student under the guidance of one faculty member. The study is to be completed during a single term, and a research paper, project report, or special examination is required. The directing faculty member must notify the Chemistry Graduate Studies Committee that s/he is willing to supervise the directed study. Further, a form describing the nature of the project and the format of the directed study must be approved by the Chair of the Chemistry Graduate Studies Committee before the student can register. The Graduate School prohibits directed study coursework from being used toward the major requirements. Directed study, therefore, can be used only toward a minor, or as other credits toward the degree.

Final Oral - After the public lecture but before the approval and signing of the dissertation, the committee questions the student about the research and the dissertation.

Full-time Student - a legal definition which specifies the number of credit hours a student must be taking to satisfy the "full-time" student status required by SSS (Selective Service System), INS (Immigration & Naturalization Service), and student loan providers. At WSU full-time is eight credits/term at the graduate level. Students who have completed all of the credits specified on their Plan of Work will be considered full-time if they enroll for 7.5 credits of Dissertation credit [CHM 9991, 9992, 9993, 9994], during each academic term. If the Dissertation credits have been completed as well, a student enrolled in 0 credits of Maintenance [CHM 9995], will also be considered full time by exception.

Graduate Assistant - These positions are designed primarily to provide some economic support to graduate students.

Graduate Research or Teaching Assistants are considered half-time employees and are appointed for a specific time period, usually for one term or an entire academic year (9-months). In addition to the salary, these assistants are eligible to participate in the University's health insurance program. Stipends are exempt from Social Security (F.I.C.A.) taxes, but are subject to withholding for Federal, State, and City income taxes. GRAs and GTAs must be enrolled for a minimum of six graduate credits (which contribute toward the completion of the Plan of Work) and be in good academic standing (an HPA of 3.00 or higher).

Graduate Research Assistant - A graduate assistant who is paid to participate in a research project directly relevant to their own academic program of study. Such positions are usually funded from research grants or contracts and are arranged by individual faculty members for their own student advisees. Typically doctoral students.

Graduate Teaching Assistant - A graduate student who is paid to assist in teaching. In the chemistry department a Teaching Assistant's duties may involve leading a quiz/discussion class, directing a laboratory, grading, preparing classroom or laboratory materials, directly assisting students, keeping records, etc. They provide no more than 20 hours of service per week.

Graduate Credit - A course is said to carry graduate credit if it is applicable to the coursework requirement for a graduate degree. In the chemistry Ph.D., M.A. and M.S. programs the following

categories of courses carry graduate credit: chemistry courses numbered 6000 or higher; courses numbered 5000 or higher from all other departments and colleges within the university.

Graduate Teaching Assistant - see Graduate Assistant

HPA or Honor Point Average - The term used at Wayne State to summarize a student's academic record. HPA is calculated from the total number of honor points divided by the number of graded (A, B, C, or F) course credit hours. Each course carries a certain number of credit hours, usually the number of hours of lecture per week or the number of lecture hours plus a portion of the quiz hours and/or laboratory meetings per week. Honor points are associated with grades:

- A = 4 honor points per credit hour
- A- = 3.67 honor points per credit hour
- B+ = 3.33 honor points per credit hour
- B = 3 honor points per credit hour
- B- = 2.67 honor points per credit hour
- C+ = 2.33 honor points per credit hour
- C = 2 honor points per credit hour (below graduate standards)
- F = 0 honor points per credit hour
- I = Incomplete is given to a student who has not completed all the course work and when there is, in the judgment of the instructor, a reasonable probability that the student can complete the course successfully without attending regular class sessions. The course work must be completed within one calendar year.
- Y = Deferred, course planned to continue beyond the semester (i.e. essay, thesis, dissertation, research, and certain courses taken in sequence)

example:, a student takes three courses:

- a 3-credit hour course in which s/he receives an "A"
- a 3-credit hour course in which s/he receives a "B+"
- a 1-credit hour course in which s/he receives a "B"

The grade point average would be calculated as $(3 \times 4 + 3 \times 3.33 + 1 \times 3)/(3 + 3 + 1) = 3.47$

In-state Tuition - The amount charged per course, or per credit hour, to Michigan residents (see Resident).

Moderator (Graduate Examiner) - Faculty member selected to be the Graduate School representative at the Final Oral Examinations.

Non-Resident Tuition - The tuition rate charged to those who do not satisfy the residency criteria.

Part-time Positions - no benefits, non represented

Instructional Assistant (IA) - a person employed on a part-time basis to assist with classroom and laboratory instruction. One term, no benefits. A student who is supported through teaching in the Spring/Summer term is supported as an IA.

Part-time Faculty - a person employed on a part-time basis to teach a class

Student Assistant - a student employed part time by the university.

Pre-dissertation Research - formally, the research done by a degree applicant. In reality, since CHM 9991 - 9995 is Dissertation Research, any other research, usually CHM 8700, is termed pre-dissertation research. The usual source of the additional credits, since coursework and dissertation research provide only 63-65 credits, to satisfy the Ph.D. credit hour requirement.

Preliminary Examination Committee - An ad-hoc group composed of the student's advisor, one faculty member from the major field, one other chemistry faculty from a field outside the student's major. Administers preliminary oral examination.

Pre-Master - A status assigned to students who are admitted to the Graduate School or to the graduate program of a college but have not been accepted into a specific degree program. Students may apply only 9 credits earned in the Pre-Master's status toward a degree; and thus, the university limits students to only one full-time term in this status. Pre-Masters students are not eligible for GTA or GRA positions.

Pre-oral Examination or Pre-defense: an "examination" in which the student presents the critical aspects of his/her dissertation work. The dissertation committee determines whether the student should begin writing the dissertation 1) immediately, 2) after additional experiments, or 3) after another "pre-oral examination".

Public Lecture - a 40 to 60-minute lecture on the thesis work presented by the student just prior to the final oral examination. The time, place and title of the lecture are publicized throughout the university community. The lecture (but not the subsequent examination) is open to the public.

Registration Requirement - Students who are actively pursuing their research in the department are required to register for a minimum of 1 credit during each academic term that they are present. Students are to be registered during the term in which they defend the dissertation. If all doctoral research candidate credits are completed (CHM 9991 – CHM 9994), registration for candidate maintenance credit (CHM 9995) is required.

Research Advisor - Faculty member who agrees, when selected by a student, to supervise that student's thesis/dissertation research. Provides laboratory, project, resources, advising, and assistance in all aspects of degree work. May provide financial support from grant funds.

Research Assistant - a person employed to assist with a research project generally for a specified period of time.

Residence/Residency/Resident - terms which are used in several of the university's rules and which probably need to be defined for each case and/or context.

Resident (as regards tuition) - To be considered a resident, a student must have had his/her principal and permanent home in Michigan for at least six months prior to his/her first term as a full-time student. Time spent attending a Michigan school, college or university (such as Wayne State) cannot be used to establish residence. (See Graduate Bulletin under "Tuition and Fees": Residency.)

Ph.D. residence requirement - Successful completion of the Ph.D. program requires lengthy periods in which the student can devote all of his/her time to study and/or research. To ensure this, the university requires that the student 1) be registered in no fewer than six credits of coursework for at least two consecutive terms, or 2) hold an assistantship for two academic terms while enrolled as a full-time student, or 3) actually spend full time in graduate work for one calendar year with certification of the same by the dissertation advisor.

Seminar - A class which meets regularly and whose agenda involves presentations, usually by several speakers, on recent research. In Chemistry, each division holds a weekly seminar where presentations are made by students, faculty, and/or invited guests.

Student - One who is currently enrolled or, if not enrolled, has been enrolled and can register without applying for admission.

Teaching Assistant - see Graduate Assistant

Tuition - The amount of money the university charges on a per course, or per credit hour, basis for (e.g., registering for, attending, and/or receiving a grade in) a course.

Committees and Administrative Personnel

Administrative Staff -

Erin Bachert - Undergraduate Student Records, Course Scheduling, Registration.
Melissa Barton - Graduate Student Records and Recruiting, Teaching Assistant Information, Alumni Data, Course and Final Examination Scheduling. (All forms mentioned in this document are available from Melissa.)
Diane Kudla – Accounting Assistant
Deborah McCreless - Personnel and Payroll, International Services Office Liaison, Staff Benefits, Tuition Payments
Bernie Miesik – Accounting Assistant
Francine Owczarek - Purchasing, Accounting
Lisa Smith - Grant Accounting
Mary Wood - Chair's Assistant, Secretarial Supervisor, Building Coordinator
Student Office Assistants – Textbooks, Copying, Projector and Room Checkout

Chemistry Faculty - The group composed of all Assistant, Associate and Full Professors. Meets regularly to conduct the department's business, hear reports, set policies. Each faculty member attending the meeting has one vote. Collectively with the department chair responsible for the programs, facilities, and resources of the department.

Curriculum Committee - A committee of faculty, one from each division appointed by the chair, which sets policies and regulations regarding undergraduate courses and degree programs.

Department Chair - Chief administrative officer of the department. Appointed by the Dean of the College and Provost at the recommendation of the department faculty. Represents the department in college and university matters, allocates resources, sets policies and procedures, selects committee chairs and members.

Dissertation Committee - Normally the same as the Preliminary Examination Committee with the addition of an outside member. Read, approve and sign the Dissertation Outline, participate in pre-oral evaluation, read dissertation, attend public lecture, and administer final oral examination.

Division - Group of faculty from a single discipline. Oversee and staff courses in the discipline, administer proficiency and cumulative examinations in the area, organize a seminar for graduate students majoring in that field.

Division Head - Administrative head of division, selected by the department chair.

General Chemistry Committee - Composed of all of the faculty directly responsible for and/or interested in general chemistry. The General Chemistry Coordinator chairs the committee. Decides general chemistry policies, involved in teaching assistant workload matters, assignments, etc.

Graduate Studies Committee - A committee of five faculty, one member from each division selected by the department chair, who also selects the committee chair. Establishes, reviews, revises, and administers the graduate degree programs, mechanisms. Appoints examination and dissertation committees, adapts or defines rules and regulations, advises, keeps records, sets criteria for acceptable performance and renewals.

Personnel Committee - One faculty member from each division elected by the department faculty. Deals with faculty matters but does not select some fellowship winners.

APPENDIX A

Divisional Requirements

Some requirements are specific to each Division. We attempt to enumerate these here. Students should consult their advisors on these issues for clarification.

Oral Examination Document

Some divisions require that an oral document reviewing the student's research project be prepared. In general, this is a short document (5-10 pages in length) that gives the student an opportunity to provide an overview of their research. Not only does the document give the student a chance to review, it provides the committee an opportunity to appropriately prepare for the oral exam. This document should be given to the committee members approximately one week before the scheduled oral examination.

The Inorganic and Organic divisions require an oral document.

Some advisors within the Biochemistry division require an oral document. Please consult with your advisor regarding this requirement.

The Physical and Analytical divisions do not require an oral document.

Seminars

There are differences in the length, topics, and requirements between divisions. The information provided here serves as a summary of each division's requirements. When preparing for seminar, a student should consult with their advisor and the divisional seminar coordinator for current instructions and requirements.

Analytical

First Seminar: 50 minutes in length. Student and advisor decide between research or literature review. Topic approved by advisor.

Second Seminar: 50 minutes in length. Present on dissertation research. Student and advisor determine appropriate semester for presentation and inform the divisional seminar coordinator.

Biochemistry

First Seminar: ~25 minutes in length. If a Ph.D. student presents in their 2nd year, a topic related to their research, but not their actual experiments, is allowable. M.S., M.A., and Ph.D. students presenting in 3rd year or later should present on a topic unrelated to the research interests of their group. Topic approved by divisional seminar coordinator. One page summary of seminar is required in advance of the seminar.

Second Seminar: 45-55 minutes in length. Literature review topic should be unrelated to the research interests of their group. Topic approved by divisional seminar coordinator. One page summary of seminar is required in advance of the seminar.

Inorganic

First Seminar: 60 minutes in length. Literature review topic approved by advisor and seminar coordinator. Presented in second year.

Second Seminar: 60 minutes in length. Present on dissertation research. Held the semester prior to defending the thesis.

Organic

First Seminar: 20-25 minutes in length. Topic selected should be unrelated to the research interests of their group. Topic is approved by advisor and seminar coordinator. 1-2 page abstract, including references is required. Presented in second year.

Second Seminar: 45-50 minutes in length. Topic selected should be unrelated to the research interests of their group. Topic is approved by advisor and seminar coordinator. Short paper (<10 pages including references) is required.

Physical

First Seminar: 25 minutes in length. Student and advisor decide between research or literature review. Presented in second year.

Second Seminar: 50 minutes in length. Present on dissertation research.

APPENDIX B

The Plan of Work Form

There are often questions about the Plan of Work form for the Ph.D. program. The Major and Minor titles should be filled out as shown below:

Major: Chemistry (Division)
 Minor: 1) Chem. Conc. (Division)
 2) Chem. Dist.
 3) Outside (Department)

When listing courses, please note that your Major must consist of at least 4 courses for at least 12 credits. If a Minor is elected, it must consist of at least 2 courses for at least 6 credits. If a student has less than the requisite number of credits, an additional course is necessary to complete the major or minor.

All other credits fall under the "other" category on the Plan of Work. These should include:

1 credit of CHM 8850 – Frontiers
 1 credit of CHM 6740 – Laboratory Safety
 *1 credit of CHM 7740 – Responsible Conduct of Research
 4 credits of CHM 8800, 8810, 8820, 8830, or 8840 – Dept. Seminar according to Major
 7.5 credits of CHM 9991 – Doctoral Candidate Status 1
 7.5 credits of CHM 9992 – Doctoral Candidate Status 2
 7.5 credits of CHM 9993 – Doctoral Candidate Status 3
 7.5 credits of CHM 9994 – Doctoral Candidate Status 4
 # credits of CHM 8700 – Research: Chemistry

* - Registration of CHM 7740 is optional. Participation in 2 semesters of RCR over the first two years of study is required. Students who do not formally register for CHM 7740 may be required by the Office of the Vice President for Research (OVPR) to complete alternative RCR requirements that can be documented and validated for purposes of research compliance.

- Please note that the number of credits for CHM 8700 will vary. Students should elect the appropriate number ensure their total credits on the Plan of Work equal 90 credits.

The Plan of Work in Relation to Assistantship/Fellowship Support

The Plan of Work defines the student's degree program; and, when a student completes the registration outlined on the Plan of Work, s/he is no longer eligible to hold a graduate assistantship appointment. Completion of the Plan of Work means that the student has finished the number of credits required for the Ph.D. degree but not necessarily all of the requirements.

Those who hold assistantship contracts receive a tuition scholarship which will pay for up to 10 credit hours of graduate coursework for each term of the appointment during the academic year. Teaching/research assistants must enroll for a minimum of 6 graduate credits during each term of the appointment. They may enroll for no more than 16 credits; however, if they enroll for 16 credits, they are responsible for payment for the six credits not covered by the assistantship. Teaching assistants who are on the payroll during the winter term frequently receive two or three additional graduate credits during the subsequent spring/summer term. Thus, a full-time student would normally accumulate from 16 to 22 ($2 \times 8 = 16$; $2 \times 10 + 2 = 22$) credits per calendar year.

APPENDIX C

Registration

Registration is the process of officially enrolling in classes for a particular term. The *Schedule of Classes*, published by the Office of the Registrar in advance of each term, lists the days, times and locations for registration and explains the registration process. It can be found at <http://classschedule.wayne.edu/>.

Each chemistry graduate student is to consult with his/her advisor prior to registering.

Wayne State uses an online registration and payment system, through <http://pipeline.wayne.edu>. By using this system, a student can register/add/drop classes, make credit card payments for tuition and fees, review their course schedule, tuition account balance and registration holds (if applicable).

Once a student registers for courses, they can view their tuition bill, and print their schedule online.

Priority Registration

The Academic Calendar can be found online on the Registrar's website <http://reg.wayne.edu/>. The Academic Calendar defines the dates for Priority Registration, as well as Open and Late Registration. Students who do not register before the end of Priority Registration will be responsible for paying the additional fees.

Open Registration

Open Registration is conducted during the week preceding the first day of classes for the term. Specific dates and times are listed on the registration calendar available on the registrar's website. A \$35.00 late registration fee is assessed during this time frame. Payment of this fee is the responsibility of the student.

Late Registration

Late Registration occurs during the first two weeks of classes. Anyone registering at this time will be assessed a \$70 late fee. Payment of this fee is the responsibility of the student.

Drop/Add - Changing the Course Schedule

Students may drop and/or add classes on the date(s) published in the *Schedule of Classes*.

Students who officially drop courses before the conclusion of the second week of classes (for the Fall and Winter terms) are entitled to 100% tuition cancellation. The courses do not appear on the student's academic record.

Students who do not officially drop a course within the first two weeks of classes (for the Fall and Winter terms) are not entitled to any tuition cancellation and are obligated to pay for the course -- even if they have not attended any class sessions. Also, the Graduate School will not pay for any course from which a student withdraws (*i.e.*, if a Graduate Research/Teaching Assistant drops a course after the second week, s/he is responsible for the tuition payment for that particular course.)

First-year chemistry graduate students may not withdraw from any course without permission of the Chemistry Graduate Studies Committee.

Full-time status requires that a graduate student be enrolled for a minimum of eight credits.

Students are not permitted to add courses after the first week of the term.

Students are not permitted to drop courses after the date posted on the Registrar's website.

Payment of Tuition -- Grad Assistants and Fellows Do Not Pay the Registration Fee

Students who have graduate teaching or research assistantship appointments must register for between 6 and 16 credits each academic semester. However, the assistantship will only pay for up to 10 credits.

The Graduate School is responsible for payment of tuition for GTAs and Rumble Graduate Fellows. The Chemistry Department is responsible for payment of tuition for GRAs. It is important that students notify the Graduate Academic Services Officer if any course schedule changes are made after classes begin.

SEVIS and Fitness Center Fees

Students whose tuition is paid through Graduate Teaching Assistantships, Research Assistantships, or Fellowships are responsible to pay the SEVIS fee (if international students) and the Fitness Center Fee (all students). At this time those fees are:

SEVIS Fee \$50

Fitness Center Fee \$25

It is important to pay these fees either online or at the Cashier's Office as soon as possible after registering for every semester. This will prevent a student from being responsible for paying late, or partial payment penalties.

Holds

Frequently when a graduate student attempts to register s/he will be informed that s/he has an Accounts Receivable Hold. This is most often the result of a student not paying their SEVIS or Fitness Center Fees for the previous term. However, this also results when:

- 1) the Graduate Teaching Assistant or Fellow did not give notification of their Drop/Add transaction to the Graduate School or
- 2) the Graduate Research Assistant did not give notification of their Drop/Add transaction to the departmental Administrative Assistant in charge of tuition payments.

Please contact the Chemistry Academic Services Officer by email to notify of any problems.

If a student has an Academic Hold, s/he should contact the Chemistry Academic Services Officer.