



DEPARTMENT OF CHEMISTRY

# GRADUATE STUDENT MANUAL

Fall 2018 Edition

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## I. INTRODUCTION

This manual is designed to provide graduate students and faculty with information, regulations and policies concerning graduate study in the Department of Chemistry. Questions regarding information contained in this manual should be addressed to your advisor, the departmental Graduate Program Director, or the Department Head. Note that this graduate student manual is supplemental to the MISSOURI STATE UNIVERSITY Graduate Catalog and does not replace it. Make sure that you obtain and read the Graduate Catalog at <http://graduate.missouristate.edu/catalog/> for requirements and policies that affect you and your graduate program.

The “Master of Science in Chemistry” is the primary graduate degree offered by the Department, and most of the information in this manual applies to that degree.

The Chemistry Department also participates in the “Master of Science in Education” and “Master of Arts in Teaching” degrees offered by the College of Education by providing subject areas of emphasis (e.g., chemistry or natural sciences). These degrees are designed for secondary teachers who have appropriate teaching certificates or eligibility for certification by a state agency. (A faculty member in the Chemistry Department serves as departmental coordinator and “area of emphasis advisor” for the Master of Science in Education.) Students should refer to the Graduate Catalog for full information about this degree.

The Chemistry Department also participates in the “Master of Natural and Applied Science” degree offered by the College of Natural and Applied Sciences (CNAS). This degree is designed to provide an interdisciplinary program of study based in the natural sciences. The curriculum will consist of formal courses in a primary science area, such as chemistry, and one or more minor areas of concentration not necessarily limited to within the College. One particular option within the program offers a “Professional Science Masters” designation, wherein the minor area of concentration is acquired through the College of Business. Students should refer to the Graduate Catalog for full information about this degree and its options.

Graduate students should bear in mind that as representatives of the University, they are expected at all times and in all aspects of their work to uphold the highest standards of professional ethics. These expectations and responsibilities include all academic work, research and thesis, and interactions with faculty, staff, and students. For further information on this topic, you may wish to review the sections of the Missouri State University Faculty Handbook regarding Professional Issues and Academic Responsibilities. A copy of the Handbook is available at <http://www.missouristate.edu/provost/facultyhandbook/>.

## II. PROGRAM REQUIREMENTS (FROM GRADUATE CATALOG)

1. **Advisory Committee.** Within the first semester, the student will select a graduate advisory committee consisting of a research advisor and at least three additional persons. The research advisor should be a member of the Chemistry faculty and will serve as Chair of the committee. At least one committee member, but not more than two, shall be from outside the chemistry department. The advisory committee will monitor research progress throughout the candidate's graduate program.
2. **Program of Study.** Students will be advised initially by the Chemistry Graduate Program Director (GPD). Within the first semester and after a research advisor has been identified, the candidate's program of study will be structured in consultation with the research advisor and GPD. Academic background, professional experience, placement test scores, and personal and professional objectives will be considered in establishing the individual's program.
3. **Chemistry Requirement.** A minimum of 20 hours in chemistry, with at least 6 hours of 700-level CHM courses numbered 702-790. Students must address a diverse coverage of chemistry in their programs of study by including at least three different sub-disciplines: Analytical, Biochemistry, Chemical Education, Environmental, Inorganic, Organic and Physical. Deficiencies in advanced undergraduate course work - that is, the collective instructional content equivalent to the combination of [CHM 602](#), [CHM 606](#), [CHM 607](#), [CHM 642](#), and [CHM 675](#) - as determined from academic transcripts and/or test scores, may be included in the program of study. Course work hours from these inclusions will count toward the 32-hour program requirement as well as toward the sub-disciplinary diversity policy.
4. **Colloquium.** At least 1, but no more than 2 hours of credit must be earned in [CHM 700](#), Chemistry Colloquium.
5. **Interdisciplinary Electives.** Upon departmental approval, graduate courses from related fields may be included as part of the 32-hour degree requirement but no more than 6 hours may be counted from any single course code other than CHM.
6. **Research Requirement.** For all options, the student is required to give an oral presentation of his/her research to the Department.

*Thesis Option:* The maximum credit toward the 32-hour degree requirement is 6 hours of [CHM 798](#) and 6 hours of [CHM 799](#) with no more than 12 total hours of any combination of CHM courses numbered 791 or higher. Submission of a thesis is a specific requirement for the degree. The purpose of the thesis is to demonstrate competence in scientific research and the ability to: choose a research topic of scientific importance; conduct a comprehensive literature search of the problem; design and implement a plan of research; collect and interpret scientific data; and communicate results and interpretations to peers. An oral defense of the thesis is required.

*Non-thesis Option:* After an attempt at a research-based thesis, and with the permission of the thesis committee and department head (DH), a student may switch to a non-thesis option. This option requires the production of two (2) extensive papers by completing [CHM 792](#) (3 hours) and [CHM 793](#) (1 hour), both of which will be read and evaluated by faculty committees and one of which ([CHM 792](#)) will be presented orally to

a public audience and defended before the advisory committee. Four (4) hours (no more, no less) of [CHM 798](#) must be counted toward the degree under this option, and additional approved 600- or 700-level course work hours will be taken as needed to fulfill the 32-hour program requirement.

7. **Comprehensive Examination.** A comprehensive examination will be administered after most of the course work has been completed. This examination must be passed by the candidate before a degree will be given.
8. **Time Limit.** The student must complete all requirements within an eight-year period (exclusive of the time spent in the United States Armed Forces). This is a Graduate College policy.

### III. PROGRAM TIMETABLE

Ideally, the M.S. in Chemistry can be completed in two calendar years, even if the student is employed as a teaching assistant. To finish in this amount of time, research must be started early. An ideal schedule for completing the degree in two years might resemble that given below. However, there is nothing magical about two years. Even though graduate assistantships are limited to two years, some students may require more time to complete a quality research project. A thesis should be considered complete when the **research question is sufficiently answered**, *not* when a pre-determined length of time has passed.

#### IDEAL TIMETABLE (based on a Fall admission)

- |                 |  |
|-----------------|--|
| Fall Semester   | <ul style="list-style-type: none"><li>- classes (graduate and necessary undergraduate), CHM 701</li><li>- file "Advisor-Approved Program of Study" (by mid-term)</li><li>- identify research advisor and thesis committee</li><li>- write project summary/start thesis research</li></ul>  |
| Spring Semester | <ul style="list-style-type: none"><li>- classes, CHM 700</li><li>- continue thesis research</li><li>- progress report on thesis research to committee</li></ul>  |
| Summer Semester | <ul style="list-style-type: none"><li>- continue thesis research</li><li>- complete REQUIRED thesis tutorials (see Item 1 in <a href="#">Thesis Resources</a>)</li><li>- initiate thesis writing</li></ul>   |
| Fall Semester   | <ul style="list-style-type: none"><li>- classes, CHM 701</li><li>- complete experimental portion of thesis work early</li></ul>  |
| Spring Semester | <ul style="list-style-type: none"><li>- classes, CHM 700</li><li>- apply for graduation* (see <a href="http://graduate.missouristate.edu/currentstudents/graduation.htm">http://graduate.missouristate.edu/currentstudents/graduation.htm</a>)</li><li>- complete thesis writing; submit draft to thesis advisor (by Week 4)</li><li>- submit draft to Bear CLAW for format, language, and grammar checking</li><li>- complete comprehensive exam (should be completed prior to scheduling thesis defense)</li></ul> |

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\* See <http://graduate.missouristate.edu/currentstudents/Policies.htm> for deadlines and other policies.

- schedule thesis defense with committee members and arrange for an “objective observer” to be present (normally either the GPD or DH).
- order academic regalia/pay graduate filing fee
- submit final draft to committee and to the GPD, along with Thesis Tutorial and Bear CLAW certificates (two weeks prior to defense)
- present thesis seminar to public (may combined with CHM 700)
- oral defense (at least one week prior to the thesis deadline)

#### IV. GRADUATE SCHOOL CALENDAR

The current Graduate Catalog (<http://graduate.missouristate.edu/catalog/>) contains a full version of the Graduate Calendar for the current year. Important dates and deadlines vary from year to year. As such, please be sure that you are reading the most current calendar. Two particularly important events and their approximate due dates are listed immediately below for your convenience. For a full listing of drop deadlines and refund schedule, see <http://calendar.missouristate.edu/home/academic>

**Applications for Graduation** are due to the Graduate College at the end of the first week of classes during the semester in which you plan to graduate. Forms are available online at <http://graduate.missouristate.edu/currentstudents/Forms.htm>.

The **Thesis Deadline** for submission of your final committee-approved draft to the Graduate College typically falls in the 13<sup>th</sup> or 14<sup>th</sup> week of classes for regular fall/spring terms and in the 7<sup>th</sup> week of classes during summers. See the Graduate College website for specific dates (<http://graduate.missouristate.edu/currentstudents/ThesisResources.htm>).

#### V. RESEARCH ADVISOR AND ADVISORY COMMITTEE

Initially, upon admission to the program a student will be advised by the Chemistry GPD or the DH. The GPD will serve as the student’s academic advisor throughout the graduate program. As soon as the student has selected a research area and research advisor, a Thesis Advisory Committee will be appointed (see Appendix I for a copy of the form to be filled). This committee will consist of at least four persons, including the research advisor. At least one committee member, but not more than two, shall be from outside the Chemistry Department. The assignment of advisory committee members will be approved by the GPD and the DH. This committee will oversee the research portion of the student’s graduate program. Normally, the research advisor will chair the advisory committee and supervise both the research activities and thesis preparation. However, in the event the research director is not a ranked graduate faculty member within the Department of Chemistry, a member of the advisory committee who does have the proper credentials will serve as the thesis advisor and chair of the committee.

Because the selection of a research director/thesis advisor is one of the most important steps a student will take, the process should be approached seriously and with careful and thoughtful planning. The selection should be based on both academic interests and personality traits because the student and advisor must function well as a team for successful completion of the M.S. degree.

Changes in the composition of the advisory committee can be made at the discretion of the research director/thesis advisor in consultation with the student and with approval of the



GPD and DH. The stability of the committee can depend on the continued availability of the original members. All members serving on the advisory committee at the time the thesis is completed must sign the thesis approval form.

## VI. COURSEWORK

### A. Course Load

Course requirements for the M.S. Degree in Chemistry are flexible and will depend on the student's field of interest and academic background. A student is considered full time if he/she is enrolled for 9 or more hours of credit during a regular semester and 6 or more hours during a summer. Students on fall/spring assistantships are required to enroll for at least 6 hours of graduate credit (600- or 700-level courses) during each semester. Students on summer assistantships are required to enroll for at least 3 hours of graduate credit.<sup>†</sup>

Note: While graduate (and pertinent undergraduate) course work is certainly important, students are cautioned that an excessive course load, combined with assistantship duties, may leave little time for research. Plan your course loads accordingly!

### B. Course Requirements

A candidate for the degree must complete a minimum of 32 semester hours of graduate work with at least 20 hours in chemistry and a minimum of 16 hours from courses numbered 700-799. The overall graduate-level grade point average (GPA) must be at least 3.00. NO GRADUATE COURSE (courses numbered 600-799), unless otherwise specified in the official catalog description, may be taken on a pass/not pass basis. At least 6 hours of 700-level CHM courses numbered 702-790 must be included in the minimum 16 hours of 700-level graduate courses.

Students who have not passed (with a "C" or better) upper-division undergraduate courses equivalent to the following offerings in organic chemistry, instrumental analysis, inorganic chemistry, and physical chemistry may be required to take the these course(s) and complete each with a grade of "C" (2.0) or better.

Instrumental	CHM 602
Physical	CHM 606 & 607
Organic	CHM 642
Inorganic	CHM 675

Hours received from these courses will count toward the 32-hour course requirement for the master degree.

At least 1 credit hour (max. 2) must be earned in CHM 700, Chemistry Colloquium. As members of the Chemistry Department, graduate students are also expected to attend and participate in departmental seminars. For this reason, students must be enrolled in either CHM 700 or CHM 701 (Chemistry Seminar) during any semester in which they are enrolled in course work, research (CHM 798), and/or thesis (CHM 799).

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<sup>†</sup> Summer assistantships are typically available in limited numbers and are awarded individually.

### C. Program of Study

After appointment of the Thesis Advisory Committee and in consultation with the GPD and chosen thesis advisor, the student will complete a proposed Program of Study (see Appendix I for a template), which should take into consideration the student's academic background, experience, placement test scores, and overall academic and professional objectives. Once approved, any changes must be made with the consent of the thesis advisor, GPD, and DH. The Program of Study will be monitored by the campus-wide degree audit system (DegreeWorks®) for official administrative purposes.

Note: As mentioned previously (Sec. VI.B above), students must be registered in either CHM 700 or 701 each semester. CHM 701 is graded on a Pass/No Pass basis, and credit hours do not count toward the 32-hour program course requirement. This is clearly labeled in the Program of Study template (Appendix I).

Also note that the maximum credit allowed from Research and Thesis toward the 32-hour course requirement is 6 credit hours each of CHM 798 and CHM 799. There are, however, no minimums defined except within the non-thesis option (Sec. **Error! Reference source not found.**B below).

### D. Grades

The Graduate College requires that a student maintain an overall graduate-level GPA of at least a 3.00 to remain eligible for an assistantship and to graduate. No course with a grade below "C" (2.0) may be applied to a graduate degree, and no more than 9 credit hours with grades "B-" (2.7) or lower may be accrued to remain eligible for graduate study.

### E. Residency

The Department has no specific residency requirements beyond those required by the Graduate College. Generally, students should plan to spend at least four semesters in residence if pursuing a degree program full time. Individual circumstances may vary.

### F. Undergraduate Courses

Undergraduate courses (courses numbered 0-499) may be taken by graduate students either for grades or as pass/not pass (N/NP) options. These courses are usually taken to provide a necessary background and do not count toward a graduate degree. The decision to allow a P/NP grade option for an undergraduate course is made by the GPD or DH in consultation with the thesis advisor. Undergraduate course tuition is not covered by the GA tuition waiver.

### G. Transfer Credit

On a case-by-case basis, Missouri State University may accept graduate credit earned at other accredited institutions. Acceptance of transfer credits toward a graduate degree program occurs upon recommendation of the departmental GPD and DH and approval of the Graduate College. Discuss your desire to use transfer credits in your Program of Study with your advisor and the GPD. Transfer hours may count for up to 30% of the Program of Study. The policy on transfer credit also applies to students who are currently enrolled in, but have not completed, a graduate degree program at another institution and wish to transfer up to 30% of the total

hours required for the Missouri State University Program of Study. As with all credits applied toward a degree, transfer credits must have been earned within the eight-year time limit for a degree program and taken for graduate credit at a regionally-accredited university. Grades on transfer courses accepted into the degree program are included in the overall graduate GPA.

#### H. Retaking Courses

Graduate students who earned their undergraduate degree from Missouri State University will not be permitted to retake for credit any courses that were previously credited to their undergraduate degree (500-level or lower). Students from other colleges will have their undergraduate programs evaluated by the Chemistry GPD and/or DH to prevent excessive overlaps with courses offered for graduate credit at Missouri State University. No graduate student may repeat a course for graduate credit without approval of the GPD and DH.

### VII. PROGRAM RESEARCH COMPONENT

The research component of the Master of Science degree in Chemistry has two options: Thesis and Non-Thesis. All students entering the program are initially required to pursue the Thesis option. However, in unusual cases after significant thesis research has been attempted, further pursuit of the thesis project may be deemed impractical by the thesis committee, research advisor, Graduate Program Coordinator, and/or Department Head. In such cases a student may be allowed to transition to the Non-Thesis option as described below (Sec. **Error! Reference source not found..B**).

#### A. Thesis Option

Submission of an acceptable thesis and the successful defense of the thesis are specific requirements of the Master of Science in Chemistry degree under this option.

Grades for thesis credits (CHM 799) are not awarded until the thesis is completed, at which time they will be assigned by the Department Head in consultation with the thesis advisor. Grading research (CHM 798) each term as it is taken is an option left to the research advisor. The research/thesis advisor(s), in consultation with the advisory committee, will supervise the research project and preparation of the thesis. The thesis must be approved by the student's committee before the degree is granted.

Student research is to be carried out in research space allotted to the research advisor with whom the student is working. If additional space is required, the research advisor may make a request to the Department Head. Funding for the research is via the advisor's departmental budget and additional funds obtained by the advisor and/or student (see Graduate Student Funding Opportunities in Sec. XI below). Research materials should be requested through the student's research advisor, and research problems should be designed to demand no more resources than the department can reasonably offer. When possible, funds from the Department, College, Graduate College, advisors' grants, etc., will be pooled to aid a student in presenting thesis results at a scientific meeting.

The thesis is typically written in a student's final semester, although some tasks should start earlier (see the general timeline below). Keep in mind that the Introduction and Methods sections can be drafted and refined during the initial stages of data collection, which could

accelerate the thesis process significantly. In addition, data analysis can and should be performed along the way, before all data are collected. This can help identify experimental problems early on so that effort is not wasted on an inherently erroneous procedure.

The style and format of the thesis must follow the guidelines established by the Graduate College (see <http://graduate.missouristate.edu/currentstudents/ThesisResources.htm>) for links and detail descriptions. Information regarding margins, pagination, table & figure formatting, etc., can be found there. To help streamline the process, the Graduate College REQUIRES the completion of an online video tutorial series (including quizzes for each topic) that addresses various aspects of thesis formatting. Also, the use of a pre-formatted thesis template is required. Both the video series and template are linked on the Thesis Resources web page. Information regarding paper quality, submission procedures, and binding of the final draft is given there, as well. Unofficial copies of the thesis may be desired by the student or members of the advisory committee. The student should determine the total number of copies required, in consultation with the Chemistry departmental office.

The development of a thesis usually requires several stages. The following timeline should be considered as a typical model. In general, preliminary drafts are iteratively submitted to the research/thesis advisor, who directs initial revisions prior to committee evaluation. One of the preliminary drafts must be evaluated by the Writing Center (Meyer Library) for formatting and grammar. The choice of which draft is submitted for Writing Center evaluation is left to the student but should be made in consultation with the thesis advisor. A properly-formatted final draft is then presented to the advisory committee at least 2 weeks prior to the scheduled thesis defense. A copy of the committee draft should also be provided electronically to the department via the GPD, along with a completed Thesis/Non-thesis Defense Schedule and Checklist form (see Appendix 2). In practice, more than an entire semester is often necessary to complete this process. For further details on the process, see Section VIII below.

Table: Thesis Countdown Timeline

Weeks before thesis due to Grad College	Thesis Progress
>17 weeks*	Complete formatting video tutorials (prior to beginning writing)
16 weeks*	Data collection complete, Introduction & Methods written
15 weeks	Drafts of tables and figures completed
13 weeks	Preliminary draft to research/thesis advisor(s)
11 weeks	Preliminary draft feedback from research/thesis advisor(s)
9 weeks	First draft to Writing Center and research/thesis advisor(s)
7 weeks	First draft feedback from Writing Center, research/thesis advisor(s)
5 weeks	Second draft to research/thesis advisor(s) and Writing Center (optional)
4 weeks	Second draft feedback from research/thesis advisor(s)
3 weeks	Third (or later) draft to committee (2 weeks prior to defense)
1 week	Thesis defense and thesis feedback from committee
0 week	Final draft to Graduate College ("review copy")
-2 (post deadline)	Final thesis (with corrections required by Graduate College)

\*Note that the milestones begin prior to the beginning of the semester.

## B. Non-Thesis Option

All students are required to initially pursue the Thesis option. However, in some cases a student may be allowed to transition to a non-thesis option through an application process

that includes a written justification and departmental approval. Normally, the following criteria must be met:

1. The student has made an earnest attempt at completing a thesis project, including the identification of a research advisor, thesis project, and thesis committee.
2. The student has performed satisfactorily in one CHM 700 presentation, at least 4 credit hours (CH) of CHM 798 (Research), and no more than 4 CH of Thesis (CHM 799).
3. The student has been in residence as a full-time graduate student for at least two AY (academic-year) semesters (Fall, Spring) or as a part-time graduate student for at least three AY semesters.
4. Approval of the Thesis Committee.
5. Approval of the Department Head.

A student moving into the non-thesis option will be required to redesign his/her Program of Study, in which all occurrences of Thesis (CHM 799) are removed and only 4 credit hours of Research (CHM 798) remain. CHM 792 (3 CH) and CHM 793 (1 CH) must be added (or substituted in place of CHM 799), and additional coursework must be added as needed in accordance with the requirements and policies of the Department and University.

A non-thesis Advisory Committee will be formed, nominally from the Thesis Committee by removal of one committee member. The research advisor will normally remain as the committee chair for the purpose of supervising the primary Degree Paper (*vide infra*) and the corresponding public presentation. An alternate committee chair may be selected upon consultation with the Department Head and Graduate Program Director. The committee as a whole will be charged with evaluating the paper in both written and oral forms. A form for the thesis to non-thesis transition, including committee restructuring, is given in Appendix I and is available in the CHM Research Portfolios course on Blackboard.

Two Degree Papers are required:

1. The primary Degree Paper (CHM 792, 3 CH), which will be submitted as a written document to the Advisory Committee and presented orally in a public forum, should be based on the incomplete thesis project and any related chemical literature. The oral presentation format will follow that of a typical thesis defense, including a public presentation and a closed meeting with the Advisory Committee afterward. The written document will be equivalent in format to a thesis, but the content will differ by excluding the typical emphasis on the quality and implications of original work. The written document will be bound and archived in a similar manner to a typical departmental thesis.
2. The secondary Degree Paper (CHM 793, 1 CH) should involve a subject not closely related to that of the primary paper. The secondary paper will be based on recent chemical literature and submitted only as a written document. It will be evaluated by two faculty members chosen by the student and approved by the Graduate Program Director and Department Head. The readers do not need to be members of the Advisory Committee. At least one of the readers should be a member of the Chemistry Department graduate faculty.

Note that the primary Degree Paper constitutes a similar effort to a thesis, and although the emphasis is a bit different, the same considerations should go into the writing of it as would

be the case for a thesis. Thus, the countdown timeline given in the table in Sec. **Error! Reference source not found.**A above and the details described in Sec. VIII below pertain.

### C. Conclusion of the Research Component

Conclusion of the research component for both options will involve three parts: (1) a written document acceptable to the student's graduate advisory committee, (2) an oral presentation of the project open to the department and the public, and (3) an oral defense of the project and its conclusions before the members of the student's Advisory Committee.

The oral defense must be scheduled through the Graduate Program Director and must not precede the student's oral presentation. The oral presentation is open to graduate students, faculty, and anyone else wishing to attend. The student's thesis/non-thesis advisor chairs the presentation, and all attendees are allowed to question the student. The oral defense of the project is also chaired by the student's thesis/non-thesis advisor but is attended by only members of the Advisory Committee and a department-approved objective observer (typically either the Graduate Program Director or the Department Head). During the oral defense, questions may be asked which may cover various topics in Chemistry (and related areas), but the final evaluation is generally based on the student's knowledge in regard to his/her specific project. The advisor and committee determine if the student passes the exam, and the advisor notifies the student and Graduate Program Director of the results. If the student fails the oral defense, he/she may repeat the oral defense upon recommendation of his/her advisor, the Graduate Program Director, and the Department Head, along with the approval of the Graduate Dean. When all portions of the research component are completed satisfactorily, the advisor will notify the Graduate Program Director and submit the appropriate form to the Graduate College. For the Thesis option, the Graduate College must also approve the written thesis.

### D. Other Considerations: Use of Human and Animal Subjects in Research

Federal law requires that all research involving human subjects or other live vertebrates be evaluated and approved by institutional committees prior to launching research activity. Research involving human subjects is restricted by federal government regulations 45 CFR 46 (Federal Policy for the Protection of Human Subjects) and is overseen by the University's Institutional Review Board for the Protection of Human Subjects (IRB). Research involving other live vertebrates is also protected by federal guidelines and is overseen on campus by the Institutional Animal Care & Use Committee (IACUC). Consult the corresponding websites for compliance guidelines and procedures, training workshops, and more information:

- IRB: <http://ora.missouristate.edu/IRB.htm>
- IACUC: <http://ora.missouristate.edu/IACUC.htm>

## VIII. THESIS/NON-THESIS SUBMISSION AND DEFENSE PROCESS CHECKLIST

The policies and guidelines for thesis production are put in place to help streamline the process and to keep formatting across the various disciplines (and institutions) consistent. Both the Chemistry Department and the Graduate College take them very seriously, so start noting the policies in the early semesters of your program, well in advance of starting to write your thesis.

As mentioned previously, the Graduate College maintains online resources regarding thesis compilation and formatting. A Thesis Guide and (required) template are available at <http://graduate.missouristate.edu/currentstudents/ThesisResources.htm>. This same web site contains other useful information, including links to the required online tutorial video series addressing thesis formatting.

The following checklist is provided to help organize your thesis submission/defense process:

*The following must be completed prior to scheduling the defense and distributing the committee draft of the thesis or non-thesis primary Degree Paper:*

- ☐ Graduate College online thesis formatting video tutorial series (submit certificate)
- ☐ Bear CLAW evaluation (submit certificate)
- ☐ Research, thesis, and/or project advisor approval(s)

*Schedule thesis defense* (see the Thesis/Non-Thesis Defense Schedule & Checklist form in Appendix 2 and in the CHM Research Portfolios course on Blackboard)

- ☐ Schedule thesis defense with each committee member
- ☐ Schedule thesis defense with approved departmental Neutral Observer (typically either the Graduate Program Director or Department Head).

*Distribution of Committee Draft*

- ☐ Committee draft to committee at least two weeks prior to scheduled thesis defense
- ☐ Committee draft also submitted electronically to the Graduate Program Director and (if different) the Neutral Observer, along with all completion certificates

## IX. COMPREHENSIVE EXAM

The Graduate College requires all M.S. students to pass a "Comprehensive Exam," the format and scope of which varies from department to department. In Chemistry, the Comprehensive Exam is required to have a written component, but the specific format and scope is left to the discretion of the thesis or non-thesis advisor. The comprehensive exam must be administered after most of the course work has been completed by the student but prior to the scheduling of the oral defense. This examination must be passed by the candidate before a degree can be awarded. Documentation of the exam, the student's responses, and the graders' feedback must be submitted electronically to the Graduate Program Director by the thesis or non-thesis advisor for permanently recording in the departmental archives.

In consultation with the student and thesis or non-thesis advisor, the Graduate Program Director will inform the Graduate College of the outcome (Pass/Fail) of the examination. A copy of the proper form will be filed with the Graduate College and in the departmental archives.



## X. GRADUATE ASSISTANTSHIPS

### A. Availability and General Overview

The Department of Chemistry is committed to supporting as many graduate program students as possible via graduate assistantships (GAs). Interested students should consult the Graduate Catalog (<http://graduate.missouristate.edu/catalog/>) for specific deadlines and details regarding eligibility for receiving and maintaining assistantships. Assistantships carry either one-semester or nine-month stipends plus fee waivers and typically require the GAs to assist in the teaching of lower-division course labs involving both majors and non-majors. Normally assignments will include 6-8 hours/week of student contact plus additional hours for preparation, grading, and other assigned duties. Part of the prep time for first-semester teaching assistants (TAs) may include assisting and/or observing more experienced TAs or laboratory coordinators.

In addition to teaching assistantships, a few research assistantships are available to assist certain professors. These are funded from research grants to the professors and also entail approximately 20 hours/week of expected effort. This time is used to assist the professor in his/her research and is technically independent of—but often is directly related to—the student's thesis project. Whenever possible, such research assistantships carry the same levels of stipend and fee waiver as a teaching assistantship.

Summer assistantships may also be available on a limited basis for teaching and research (contact individual faculty). Summer assistantships carry an additional stipend plus fee waivers for summer classes. Summer fee waivers are also granted to students supported on any graduate assistantship during the previous academic year, even if a summer assistantship is not obtained.

Students who accept assistantships agree that these duties will be their primary commitment, along with coursework and research. "Outside jobs" are discouraged and must not interfere with higher priorities. Furthermore, it is expected that students with assistantships will maintain office hours and be regularly present on campus. Graduate students may be funded for a teaching or research assistantship for a maximum of four regular semesters (fall or spring) and two summer semesters.

By Graduate College policy, a graduate student who has taken more than 35 graduate credit hours is ineligible for appointment to further assistantship positions.

### B. Graduate Assistantship Policies

**Appointment Period.** In any given semester the appointment period begins on the Monday, one week before classes begin and continues through finals week. Unapproved absences during any part of the appointment period may result in a correspondingly lower stipend for the semester.

**Terms of Employment.** GAs are considered to be half-time employees of the University and are expected to work up to 20 hours per week. GAs on the full  $\frac{1}{2}$  appointments are not eligible for other University employment during the appointment period, including but not limited to student employment, work study, tutoring, and per-course assignments. Occasionally  $\frac{1}{4}$  GA appointments are made for working up to 10 hours per week, and under



these appointments students may be employed on campus for up to an additional 10 hours per week with Graduate College permission. Within the Chemistry Department most GAs will serve as Teaching Assistants (TAs) and will instruct in course laboratory sections. As part of the weekly GA work load, TAs are expected to:

- Reliably and punctually meet their assigned lab sections. All TAs should arrive in the laboratory about 10 minutes prior to the start of the instructional period.
- Attend weekly TA meetings with the corresponding laboratory coordinator(s). Laboratory coordinators will be contacting you regarding the scheduled time(s) for these meetings.
- Assist specific faculty members with Supplemental Instruction duties as assigned. This could include tasks such as helping to distribute and proctor exams, running selective help sessions, collating/organizing student work, course lab preparations, and in some cases, grading. Normally these duties should not take more than a couple hrs/wk on average.
- Hold office hours. You should hold at least two posted office hours/wk. During the time of your office hours, you must be in your office/lab, but you can be studying, grading, or conducting research, as long as you are able to help students when they show up. You should post a copy of your office hours outside your door prior to the start of semester and submit a copy to the Chemistry Department.

**Paychecks.** Graduate Assistants appointed for the Fall semester will receive a first paycheck at the end of September. Graduate Assistants appointed for the 9-month academic year will receive 9 paychecks equally distributed through the Fall and Spring semesters (Sep – May). Graduate students appointed for two semesters (one semester at a time) will receive 4 equal payments during each semester (Sep – Dec in Fall; Feb – May in Spring) but will NOT receive a paycheck in January. The total stipend amount is the same for 9-month vs. two-semester appointments, so two-semester paychecks will be commensurately larger. All paychecks are payable on the last working days of the corresponding months.

**Mandatory Course Enrollments.** All GAs (both  $\frac{1}{2}$  and  $\frac{1}{4}$  appointments) must enroll for and complete a minimum of 6 hours of graduate credit (600 level and above) for each fall and spring semester and a minimum of 3 hours in each summer semester that they hold an assistantship. Courses taken for audit do **NOT** count towards these minimum requirements. *Exception:* During the last semester in residence, students often do not have 6 hrs left in their program. With Graduate College approval, a student may enroll in as few as 3 hrs of coursework during their final semester.

**Safety Compliance.** You must attain and remain in compliance with departmental safety policies prior to beginning your GA appointment. The departmental safety certification is currently valid for a 2-year period. See the Chemistry Stockroom Manager for more information.

**Absence from Instructional Duties.** If you are unable to meet a scheduled lab section, TA meeting, or office hours, find a solution and contact your lab coordinator as soon as possible. In many cases you should also inform your students and the chemistry administrative assistants, Linda ([lallen@missouristate.edu](mailto:lallen@missouristate.edu)) and Marla ([Marla123@missouristate.edu](mailto:Marla123@missouristate.edu)).

**Evaluation and Reappointment.** All GAs are evaluated by both their students and their laboratory coordinator(s). These evaluations will be used by the Department Head in reappointing assistantships and in making teaching assignments in subsequent semesters. See Appendix I for copies of the evaluation forms used.

## XI. GRADUATE STUDENT FUNDING OPPORTUNITIES

The Chemistry Department is committed to supporting Master's degree research. To this end, the Department will provide research and travel funds in addition to those provided by the Graduate College (see <http://graduate.missouristate.edu/currentstudents/Funding.htm> for details regarding Graduate College funding opportunities). Below are described the Department's contributions to thesis research and student travel.

### A. Thesis Funding

Departmental thesis funding is designed to be matching support for funds obtained from the Graduate College through the Research Funding application process. Guidelines, application forms, and spending limitations are available on the Graduate College website at <http://graduate.missouristate.edu/currentstudents/Funding.htm>. The general guidelines for the departmental funding are as follows:

1. Upon receiving funds through Graduate College Thesis Research Funding program, the Department of Chemistry will provide an additional \$500, regardless of the amount of the award from the Graduate College.
2. Budget items that are not considered necessary for completion of the research itself cannot be funded. Consult either the Department Head or Chemistry Graduate Program Director if you have questions regarding specific requests.
3. Any items purchased with departmental or institutional funds are the property of the Department and University and are not to leave with the student upon graduation.
4. Costs associated with the publication of research results in a professional journal are not normally paid by thesis funds. Such costs may be supported by the department through an alternate funding source and must be requested at the time of publication.
5. Travel expenses for data/sample collection can be covered but must follow the posted guidelines at <http://www.missouristate.edu/financialservices/travelregulations.htm> and links therein. Unless otherwise negotiated with the Department Head, the Chemistry Department will not pay for the use of a vehicle from the University motor pool.
6. Equipment necessary for the research project is allowed.
7. Binding costs of the required five copies of the thesis is allowed, including one copy for each the student and research advisor. Additional copies must be covered by the student.
8. The department will provide regular paper (not bond) for the first thesis draft submitted to the Graduate College. The department will also provide enough bond paper to prepare five final copies. (Students must purchase paper for any copies beyond the five.)

### B. Travel

The guidelines and form for requesting student travel funds from the Chemistry Department for the purpose of attending professional conferences are provided in APPENDIX 2 and are downloadable from the CHM Research Portfolio course on Blackboard. To request such support, a graduate student must submit to the Department Head a presentation abstract and proposed trip budget that have been approved by the student's research advisor.

In addition to departmental funds, a graduate student may apply to the Graduate College and to CNAS for additional travel funds. To do this, a graduate student must submit the same information as noted above to the two colleges.

The general guidelines for departmental travel funding are as follows:

1. The maximum amount that a student may request and obtain from the Chemistry Department during the time that they are enrolled in the MS program in Chemistry at MISSOURI STATE UNIVERSITY is \$500.
2. Travel expense policies generally follow the University guidelines posted by Financial Services at <http://www.missouristate.edu/financialservices/travelregulations.htm>. Items that may be included are registration fees, transportation, lodging, and food. Receipts are required and a travel expense form must be submitted. International travel requires extra attention. Consult your research advisor and the MSU Financial Services web pages for more information.
3. For a specific professional meeting,
  - a. Students may apply for up to \$250 for a regional or state meeting if the student is presenting at the meeting.
  - b. Students may apply for up to \$500 for a national or international meeting if the student is presenting at the meeting.
  - c. Students may apply for up to \$100 for any meeting if the student is not presenting.

### C. Additional Sources

Additional sources of funding for both research and travel may be available from outside the department, both on- and off-campus. For information on other potential funding sources, consult your Research Advisor, the Chemistry Graduate Program Director, the Office of Research Administration (<http://ora.missouristate.edu/>), and/or professional societies in your discipline.

### D. Special Requests

Funding requests beyond the defined limits and/or for unique situations can in rare cases be accommodated. In consultation with your Research Advisor you may take such requests with justification directly to the Department Head.

## XII. ACCESS TO SCIENTIFIC LITERATURE

MSU Libraries maintains a collection of resource books and journal subscriptions to help support research and teaching efforts in the chemical sciences, many of which can be accessed electronically. The availability of all holdings is searchable through the Libraries home page at <http://libraries.missouristate.edu/>.

To access electronic holdings from off-campus locations you will need to be connected to the campus network through the Passport VPN (Virtual Private Network) client, available for free download from the MSU Helpdesk website at <http://helpdesk.missouristate.edu/off-campus-students.htm>. Please note that you must download, install, and use the VPN client from off-campus. See the website for installation instructions and more information.

### A. Literature Searching Resources

The MSU Libraries website provides a long list of search platforms, some of which are free to the public, and some available through an MSU subscription. You can find the complete

listing at <http://libraries.missouristate.edu/title.htm>. Some particularly science-related platforms are given here that can be accessed through the MSU Libraries:

- *Google Scholar*: <https://scholar.google.com>.

[*Google Scholar* is not actually in the MSU Libraries listing, but it is a very useful search platform, free to anyone and becoming quite good with its science-related content.]

- *JSTOR*: <http://purl.missouristate.edu/library/databases/JSTOR>.

- *SciFinder* (Chemical Abstracts Service): <https://scifinder.cas.org>.

[To access *SciFinder*, you must first register for a free account, available to all MSU faculty and students. See <http://purl.missouristate.edu/library/databases/SCIFINDER> for details.]

- *PubMed*: <http://purl.missouristate.edu/library/databases/PUBMED>.

- *Science Reference Center*: <http://purl.missouristate.edu/library/databases/SCIREFCENTER>.

In addition, many publishers and organizations maintain search platforms accessing their own (sometimes extensive) set of chemistry and chemistry-related journals. The following are a few links to specific search platforms for publishers who offer an extensive collection of journals in the chemical sciences:

- *ACS Publications* (American Chemical Society): <http://pubs.acs.org/>.
- *RSC Publications* (Royal Society of Chemistry): <http://pubs.rsc.org/en/Journals>.
- *ScienceDirect* (Elsevier): <http://purl.missouristate.edu/library/databases/SCIENCEDIRECT>.
- *Springer* (aka, Springer-Verlag): <http://link.springer.com/>.
- *Wiley Online Library* (Wiley & Sons Publishers): <http://onlinelibrary.wiley.com/>.

## B. Interlibrary Loan

For access to reference books and journal articles that are not currently held by MSU, the library offers an *interlibrary loan* service. After determining that the MSU Libraries do not have direct access to a needed literature source, you may fill-out a request form by following the Interlibrary Loan link in the Books & More tab of the Libraries home page (<http://libraries.missouristate.edu/>). The form is available to anyone with BearPass access to the library.

## APPENDIX 1. CHEMISTRY DEPARTMENT GRADUATE FACULTY

### *Distinguished professors*

**Eric Bosch**, PhD Weizmann Institute of Science (Israel), Organic Chemistry

### *Professors*

**Richard N. Biagioni**, PhD University of California-Berkley, Analytical & Inorganic Chemistry

**Bryan E. Breyfogle**, PhD University of Missouri Rolla, Inorganic Materials Chemistry

**Nikolay N. Gerasimchuk**, PhD University of Kansas, Inorganic Chemistry

**Reza Sedaghat-Herati**, PhD University of Surrey (England), Organic & Polymer Chemistry

**Tamera S. Jahnke**, PhD University of Iowa, Organic Chemistry

**Mark M. Richter**, PhD Washington State University, Analytical Chemistry

**G. Alan Schick**, PhD University of California-Riverside, Physical and Materials Chemistry

**Adam K. Wanekaya**, PhD State University of New York-Binghamton, Analytical & Nano Chemistry

### *Associate professors*

**Gary A. J. Meints**, PhD University of Washington-Seattle, Physical & Biophysical Chemistry

**Erich D. Steinle**, PhD University of Florida, Analytical Chemistry

**Matthew R. Siebert**, PhD University of California-Davis, Computational Organic Chemistry

### *Assistant professors*

**Gautam Bhattacharyya**, PhD Purdue University, Organic Chemistry & Chemical Education

**Cyren Rico**, PhD University of Texas-El Paso, Analytical & Environmental Chemistry

**Fei Wang**, PhD Iowa State University, Inorganic Chemistry

**Keiichi Yoshimatsu**, PhD Lund University (Sweden), Analytical Chemistry, Polymer Chemistry, and Chemical Biology

## APPENDIX 2. FORMS

### DEPARTMENTAL FORMS

The Chemistry Department has developed a number of forms to help standardize policies and procedures within the graduate program. Copies of the following forms are included in this appendix and are available electronically in the CHM Research Portfolio course on Blackboard (<https://blackboard.missouristate.edu/>). Consult the Chemistry Department office or the Chemistry Graduate Program Director for access.

Thesis Committee & Advisor  
Program of Study  
Thesis/Non-Thesis Defense Schedule & Checklist  
Graduate Assistantship Application  
Graduate Assistantship Recommendation  
Teaching Assistantship Evaluation (by Students)  
Teaching Assistantship Evaluation (by Supervisor)  
Travel Funding Request  
Non-Thesis Committee & Advisor  
Thesis/Non-thesis Defense Schedule & Checklist

### OTHER FORMS (AVAILABLE ONLINE)

#### *Graduate College Forms*

A listing of forms related to graduate education at Missouri State University, including general information, deadlines, and specific guidelines, is maintained by the Graduate College at <http://graduate.missouristate.edu/currentstudents/Forms.htm>. This listing includes forms related to both academic issues, such as the application for graduation, transferring graduate credit from another program, and comprehensive examination, and financial issues, such as graduate assistantships and thesis and travel funding.

#### *Office of the Registrar Forms*

The Registrar's Office maintains an extensive listing of online forms, which is available at <http://www.missouristate.edu/registrar/281447.htm>. Most of the graduate-level entries are redundant with those given in the Graduate College listing above. However, a potentially relevant form found only on the Registrar's site is the request for changing thesis hours to a non-thesis project, which would accompany the change to a non-thesis option. For information regarding this form, see <http://www.missouristate.edu/registrar/ThesisToNon-Thesis.htm>.

# Thesis Committee & Advisor Form

Department of Chemistry, Missouri State University

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Graduate students are to complete this form prior to the end of the first semester of residence in the Chemistry graduate program. This form should be on file in the Department prior to issuing research lab keys or approving a program of study.

Student Name: \_\_\_\_\_ BearPass #: M \_\_\_\_\_

E-mail: \_\_\_\_\_ Date: \_\_\_\_\_

---

**Part I: Select Thesis Advisor** (consult one or more Chemistry Faculty members and rank them)

List faculty members consulted:

Rank  
Your  
Choice(s)

_____	_____	_____	_____
Print	Signature	Date	
_____	_____	_____	_____
Print	Signature	Date	
_____	_____	_____	_____
Print	Signature	Date	
_____	_____	_____	_____
Print	Signature	Date	
_____	_____	_____	_____
Print	Signature	Date	

**Signatures:**

_____	_____	_____	_____
Student	Date	Research Advisor / Thesis Committee Chair	Date

---

**Part II: Select Other Committee Members** (3 minimum, at least 1 external; indicate external affiliations)

_____	_____	_____
Print	Signature	Date
_____	_____	_____
Print	Signature	Date
_____	_____	_____
Print	Signature	Date
_____	_____	_____
Print	Signature	Date

---

Department use: *Administrative Approvals*

_____	_____	_____	_____
Graduate Program Director	Date	Department Head	Date

## Program of Study

**Name:** \_\_\_\_\_ **M-number:** \_\_\_\_\_ **Email Address:** \_\_\_\_\_

**Street Address:** \_\_\_\_\_ **City, State, Zip:** \_\_\_\_\_

**Degree Sought:** Master of Science                      **Area of Study:** Chemistry

## INSTRUCTIONS

1. List only graduate courses needed to meet the requirements for the degree. Do not list prerequisite undergraduate courses.
2. List the graduate courses that you have taken, the ones you are currently taking, and the ones you plan on taking to complete your degree.
3. List the departmental course code and number, title, and credit hours for each course.
4. Place an asterisk (\*) after the course number of all transfer course work and indicate the institution on the line provided near your signature.
5. FORM MUST HAVE THE REQUIRED SIGNATURES BELOW (Research Advisor, Graduate Coordinator, and Department Head).
6. Any course work reflected on this candidacy does not alleviate your responsibility or obligation as a student to meet the requirements as outlined in the graduate catalog under which you apply.

Course Subject	Course Number	Title	Credit Hours	Term/Year
CHM			3	FA 20xx
CHM			3	FA 20xx
CHM	701†	Chemistry Seminar	1	FA 20xx
CHM	798	Research	2	FA 20xx
CHM			3	SP 20xx
CHM			3	SP 20xx
CHM	700	Chemistry Colloquium	1	SP 20xx
CHM	798	Research	2	SP 20xx
CHM	798	Research	2	SU 20xx
CHM	799	Thesis	1	SU 20xx
CHM			3	FA 20xx
CHM			3	FA 20xx
CHM	701†	Chemistry Seminar	1	FA 20xx
CHM	799	Thesis	2	FA 20xx
CHM			3	SP 20xx
CHM	700	Chemistry Colloquium	1	SP 20xx
CHM	799	Thesis	2	SP 20xx

† Credit does not count toward program requirements and is not included in program totals.

**Totals(Min)**    **Overall(32):**     **700-Level(16):**     **CHM(20):**     **CHM 702-790(6):**     **Diversity(3):**   
**Override (Dept. Init.) →**

\**Institution of Transfer Credit*

---

*Student Signature*

---

*Date*

### PROGRAM OF STUDY APPROVAL SIGNATURES

Research Advisor: \_\_\_\_\_

Print Signature Date

Graduate Coordinator: \_\_\_\_\_

Print Signature Date

Department Head: \_\_\_\_\_

Print

Signature

Date



# Thesis/Non-Thesis Defense Schedule & Checklist

Department of Chemistry, Missouri State University

Graduate students are to submit this completed form to the Chemistry Department prior to scheduling a Thesis or Degree Paper defense. This form will be kept in the departmental archive of graduate student records.

Student Name: \_\_\_\_\_ BearPass #: M \_\_\_\_\_

E-mail: \_\_\_\_\_ Date: \_\_\_\_\_

---

## Part I: Pre-defense Processing Checklist (to be completed prior to distributing Committee Draft)

☐ Grad College online formatting tutorials <Attach Bb gradebook print-out of tutorial quiz scores>

☐ Writing Center evaluation (format/grammar)

\_\_\_\_\_  
Writing Center consultant (Print) Initial Date

☐ Thesis/Non-thesis advisor approval

\_\_\_\_\_  
Name (Print) Initial Date

---

## Part II: Public Presentation and Defense Scheduling

**Defense scheduled for:**

\_\_\_\_\_  
Date

\_\_\_\_\_  
Time

Office Use

\_\_\_\_\_  
Room

Committee Acknowledgments of Date and Time:

\_\_\_\_\_  
Thesis/Non-thesis Advisor, CHM (Print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Committee Member, Affiliation (Print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Committee Member, Affiliation (Print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Committee Member, Affiliation (Print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Committee Member, Affiliation (Print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Neutral Observer, CHM (Print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

---

Department use: Administrative Approvals

\_\_\_\_\_  
Graduate Program Director

\_\_\_\_\_  
Date

\_\_\_\_\_  
Department Head

\_\_\_\_\_  
Date

## GRADUATE ASSISTANTSHIP

A number of graduate assistantships are made available each year to assist students with expenses while studying for advanced degrees at Missouri State University. Students who are enrolled as non-degree seeking, special students, or in any other non-graduate degree enrollment classifications are ineligible for assistantships.

**Benefits** - The graduate assistantship in chemistry provides a student with a minimum stipend of \$8,000 for the academic year (nine months). A limited number of graduate assistantships are available during the summer.

Graduate assistants are **eligible for a fee waiver scholarship** of up to 15 graduate credit hours in each of the fall and spring and six hours in the summer semester. Fee waivers are intended to cover primarily graduate courses. Undergraduate courses related to one's program of study may also be covered by the fee waiver. Those receiving summer graduate assistantships receive a fee waiver scholarship of up to six hours of course work.

**Requirements** - Students who receive a graduate assistantship must be enrolled in a minimum of 6 hours of graduate level course work (600-700) during a regular semester. Summer school graduate assistants must enroll for at least 3 graduate hours. Students on a graduate assistantship must maintain a minimum GPA of 3.0 to be eligible for reappointment.

**Application** - To apply for a graduate assistantship in Chemistry, the student must submit an application and three letters of recommendation directly to the department.

## Application for Graduate Assistantship

Missouri State University  
An Equal Opportunity Employer

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To the Applicant: Please complete both sides of this application and submit it to the Head of the Department in which you are applying for an assistantship.

---

---

---

Name

---

Date

---

Current Address

---

Permanent Address

---

City/State/Zip

---

City/State/Zip

---

Social Security Number

---

Phone

### EDUCATION (Please indicate colleges and universities attended.)

Institution	Dates Attended	Area of Study	Degree/Date
<hr/>	<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>	<hr/>

### ACADEMIC RECORD

Cumulative Undergraduate GPA: 

---

GPA on Last 60 Hours of Course Work: 

---

Graduate Cumulative GPA: 

---

Academic Honors, Memberships, and Offices in Professional Organizations:

---

---

---

### WORK EXPERIENCE

Position	Company	Dates	Duties
<hr/>	<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>	<hr/>

---

### REFERENCES (Give three references that may be contacted concerning your application.)

Name	Position/Title	Address	Phone

**ADDITIONAL INFORMATION** *(Provide any additional information that you think would highlight your qualifications.)*

\_\_\_\_\_  
Applicant's Signature

**RECOMMENDATION TO SUPPORT  
APPLICATION FOR GRADUATE ASSISTANTSHIP**

\_\_\_\_\_  
Chemistry

*(Department to Which Recommendation Should Be Sent)*

**Missouri State University**

**901 South National**

**Springfield, MO 65897**

\_\_\_\_\_  
*Name of Applicant*

\_\_\_\_\_  
*Date*

I have elected:

\_\_\_\_\_

A confidential file. Your statement will *not* be subject to my inspection.

\_\_\_\_\_

A non-confidential file. Your statement *will* be subject to my inspection.

**TO BE COMPLETED BY THE INDIVIDUAL PROVIDING A RECOMMENDATION**

We are particularly interested in the applicant's ability to carry on advanced study, his/her general character, and his/her capacity to pursue a successful career. Please give your opinion of the applicant's abilities and your basis for each opinion. You may use the reverse side for additional space.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Position/Department

\_\_\_\_\_  
Address

\_\_\_\_\_  
City/State/Zip

Student Evaluation of Instruction and Course  
College of Natural and Applied Sciences  
Missouri State University

Semester/Year: FA \_\_\_\_\_ SP \_\_\_\_\_ SU \_\_\_\_\_

COURSE CODE \_\_\_\_\_ NUMBER \_\_\_\_\_ SECTION \_\_\_\_\_ INSTRUCTOR \_\_\_\_\_

INSTRUCTIONS: Thank you for taking the time to consider these items carefully. There are 14 items found on both sides of this evaluation form. Items 12-14 are for lab/studio courses only. Please use a number 2 pencil to blacken in the circle that most closely corresponds to your observation for each of these 14 items. Read the statement and the response options before you decide on your response. Please evaluate each item separately. There is space for written comments on the reverse side of this form.

1. The instructor was consistently prepared for class.

☐ Strongly agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly disagree    ☐ No comment

2. The instructor presented the subject matter in a clear and understandable manner.

☐ Strongly agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly disagree    ☐ No comment

3. The instructor helped me achieve the objectives stated in the course policy statement.

☐ Strongly agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly disagree    ☐ No comment

4. The instructor gave timely and constructive feedback to my coursework.

☐ Strongly agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly disagree    ☐ No comment

5. The instructor demonstrated a willingness to provide reasonable help when needed.

☐ Strongly agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly disagree    ☐ No comment

6. The instructor's grading was fair in this section of the course.

☐ Strongly agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly disagree    ☐ No comment

7. The instructor created a classroom environment where I felt comfortable to ask questions and interact with the instructor.

☐ Strongly agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly disagree    ☐ No comment

8. The instructor helped me develop problem solving skills that I could use in the future.

☐ Strongly agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly disagree    ☐ No comment

9. The instructor conducted a well-organized course.

☐ Strongly agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly disagree    ☐ No comment

\* (OVER)

10. The course is:

- ☐ In my major    ☐ In my minor    ☐ An elective    ☐ A general education requirement    ☐ Other

11. I am a

- ☐ Freshman    ☐ Sophomore    ☐ Junior    ☐ Senior    ☐ Graduate    ☐ Other

**FOR LAB/STUDIO COURSES ONLY**

12. The instructor was able to resolve problems if they arose.

- ☐ Strongly agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly disagree    ☐ No comment

13. The instructor gave timely and constructive feedback to my coursework.

- ☐ Strongly agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly disagree    ☐ No comment

14. The instructor was available and helpful.

- ☐ Strongly agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly disagree    ☐ No comment

The space below is provided for written comments about this course.

## Teaching Assistant Evaluation by Lab Coordinator

Teaching Assistant: \_\_\_\_\_

Lab Coordinator: \_\_\_\_\_

Semester: \_\_\_\_\_

Course: \_\_\_\_\_ Eval. Date: \_\_\_\_\_

Criterion	Needs Improvement	Normal	Truly Exceptional	No Basis to Judge
1. Attitude: concern for student learning; overall enthusiasm; respect for students, coordinator, and other TA's.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Grading: returns graded material in a timely manner; grades fairly and provides appropriate feedback	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments (required for all "Needs Improvement" or "Truly Exceptional" ratings):



## Guidelines for Graduate Student Travel Budget

The Chemistry Department is committed to providing financial support for travel for MS students. To request such support, a graduate student must submit to the Department Head an abstract for the presentation to be given and a proposed budget for the trip that have been approved by the student's research director.

In addition to departmental funds, a graduate student may apply to the Graduate College and to CNAS for additional travel funds. To do this, a graduate student must submit the same information as noted above to the two departments.

Guidelines for departmental awards:

- (1) The maximum amount that a student may request and obtain during the time that they are enrolled in the MS program in chemistry at MISSOURI STATE UNIVERSITY is \$500 if they are presenting research results. The maximum amount is \$100 if the student never presents their research results but wishes to attend a meeting.
  - a. Students may apply for up to \$250 for a regional or state meeting if the student is presenting at the meeting.
  - b. Students may apply for up to \$500 for a national or international meeting if the student is presenting at the meeting.
  - c. Students may apply for up to \$100 for a meeting if the student is not presenting.
- (2) Budget items that may be included are registration fees, transportation, lodging and food. Receipts are required and a monthly travel expense form must be submitted.

### Application Form:

Name \_\_\_\_\_

Presenting at \_\_\_\_\_  
(Abstract attached.)

Amount requested

Itemized request -      Registration

## Travel

## Lodging

Food

Faculty Advisor's Signature of Approval \_\_\_\_\_  
(Print) (Signature)

Faculty Advisors: There is only a limited amount of money available for travel. Please seek external funding for travel, consider the costs of presenting at various meetings, and save costs by carpooling, etc. It is possible that some requests may not be approved.

Department Head's Signature of Approval \_\_\_\_\_

# Non-Thesis Option Policies and Guidelines

Department of Chemistry, Missouri State University (Department Approved 02 Feb 2016)

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## Admission to the Option

Admission to the non-thesis option is granted through an application process that includes a written justification and departmental approval. Normally, the following criteria must be met:

- The student has made an earnest attempt at completing a thesis project, including the identification of a research advisor, thesis project, and thesis committee.
- The student has performed satisfactorily in one CHM 700 presentation, at least 4 credit hours (CH) of CHM 798 (Research), and no more than 4 CH of Thesis (CHM 799).
- The student has been in residence as a full-time graduate student for at least two AY (academic-year) semesters (Fall, Spring) or as a part-time graduate student for at least three AY semesters.
- Approval of the thesis committee.
- Approval of the Department Head.

## Program of Study

A student moving into the non-thesis option will be required to revise his/her Program of Study, in which all occurrences of Thesis (CHM 799) are removed and only 4 CH of Research (CHM 798) remain. CHM 792 (4 CH) must be added, and additional coursework should be added in accordance with the requirements and policies of the Department and University.

## Advisory Committee

A non-thesis Advisory Committee will be formed, nominally from the Thesis Committee by removal of one committee member. The research advisor will normally remain as the committee chair for the purpose of supervising the primary Degree Paper (*vide infra*) and the corresponding public presentation. An alternate committee chair may be selected upon consultation with the Department Head and Graduate Coordinator. The committee as a whole will be charged with evaluating the paper in both written and oral forms.

## Degree Papers

Two Degree Papers (CHM 792 and CHM 793) are required:

- CHM 792 (3 Credit Hrs): The primary Degree Paper, which will be submitted as a written document to the Advisory Committee and presented orally in a public forum, should be based on the incomplete thesis project and any related chemical literature. The oral presentation format will follow that of a typical thesis defense, including a public presentation and a closed meeting with the Advisory Committee afterward. The written document should be of a similar format to a thesis, excluding the typical emphasis on the quality and implications of original work.
- CHM 793 (1 Credit Hr): The secondary Degree Paper should involve a subject not closely related to that of the primary paper. The secondary paper will be based on recent chemical literature and submitted only as a written document. It will be evaluated by two faculty members chosen by the student to act as readers with approval from the Graduate Coordinator and/or the Department Head. The readers do not need to be members of the Advisory Committee. At least one of the readers should be a member of the Chemistry Department regular faculty.

# Non-Thesis Committee & Advisor Form

Department of Chemistry, Missouri State University

This form documents the transition from a Thesis option to Non-Thesis option in Chemistry. The original Thesis Advisory Committee is released from responsibility and a new Non-Thesis Advisory Committee is identified. Original members of the Thesis Advisory Committee may be retained by mutual consent.

## To be filled out by Student

Student Name: \_\_\_\_\_ M-number: \_\_\_\_\_ Date: \_\_\_\_\_

1<sup>st</sup> term as CHM graduate student: \_\_\_\_\_ Number of Fall/Spring terms in program: \_\_\_\_\_

### Non-Thesis Option Admission Checklist:

- ☐ The student has made an earnest attempt at completing a thesis project, including the identification of a research advisor, thesis project, and thesis committee.
- ☐ The student has performed satisfactorily in one CHM 700 presentation, at least 4 credit hours (CH) of CHM 798 (Research), and no more than 4 CH of Thesis (CHM 799).
- ☐ The student has been in residence as a full-time graduate student for at least two AY (academic-year) semesters (Fall, Spring) or as a part-time graduate student for at least three AY semesters.
- ☐ Approval of the thesis committee.
- ☐ Approval of the Department Head.

Notice: The following text box locks after exiting.

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Date

Justification for transition to Non-Thesis Option: [<Click here to enter text or attach separate sheet.>](#)

### Committee Approvals: [Mark "P" for Primary Degree Paper (CHM792) and/or "S" for Secondary Paper (CHM793)]

Thesis Advisory Committee			Non-Thesis Advisory Committee			P	S
_____ Advisor (Print)	_____ Signature	_____ Date	_____ Advisor (Print)	_____ Signature	_____ Date	<input type="checkbox"/>	<input type="checkbox"/>
_____ Member (Print)	_____ Signature	_____ Date	_____ Member (Print)	_____ Signature	_____ Date	<input type="checkbox"/>	<input type="checkbox"/>
_____ Member (Print)	_____ Signature	_____ Date	_____ Member (Print)	_____ Signature	_____ Date	<input type="checkbox"/>	<input type="checkbox"/>
_____ Member (Print)	_____ Signature	_____ Date	_____ Member (Print)	_____ Signature	_____ Date	<input type="checkbox"/>	<input type="checkbox"/>
_____ Member (Print)	_____ Signature	_____ Date	_____ Member (Print)	_____ Signature	_____ Date	<input type="checkbox"/>	<input type="checkbox"/>

### Return completed form to the Department of Chemistry.

Department use: Administrative Approvals

\_\_\_\_\_  
Graduate Program Director Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Department Head Signature

\_\_\_\_\_  
Date