CHEMISTRY

GRADUATE STUDENT

HANDBOOK

Department of Chemistry
Western Illinois University

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Phone: (30

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CHECKLIST OF STEPS TO COMPLETE A MASTER OF SCIENCE IN CHEMISTRY

1. Admitted to graduate program.

2. Meet with graduate committee chair
   _____ a. Review transcripts for deficiencies
   _____ b. Choose plan of study
      1) Thesis plan
      2) Non-thesis/Internship plan
   _____ c. Review program requirements

3. Choose thesis or internship committee chair

4. Complete any undergraduate deficiencies

5. File a (after 9 hrs and before completing 15 hrs of graduate courses)

6. Choose thesis or non-thesis plan committee no later than the first week of the second month of the semester

14. Receive permission from the mentor/committee chair to submit the thesis to the other members of the thesis committee.

15. After approval by the mentor/committee chair, submit a rough draft of thesis/internship report to the committee.

16. Make all recommended corrections to thesis/internship report and obtain signatures of committee members (on signature page of thesis) that the thesis is acceptable in its current form.

17. Submit a photocopy of signed thesis signature page to the department office as verification of committee approval and schedule thesis defense date/time. Post mentor approved thesis abstract/seminar notice outside the department office.

18. Present seminar on thesis or internship, and pass oral examination on thesis project and general background knowledge in chemistry

INFORMATION AND PROCEDURES FOR A MASTER OF SCIENCE IN CHEMISTRY

Admission Requirements - see WIU Graduate Catalog online at:
http://www.wiu.edu/graduate_studies/catalog/chemistry.php

Undergraduate Deficiencies

All chemistry graduate students must fulfill chemistry and other science and mathematics requirements for a Bachelor of Science degree in chemistry (see WIU Undergraduate Catalog for details). Chemistry graduate students (**except students in the IBMP "Bridge" program**) will be required to pass a competency exam in each sub-division of chemistry (analytical, biochemistry, inorganic, organic, and physical) or be required to successfully complete an undergraduate deficiency course in the delinquent sub-discipline of chemistry.

All chemistry students must have their Deficiency Course Plan approved by their thesis/internship committee chair and submit the document to the Department of Chemistry. Chemistry graduate students must officially register for all recommended undergraduate deficiency courses. Undergraduate courses taken as deficiency must be completed with a grade of C or better, deficiency courses cannot be taken as pass/fail.

Students in the Chemistry or Forensic Chemistry IBMP "Bridge" program who have not completed undergraduate coursework with a grade of "B" or better in each sub-discipline of chemistry (analytical, biochemistry, inorganic, organic, and physical) as part of their B.S. degree will be required to either pass a competency exam in the deficient area or complete an undergraduate deficiency course in that sub-discipline of chemistry.

If a student fails the organic chemistry entrance exam that student will be required to complete either CHEM 435 or CHEM 330 as a deficiency course. The student must pass that course with a C or better.

If a student fails the physical chemistry entrance exam that student will be required to complete the physical chemistry deficiency course CHEM 370 or CHEM 374. The student must pass the course with a C or better.

If a student fails the physical chemistry entrance exam that student will be required to complete the physical chemistry deficiency course, either CHEM 479, or CHEM 370, or CHEM 374. The student must pass the course with a C or better.

If a student fails the biochemistry entrance exam that student will be required to complete CHEM 421(G), 422(G), 425(G), or CHEM 429. If the student takes CHEM 421(G), 422(G), or 425(G) the course will count for graduate credit. The student must pass the course with a C or better. If a student passes the biochemistry entrance exam that student must complete CHEM 521 or a graduate committee approved course which substitutes for biochemistry.

If a student fails the analytical entrance exam that student will be required to complete either CHEM 449, or CHEM 442(G), or CHEM 452(G) with a grade of C or better. If the student takes CHEM 442 it will count as a deficiency course but will not count for

graduate credit. If the student completes CHEM 442G or CHEM 452G that course will count for graduate credit. However, if a student passes the analytical chemistry entrance exam that student should complete either CHEM 541, CHEM 542, or CHEM 551, or a graduate committee approved course which substitutes for analytical chemistry.

If a student fails both the biochemistry entrance exam and the analytical chemistry entrance exam then the student can select either CHEM 421G, or CHEM 442G/CHEM 452G to complete for graduate credit. If the student selects CHEM 421G as their graduate course then the analytical course must be taken as an undergraduate level deficiency course. If the student selects CHEM 442G or CHEM 452G as their graduate course then CHEM 421 must be taken as

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Note: Students who wish to teach in a community college in Ill]

Chemistry graduate faculty members. The thesis committee will serve as the Final Oral Examination Committee. To improve diversity of research feedback it is recommended that graduate students with the same thesis mentor not duplicate their thesis committees.

Students following the “Thesis plan” should have an initial meeting with their committee to discuss their proposed research. Meetings should be held at least once a semester with the thesis committee to keep the members informed on the progress of the research. Students following the “Non-thesis/Internship” plan must also keep their committee informed of their progress.

If a student’s research interest changes, or a thesis advisor (or a committee member) is no longer able to work with a student, then a new thesis advisor (or committee member) may be selected. The change must be discussed with the prior advisor/committee member and the Chemistry Graduate Program Director, and the change must then be approved by the Graduate Program Director and the Department Chair, as well as the School of Graduate Studies. The new advisor/committee member must agree to serve on the student’s committee before formal changes are made.

Non-Thesis/Internship Project Proposal

An internship project proposal (Internship form) is to be completed by non-thesis plan students only. The proposal should serve as a summary of a planned internship project, and requires approval by the graduate committee and internship advisor.

The internship proposal should be submitt the .

Thesis Topic

The topic will be selected and research co in consultation with the adviso

Non-Thesis/Internship Project

The internship project may be an off-camp ratory project with the topic sele and internship conducted in consultation w Chemistry internship advisor an graduate committee. A written project or i p report is submitted to the Che internship advisor and committee for appro

Comprehensive Written Exiting Examinatio

For partial fulfillment of the requirements fo ster of Science in Chemistry ea graduate student will be expected to succe pass the Comprehensive Writte Exiting Examinations during the semester the student registers for either 591 (Internship Report), or CHEM 601 (Th he examinations will be develop administered, and graded by the Departme hemistry Graduate Committee a faculty. The Comprehensive Written Exiting s are organized and administere the Graduate P am Director once a mo g regular academic year. The Comprehensi Written Exiting Examinatio be composed of two componen

The first ex ds is in the general s

student. The second portion will consist of a series of examinations comprehensively covering the course work taken by the students.

Successful completion of the first examination of the Comprehensive Written Exiting Examinations will require a minimum score of 70%. A score of less than 70% is failing.

Successful completion of the second portion of examinations of the Comprehensive Written Exiting Examinations requires a minimum score of 50% on each individual course examination. A score of less than 50% on any of the individual course examinations is failing. Additionally, the average score of the series of individual course examinations of a student must average 70%. Average scores of all course work examinations below 70% are failing.

Successful completion of the Comprehensive Written Exiting Examinations will require passing both the first examination of the Comprehensive Written Exiting Examinations and the second portion of examinations of the Comprehensive Written Exiting Examinations. Not meeting the conditions to pass the first examination of the Comprehensive Written Exiting Examination means that the student has failed the first examination. Failure of the first examination requires that a similarly constructed exam covering this portion of the Comprehensive Written Exiting Examinations be repeated until a passing score is achieved. Not meeting the conditions to pass the second portion of examinations of the Comprehensive Written Exiting Examinations means that the student has failed the second portion of the examinations. If a student fails the second portion of the examination, the student may retake all the individual exams or only the individual exam they wish to retake.

The Comprehensive Written Exiting Examinations must be taken at least one month before the scheduled thesis/internship report defense and oral examination.

If the student does not successfully pass the Comprehensive Written Exiting Examinations within two weeks of the scheduled thesis/internship defense, the defense date must be rescheduled to allow a minimum of two weeks before the thesis/internship defense.

Steps for Thesis Approval

The graduate student must work with his/her research advisor to produce a thesis manuscript acceptable to the thesis advisor.

Model Graduate Thesis Schedule

Writing a thesis is more time consuming than a typical graduate student expects. It is essential to work closely with your research advisor to review an outline for each section.

Model Timeline for Writing a Thesis

Thesis Section	Average Writing time
Introduction	4 weeks
Results and Methods	4 weeks
Experimental section	2 weeks
Tables, figures, refs etc.	4 weeks
Total	15 weeks

Please note that the times listed are periods that the student spends dedicated to writing approximately six or more hours per day. Some students will require more time, and a few students will require less.

Corrections and Thesis Approval Process

Research mentors generally require a period of three months or more to review a thesis before it can be submitted to the remaining committee members. Committee members require two to three weeks for review of thesis. Requests for urgent examinations are therefore difficult, and assume that revisions are not necessary. It is not reasonable to expect the mentor and committee members to take less than three to foo ḫ

				analysis data, etc.)
by March 8	by July 2	by Oct. 10	Submit draft 2 of experimental section to research mentor	

internship report seminar with the internship advisor and graduate committee. The seminar should be schedul

satisfactory; **the advisor must be part of the approving majority**. If the committee decides the student's performance is satisfactory, the advisor and the committee members will sign each copy of the thesis and complete and sign the Thesis approval Page.

If the committee decides the student's performance is unsatisfactory, the examining committee may require another examination(s) which may be oral, written, or both and must be completed within one (1) year of the original exam.

Thesis Plan - After the Oral Examination

The thesis advisor and student will

committee may require other examination(s) which may be oral, written, or both and must be completed within one (1) year after the original exam.

Non-Thesis/Internship Plan - After the Oral Examination

The advisor and student will complete the upper portion and sign the The advisor will complete any required. A grade for CHEM 591 will not be issued until the student has successfully completed the oral defense. The CHEM 590: Graduate Internship and CHEM 591: Internship Report courses are graded on S/U basis. The advisor will then give one copy of the internship report, and the signed by the advisor to the Graduate Committee Chair and the departmental secretary. The departmental secretary will place these documents in the students file.

INTEGRA

B.S. Chemistry Options of Study (select A, B, C or D).

A. Chemistry

Special Courses: CHEM 374, 375, 401, 416, 442, and 492	18 sh
Departmental Electives	3 sh
Open Electives: any minor	16-20 sh
Other:	
MATH 133, 134, 231	12 sh
PHYS 211, 213, or 124, 125	8-10 sh
CS 211 and 212 or higher	3 sh

B. Biochemistry

Special Courses: CHEM 370 or 374; 416, 421, 422, 425	18 sh
Departmental Electives	4 sh
Biology Minor	17 sh
MATH 133, 134	8 sh
PHYS 211, 213, or 124, 125	8 -10 sh
CS 211 and 212 or higher	3 sh

C. Pharmacy

Special courses: CHEM 263, 264, 370, 416, 421, 422,

Directed electives (includes up to 9 sh bridge courses)	15	sh
Total program	32	sh

*CHEM 492 or CHEM 492G is pre/co-requisite for CHEM 600

Applied Chemistry Plan

CHEM 580 seminar	2	sh
†CHEM 590 Internship	10	sh
†CHEM 591 Internship Report	2	sh
Electives in co[illegible] area	3	sh
Directed elect[illegible]es (includes up to 9 sh bridge courses)	15	sh
To[illegible]pr[illegible], [illegible] a	32	sh

†N[illegible] F[illegible] 600, 6[illegible], 590 [illegible]591 [illegible]e graded S/U and [illegible]ill not impa[illegible]ur final gra[illegible]gra[illegible] point [illegible]ve[illegible]ge.

[illegible]Up to 9 [illegible]EM[illegible] fo[illegible]4[illegible]0[illegible] undergraduate/bridge/gr[illegible]uate courses can be counted tow[illegible]uilt [illegible]our requirements: CH[illegible]1G (4) Inorganic Chemistry ; one of thes[illegible]ochemistry courses: CHEM 421G (4) or CHEM 422G (4); CHEM 442G (4) [illegible]Analysis; anM CHEe[illegible])

FACILITIES AVAILABLE IN THE DEPARTMENT OF CHEMISTRY

Chemistry Resource Center

Currens 315 will serve as a Chemistry Resource Center (CRC). The CRC will provide students with a place to study, to utilize study guides and materials, as well as serve as a Chemistry Tutoring Center. Additionally, space will be allocated for TAs to hold office hours and meet with their students.

Graduate Student Keys

The department may authorize keys for entry to the building, research and te

PLEASE NOTE: The number of TA/TSA positions available from the Department of Chemistry is limited. Meeting or exceeding the minimum qualifications for an assistantship does not guarantee that a student will receive an assistantship.

Departmental Teaching Assistants (TA) and Teaching Support Assistants (TSA):

Departmental TA duties may include: teaching chemistry laboratories as instructor; lecture assistant (graders) for faculty; preparing solutions and setting up labs for exercises; tutoring undergraduate students in the Chemistry Resource Center; or any combination of these activities.

Departmental TSA provide assistance/support to an academic course instructor. Duties of a TSA involve: assisting faculty instructors in laboratory or classroom exercises, preparing the laboratory; preparing instructional materials; tutoring; grading; facilitating review sessions; or any combination of these activities.

Departmental GAs provide assistance/support to the Department of Chemistry in a non-instructional capacity. Duties of a GA involve: clerical/receptionist duties, including typing, filing, photocopying, answering the telephone, greeting visitors, and other office support duties; or stockroom assistance, such

Habitual lateness by a TA/TSA is counterproductive and could cost the TA/TSA his/her assistantship.

A TA/TSA should always be at least ten minutes early to any teaching assignment. A TA should never be late for any teaching assignment under any condition. If circumstances mandate that a TA may not meet a teaching commitment,

APPENDIX

Department of Chemistry
I. GRADUATE POLICIES

1. All deficiency courses must be completed with a letter grade of C or better.

2. Chemistry graduate students (not in the BS-MS Integrate Program or “Bridge” Program) must file a deficiency course plan in their first semester in the graduate program.

3. Chemistry graduate students must file a degree plan, after they have completed nine semester hours of graduate credit and before they have completed fifteen semester hours of graduate credit (preferably during second semester).

4. A Thesis/Internship Advisor must be selected by the beginning of the second semester, the name of whom should be provided in writing to Chemistry Department Graduate Committee and to the Department of Chemistry main office. An approved Chemistry Thesis Advisor must be a full time Unit A member of the Chemistry faculty and a full member of the WIU Graduate Faculty.

5. Change in the thesis/internship advisor, may be made only with the approval of the Chemistry Department Graduate Committee and Department Chair.

during the student’s last semester, and an oral examination at the time of the student’s thesis/internship defense.

Department of Chemistry
II. THESIS AND INTERNSHIPS POLICIES

A. Thesis Committee

1. For each thesis planned to be defended during a given semester, a thesis committee of n

B. Thesis Defense

1. The thesis committee chair must approve the draft thesis before the draft thesis is submitted to the other committee members. (See page 8 for thesis approval process and expected time line.)

2. The thesis must be approved by all committee members (as the final version) before the thesis defense may be scheduled. A copy of the completed (signed) thesis signature page must be presented to the department before a classroom can be scheduled for a thesis defense date/time.

q 3. The defense date must be scheduled a minimum of one week prior and

4. Once an internship is concluded, and the internship report has been approved by the committee, the student should contact the internship committee chair and the DGC, and agree on a presentation/oral examination date. The presentation/oral examination should be held during a regular school day of the fall, spring, or summer sessions. The presentation/oral examination shall not be scheduled on weekends, holidays, or during inter-session periods.

5. The internship committee chair and DGC should form a three-member internship committee to evaluate the presentation and written report provided by the student. The internship committee will be subjected to the same selection criteria as the thesis defense committee.

6. The report should be made available by the student to the internship committee at least two weeks before the presentation.

Text

- **Introduction**: (start with page 1). The introduction should include background information (20 – 25 pages) with appropriate citations. All statements of fact, not discovered for the first time in your research, must be appropriately cited. The practice of citing a reference used in another paper or “back citing” is not permitted in any section of the thesis or internship report.
- **Results and Discussion**

Department of Chemistry
FINAL ORAL EXAMINATION REPORT FORM

Student's Name_____ Date of Examination_____

Thesis plan: _____ Non-thesis plan: _____

The student's Final Oral Examination Committee administers the oral examination according to the procedures established by the School of Graduate Studies (see Graduate Catalog) and the department's Graduate Committee (see Graduate Handbook). The student must pass, meet, or exceed expectations in all areas listed below for a satisfactory completion of the Final Oral Examination.

Student's Performance on Final Oral Examination* ***PASS*** ***FAIL***

I. Defense of Thesis or Internship Project: _____ _____

EXCEEDS PROGRAM EXPECTATIONS	***MEETS PROGRAM EXPECTATIONS***	***RETEST REQUIRED***
_____	_____	_____

II. General knowledge in Chemistry

EXCEEDS PROGRAM EXPECTATIONS	***MEETS PROGRAM EXPECTATIONS***	***RETEST REQUIRED***
_____	_____	_____

Report by Final Oral Examination Committee
As indicated by the above results, the student whose name appears above has Satisfactorily completed the Final Oral Examination in all areas.

_____ _____
Committee Chair (Advisor) Date

_____ _____
Committee Member Date

_____ _____
Committee Member Date

_____ _____
Committee Member Date

Received by Graduate Committee

Chair:_____ Date:_____

* Comments may be written on the back of the form

Department of Chemistry
DEPARTMENTAL CLEARANCE FORM

Student's Name

Thesis Plan _____

Non-Thesis Plan _____

Thesis/Internship Committee names: _____

_____

_____

_____

Thesis Defense Completed:

Oral Examination Completed:

Final Corrections Made:

Grade Changes Made Showing All Courses Completed:

Research Space Cleaned:

Lab Notebooks Turned In

Dep