

GRADUATE STUDENT GUIDEBOOK (rev. Sep 2024)

Relevant WWU Graduate School pages: [Chemistry Research Advisors and MS Course Work](#)
[Chemistry MS Program Overview](#) [WWU Graduate School Homepage](#)

Direct questions to the Chemistry Graduate Advisor: Dr. Serge Smirnov (smirnos@wwu.edu)

This Guidebook is for graduate students in the Chemistry Department who are pursuing the MS degree via the thesis option, which includes upper-level coursework and an original, independent research project guided by an individual Research Advisor. This Guide assumes a standard two-year MS program starting in a Fall quarter; for other arrangements *request Guidebook customization* from the Chemistry Graduate Advisor.

A **timely completion** of all the relevant tasks as **scheduled by the Graduate School is vital** for the successful completion of the program and obtaining of the MS degree.

[Pages 2-3](#) below outline the tasks and respective due dates for **Year 1** of the program; [pages 4-7](#) do the same for **Year 2**.

Before the start of the program. Together with your Research Advisor, select two elective courses beneficial for your research and development. The two electives need to be scheduled for the upcoming academic year. Inform the Chemistry Graduate Advisor of your selection by sending for each elective its course number (CHEM XYZ), title, instructor's name, quarter offered and the number of credits.

Coursework summary. The coursework includes several types of courses, 45 credit minimum. (a) Graduate electives- typically 5XX courses which focus on advanced topics in chemistry or biochemistry (2X, 3-4 cr); (b) CHEM 595: courses dedicated to research planning and thesis defense (2X, 1-cr); (c) CHEM 596: departmental seminars (3X, 1-cr); (d) CHEM 690: allocated for thesis writing, 12-credits total; (e) CHEM 502: TA preparation (1X, 1-cr); (f) CHEM 501, 510, 511: "research" courses (variable credit) accounting for time in research lab.

Research project and thesis. Your respective Research Advisor faculty will help you to develop and organize your research project. Typically, during the first two academic quarters the graduate student will learn the necessary experimental methods and collect preliminary data sufficient for the Preliminary Proposal presentation scheduled for the third quarter of year 1. After that, the rest of the time is dedicated to rigorous, independent lab work and activities under the mentorship of the Research Advisor and writing/defending the MS research thesis.

Year 1 Tasks: Preliminary Proposal and Advancement to Candidacy

Selecting the Thesis Committee. The Research Advisor will serve as the Chairperson of their student's Thesis Committee. The student must invite two additional faculty members familiar with the relevant area(s) of research. At least one of these two members must be tenure track faculty from the Chemistry Department. The final committee member may be faculty (tenure or non-tenure track) from any appropriate academic unit on campus. The Committee must be established before the Preliminary Proposal presentation and is expected to serve through the thesis defense.

Preliminary Proposal (1st credit of CHEM 595). The graduate student must present a Preliminary Proposal to the Thesis Committee no later than one calendar year before the projected MS thesis defense (typically in the Spring quarter of Year 1). The student must schedule the presentation with all the members of the Thesis Committee as soon as possible and well before the end of the quarter. During this quarter, the student will enroll in one credit of CHEM 595. It is mandatory that all members of the Thesis Committee are present; it is permissible that other faculty attend. The purpose of this meeting is to allow discussion of the student's research goals for the remainder of their graduate program (>1 year), for the committee to ensure that these goals are reasonable and of sufficient merit, and to check that the student is on track toward completing their MS degree.

When developing the Preliminary Proposal, the student will work closely with their Research Advisor. The presentation itself should be ~20-30 minutes in length, however students should expect an interactive question/answer format. To accommodate extended discussion, students should reserve a 1-hour time block for completion of the Preliminary Proposal. The Presentation is expected to include primary literature review of the specific thesis topic and an overview of the research plan—what problem/question is being investigated, and what research methods will be used. It is also expected that preliminary research results obtained by the student will be presented.

Successful Preliminary Proposal is required for Advancement to Candidacy (see below); failure to complete this step may result in dismissal from the MS program. If a student's Proposal is deemed unsatisfactory, the Thesis Committee may assign a grade of 'K' for CHEM 595 and should then develop a plan with the student for correcting insufficient aspects of the Proposal.

Advancement to Candidacy is a formal recognition that student have demonstrated satisfactory performance during their first year of graduate study. Satisfactory performance includes maintaining a 3.0 GPA and successful completion of the Preliminary Proposal. Once these activities have been completed, the Thesis Topic Approval electronic form (e-form) should be filed with the Graduate School (see below for instructions and due dates). The form will include a brief abstract (~200 words) summarizing the motivation and methods for the student's research project. The Thesis Topic Approval e-form needs to be approved by all Thesis Committee members, the Chemistry Department Chair, the Chemistry Graduate Advisor and the Graduate School. After the form has been approved, the student will receive a notification from the Dean of the Graduate School informing of their Advancement to Candidacy.

Year 1 Tasks & Due Dates.

SPRING 2024

Relevant Graduate School pages:

[Thesis Information](#) (“Getting Started” section)

Tasks (Due dates)

Actions / e-forms / Links

Register for CHEM 595

(Winter quarter 2024)

This is the first time this 1-credit course is taken.

The next one will follow in a year.

Assemble the Thesis Committee

(By the start of the quarter)

The members can be from the Chemistry department or from other related programs on campus.

The thesis committee members must be familiar with the relevant area(s) of research.

At least one of the two additional members must be a Chemistry tenure track faculty.

Schedule Preliminary Proposal presentation

(Two weeks in advance *)

Make sure that the day/time of the presentation works for the Thesis Committee members.

Reserve a room with a PC and projector for powerpoint slides for ~1 hour of time (talk + Q/A).

Preliminary Proposal presentation

(Before the end of the quarter)

Present the Proposal with a 20-30 min talk. Note the feedback provided by the Thesis Committee on the scope and depth of your research aims and the suggestions regarding the experimental methods

Thesis Topic Approval e-form

(Before the end of the quarter)

Upon approval from the Thesis Committee to proceed with research, apply for advancement to MS candidacy by submitting the [Thesis Topic Approval e-form](#).

Initiate the form and send it to your Research Mentor (Thesis Committee Chair).

* If you and your mentor choose to postpone the Preliminary Proposal presentation to Summer-2024, inform the Chemistry Graduate Advisor by the end of May. Incomplete grade “K” will need to be issued for CHEM 595. The grade will be replaced with an “S” upon successful Preliminary Proposal presentation, approval of the Thesis Topic Approval form and Advancement to Candidacy in the Summer.

Last day of Spring quarter **June 9**

Year 2 Tasks: Thesis Writing

Relevant Graduate School pages:

[Degree Completion](#)

[Thesis Information](#)

Writing the Thesis (CHEM 690). Once students have completed a sufficient body of work, delivered their preliminary proposal to the thesis committee (first CHEM 595 credit) and submitted the Thesis Topic Approval e-form (see Year 1 goals and tasks above), they may register for CHEM 690 (Thesis Writing). Students may register for 2-6 credits of CHEM 690 per quarter for a total of 12 credits. Typically, students will enroll in 6 credits per quarter of CHEM 690 during their final two quarters of enrollment. Initially, a grade of "K" (incomplete) will be given for CHEM 690 until the research thesis has been accepted by the Thesis Committee. At this time, the Thesis Committee Chairperson will assign a final grade using the Degree Recommendation (Thesis) electronic form available in the [Degree Completion](#) section of the Graduate School website.

Writing the thesis is a substantial undertaking and students must allocate a large amount of time to complete the process (hence 12 credits of CHEM 690). As a rule of thumb, a first draft should be completed prior to the quarter in which a student plans to graduate. Another way is to complete the Introduction and Materials&Methods section before the last quarter of year 2 to have the Results and Discussion completed during this final quarter. In writing the thesis, material must be organized into a series of logically arranged sections that lead from one topic to the next. It is usually possible to find several ways to organize the presentation, and it is crucial for students to consult with their Research Advisor to establish proper organization. CHEM 505 (Introduction into Thesis Writing) course, typically taken in Fall of Year 2 is designed to get the students started in their thesis writing.

In addition to the guidance provided by the Research Advisor, the actual format of the thesis must follow the [Thesis Manuscript Guidelines](#) (Manuscript Guidelines section) found on the Graduate School website. Students may also wish to consult the *ACS Style Guide, A Manual for Authors and Editors* for discipline-specific formatting guidelines. Other good resources include *The Art of Scientific Writing* by Ebel, Bliefert, and Russey and *How to Write a Successful Science Thesis: The Concise Guide for Students*, by Russey, Ebel, and Bliefert. Finally, writing support for graduate students is offered by the WWU [Hacherl Research-Writing Studio](#).

Research Advisors should receive a first draft of the thesis with sufficient time for review. Based on the Advisor's recommendations, appropriate changes should then be made. After the thesis has undergone sufficient revisions, the penultimate draft of the thesis is circulated to the entire Thesis Committee for comments and approval. Rewriting should be anticipated at each stage of this review process. The Committee must have at least two weeks to read the thesis before the student is scheduled to defend it. Upon receipt of the Thesis Committee's recommendations for changes, students should make the final revisions and prepare the thesis in the final form. It is possible that the Thesis Committee may insist upon more than one opportunity to review the thesis draft. In no case should the final thesis be submitted to a Committee member who has not seen previous drafts. In most cases, the final version of the thesis is completed, approved, and submitted to the Graduate School shortly after the student has completed their thesis defense. It is critical that all deadlines related to thesis preparation and submission are followed for the quarter in which a student intends to graduate (see [Degree Completion](#)).

Year 2 Tasks: Thesis Defense and Application for MS degree

Relevant Graduate School pages:

[Degree Completion](#)

[Thesis Information](#)

Application for the M.S. Degree. In the quarter prior to the one in which graduation is planned, the student must submit the [Master's Degree Application e-form](#) (due dates and instructions are below). Approval should be obtained from the Research Advisor before submitting this application.

Scheduling the MS thesis defense. The student must schedule the Thesis defense and examination day and time in coordination with the Thesis Committee. The students must send the electronic form informing the Graduate School of the defense date at least two weeks before the defense date.

Thesis Defense – Seminar (2nd credit of CHEM 595) and Oral Examination. The thesis defense consists of both a public seminar and a private oral examination. A seminar date must be arranged in coordination with the Research Advisor and the rest of the thesis committee (see below for the due dates and Oral Defense Schedule electronic form).

The seminar portion of the defense is a presentation of the final data, scientific analyses, logic, and conclusions that have been presented in the written thesis. This presentation, including time for questions, should be confined to a 50-minute period. It is important that students work closely with their Research Advisor in developing their final seminar. This seminar also fulfills the second required credit of CHEM 595, and therefore students should enroll in one credit of CHEM 595 for this quarter.

Immediately following the research seminar, the student will participate in a private oral examination administered by their full thesis committee. There are two purposes for holding a private oral thesis defense. First, it provides a demonstration that the student is capable of orally defending the research and conclusions of their thesis project. Second, it allows the faculty to determine the scientific merit of the methods used, the adequacy of the data, and the validity of the conclusions presented in the defense seminar and the thesis document. If a student does not satisfactorily complete any portion of the thesis defense, they may be given a second opportunity after a time interval determined by the thesis committee. This will include sufficient time to allow for the correction of any deficiencies and errors. In addition, thesis defenses will be announced to Graduate Faculty Governance Council, and a graduate faculty member may volunteer to attend. The Graduate School will inform the student if this is the case.

Final Steps for Thesis Submission. Once the final thesis revisions have been completed, it is ready for submission to the Graduate School. This is achieved electronically (see below for the instructions and due dates). Be sure to carefully follow all instructions to avoid delays.

Degree Recommendation. The final requirement is submission of the Degree Recommendation (Thesis) electronic form available (see below for the instructions and due dates). This form should be approved by the entire thesis committee and the Graduate Program Advisor and must be received by the Graduate School on time (see below for the due dates).

Important: The student's thesis committee/adviser enters the final grade for CHEM 690 ("S") on the Degree Recommendation form. The forms comes to the Graduate School. Once the final thesis is approved by the Dean of the Graduate School, its' staff sends it on to the Registrar's Office to change the CHEM 690 grade from K to S.

Year 2 Tasks & Due Dates.

SPRING 2024 defense

Relevant Graduate School pages:

[Degree Completion](#)

[Thesis Information](#)

Tasks (Due dates)

Actions / e-forms / Links

Register for CHEM 595

(Winter quarter 2024)

This is the second and the last time this 1-credit course needs to be taken. All the second-year graduate students must register for CHEM 595 in Spring (including those plan their thesis defense in the Summer).

Apply for MS Degree

(March 22, 2024)

Master's Degree Application e-form;

Forward the e-form to Chemistry Graduate Advisor

Schedule Oral Defense

(Two weeks in advance)

Oral Defense Schedule e-form;

Send the e-form to the Graduate School

Email Thesis draft to the Committee.

Reserve a lecture room with a PC and projector.

Inform the Chemistry Department Office

(One week in advance)

Email to chemistry@wwu.edu the building, room, date, time, title and a brief abstract of your seminar.

Thesis defense, Seminar and Examination

(No later than May 21*)

Collect and address all the requests for thesis improvements from the Thesis Committee

Submit Final Thesis

(May 24*)

Follow Upload Thesis PDF to CEDAR link; Select "Uploading to CEDAR" pane

Degree Recommendation

(June 7)

Degree Recommendation Thesis Option; Forward the e-form to your Research Advisor.

Last day of Spring quarter **June 14**

* Extensions could be granted on a case-by-case basis and must be requested individually only in special circumstances. The deadlines are somewhat early because the Graduate School staff (just 2 people) review and approve ~75 thesis submissions every Spring, which is impossible to do if they all come in at the end of the quarter. Thus, the Chemistry Graduate Advisor will not automatically endorse an extension request from a student. It's important for students and their Research Advisors to look at the timeline in advance, plan and meet the published deadlines. In most cases if the Spring deadlines cannot be met, the student will defend in the Summer (page 7).

Year 2 Tasks & Due Dates.

SUMMER 2024 defense

Relevant Graduate School pages:

[Degree Completion](#)

[Thesis Information](#)

Tasks (Due dates)

Actions / e-forms / Links

Register for GRAD 699

(**May 31**)

Registration (\$50) for Summer 2024 is needed for those who will not be paid as student continuous enrollment employees (RA positions, etc.). For GRAD 699 overrides, email gradschool@wwu.edu
A "K" grade for the second CHEM 595 will be issued until the thesis defense is complete.

CHEM 595 "K" grade for the Spring quarter

The student and research mentor inform the Chemistry Graduate Advisor of the Summer defense to enter the "K" grade. The grade will be changed to "S" upon thesis defense.

Apply for MS Degree

(**June 14**)

(May 1 if participating in June Commencement)

[Master's Degree Application e-form](#);

Forward the e-form to the Chemistry Graduate Advisor

Schedule Oral Defense

(Two weeks in advance)

[Oral Defense Schedule e-form](#);

Send the e-form to the Graduate School

Email Thesis draft to the Committee.

Reserve a lecture room with a PC and projector.

Inform the Chemistry Department Office

(One week in advance)

Email to chemistry@wwu.edu the building, room, date, time, title and a brief abstract of your seminar.

Thesis defense, Seminar and Examination

(No later than **August 6**)

Collect and address all the requests for thesis improvements from the Thesis Committee

Submit Final Thesis

(**August 9**)

Follow [Upload Thesis PDF to CEDAR](#) link; Select "Uploading to CEDAR" pane

Degree Recommendation

(**August 16**)

[Degree Recommendation Thesis Option](#); Forward the e-form to your Research Advisor.

Last day of Spring quarter

August 18