



Chemistry &

Biochemistry

at New Mexico State University

**Graduate Student
Handbook**

Fall 2024

New Mexico State University
Department of Chemistry and Biochemistry
Graduate Student Handbook

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1. INTRODUCTION

This handbook is a compilation of policies and procedures of the chemistry graduate program at NMSU. It is meant to serve as a guide to help students as you make your way through the program. Note that this handbook does not cover all the policies of the NMSU Graduate School. Those policies are compiled in the [NMSU Graduate Catalog](#) and the [Graduate School](#) web site. You must follow both the department guidelines and the graduate school catalog as you pursue your advanced chemistry degree.

Your progress in the chemistry graduate program is administered by a graduate committee consisting of (usually) four faculty members, with one chairperson and three committee members. The chemistry graduate program staff consists of:

Dr. Erik Yukl, Graduate Coordinator; etyukl@nmsu.edu
Kimberly Hubbard, Administrative Assistant; kimhub@nmsu.edu

Usually, the first point of contact for students in the graduate program is the program assistant listed above. This person will handle the processing of all forms relating to the program and can answer most questions about program policies and procedures. Students should feel free to contact the program assistant, the graduate coordinator, or any member of the graduate committee regarding questions or other issues relevant to the program.

Note that this handbook summarizes the policies and procedures that were in effect on the date on the front cover. Students will be notified of changes as they occur, but this handbook is not a contract. If policies change in minor ways during a student's course of study, then the student may be asked to work toward a degree under the new policies in place of policies that were in effect when the student was admitted.

2. PROFICIENCY REQUIREMENTS

2.1 Chemistry Proficiency/Prerequisites

Entering students should have taken courses equivalent to those required for a B.S. degree in Chemistry or Biochemistry at NMSU. This should include a full year of organic chemistry and at least one semester of physical chemistry. Applicants lacking these courses will be considered but may be required to pass undergraduate classes or placement exams in deficient areas prior to beginning the graduate curriculum.

2.2 English Language Proficiency

Graduate students whose undergraduate institutions were not taught in English are required to score at least 80 overall on the TOEFL, 6.5 overall on the IELTS, or 105 on the Duolingo exams to be considered for admission. Students who pass the English requirement are eligible to serve as a teaching assistant in one of the undergraduate laboratory courses. More information on English requirements for international students can be found under [International Student Information on the Graduate School Website](#).

3. ADVISEMENT

3.1 Initial advisement

Entering students will be contacted by the Graduate School or ISSS regarding mandatory orientation prior to the beginning of the semester. This will provide general information about graduate school. They will also be contacted by the graduate program coordinator regarding account activation, lab rotations and registration for first semester classes. The department will also hold an orientation during the first week of classes. Advisement for subsequent semesters will usually be undertaken with the research advisor or in consultation with the graduate coordinator.

3.2 Registration Guidelines

Registration is done online each semester. You must be enrolled in 9 credits per semester to be considered full-time. We expect that each student will pay attention to registration and fee payment announcements. Early registration is strongly encouraged! Many classes will have a registration hold. In most cases, the student must contact the instructor to have the registration holds removed. Each semester, the [online academic calendar](#) will give deadlines for adding or dropping a class (within the first 2 weeks of classes, no “W” on transcript) and withdrawing from a class (“W” on transcript).

NMSU uses Scholar Dollar\$ to apply all scholarships and awards. There are a number of tuition scholarships and awards for research and teaching excellence available from the [Graduate School](#) and the department. **In order to be considered for these awards, students must have an active [Scholar Dollar\\$](#) account that must be updated annually.** It is suggested that students apply for the account immediately upon admission into the program. Please answer all questions when completing the application, entering “n/a” if a question does not apply to you.

3.3 Lab Rotations and Selection of a Research Advisor

For thesis students, selection of a research advisor is a very important decision to which you should give much thought. It will strongly affect the course of your graduate studies and your professional life. Each research group in the department is unique, and it is to your benefit to be as open-minded as possible at the start of your program of study as you consider your interests and options. In addition to having compatible research interests, the student should also consider other factors such as funding potential, lab culture, expectations, etc.

Each incoming student must interview at least 3 faculty members regarding their research and enroll in 1 credit of CHEM 598 Special Research Program during their first semester. It is the responsibility of the student to contact these faculty and schedule meetings. Students may then choose to rotate through up to 3 research laboratories during their first semester (~ 4 weeks each). While lab rotations are not mandatory, they are highly encouraged and should be scheduled with the graduate program coordinator within the first two weeks of the semester. Rotation students must submit a rank-ordered selection of research advisors and submit a completed [Selection of Research Advisor form](#) to the graduate program coordinator by December 15 for fall and May 30 for spring. Students will be evaluated on their performance in the laboratory with a satisfactory or unsatisfactory (S/U) grade in CHEM 598. Every effort will be made to place each student with their top choice, but this may not

always be possible.

3.4 Selection of a Graduate Committee and Committee Meetings

Before the beginning of the 3rd semester of study (not including summer), a graduate committee must be selected with the help and guidance of your advisor. The department requires that the committee consist of at least four members. At least one member must be from a department other than Chemistry and Biochemistry (the “external” member). This outside member may be from any program in the university and does not need to have expertise in the area of research. **The committee should meet for the first time before the end of the third semester. For thesis students, this meeting will coincide with the qualifying exam (see section 4.3).**

The function of the graduate committee is to assist the student in determining a program of study for course requirements, assess the academic and research progress of the student, provide career and professional development advice, and, where necessary, to mediate between student and research advisor. **Thus, it is very important that the committee meets with the student at least annually or any time a student needs to make an important decision such as changing labs, academic tracks, etc.** It is the responsibility of the student to schedule these meetings and report them annually to department staff.

3.5 Substitutions of Committee Members During Examinations

If a graduate committee member cannot be present at the student’s oral comprehensive examination or final defense, a graduate faculty member in the same academic area may substitute for the absent committee member. The substitute should sign the examination form, noting the name of the absent member. Any changes in committee membership must be approved 10 days in advance by the Graduate School.

3.6 Changing Research Labs

In rare cases, it may become necessary for a student to leave a research lab and pursue either a non-thesis MS or research in another laboratory. If either the advisor or the student thinks that this may be necessary, they should immediately call a meeting of the graduate committee to discuss the best way forward. This will then be discussed with the Department Head. If the decision is that a student must leave the lab during the semester, the student’s research credits will be transferred to the Department Head until they either complete a non-thesis MS or join a new research lab in the following semester.

4. PROGRAMS OF STUDY

Overview

The Department of Chemistry and Biochemistry at New Mexico State University offers programs of study leading to the MS (thesis and non-thesis) and PhD degrees as well as a Master’s Accelerated Program (MAP), with specific requirements in terms of coursework, student seminars, qualifying and comprehensive examinations and a thesis or dissertation that presents the results of an original research project. The following sections summarize department policies as they relate to the programs of study for the MS and PhD degrees. The Department also has policies that relate to

programs of study for these degrees, which are summarized in the graduate catalog. Students should always confirm detailed requirements with the graduate program coordinator.

4.1 Student Evaluations, Satisfactory Progress, Research Credit Grades

Graduate student progress is monitored annually by the graduate committee. Students should bring the following materials to each committee meeting:

- An updated [degree audit](#) (see the [STAR audit user guide](#) on how to use the system)
- Unofficial transcripts
- Teaching evaluations for all courses taught
- An update on research progress and plans

All students are evaluated with respect to teaching performance, progress in research, and work ethic. Students will be notified of their status as determined by their graduate committee at the close of the committee meeting. Those who are found deficient in these areas may be asked to switch from a PhD to a MS track or asked to leave the program. If the student is asked to complete a conclusive MS degree, departmental support will terminate at the end of the student's fifth semester.

IMPORTANT: [Satisfactory Academic Progress](#) - The graduate school requires a minimum GPA of 3.00 for a student to receive a teaching assistantship. One cannot receive a graduate degree at New Mexico State University with a GPA below 3.00. A student whose cumulative graduate GPA falls below 3.00 will be placed on Academic Probation, making them ineligible for financial aid including teaching assistantships and tuition support. See [satisfactory academic progress guidelines](#) from Financial Aid for more details.

Research Credit Grades are assigned by the advisor as “U” (unsatisfactory) or “PR” (progress). Credits with U grades do not count toward the degree. A “U” grade for research credit should prompt an immediate meeting between the student and advisor and potentially the graduate committee to discuss how the research situation may be remedied. It is recommended that the advisor and student reach an agreement in writing on research expectations for the next semester. If a student accumulates a total of two U grades in courses numbered 598, 599, 600, 699 or 700, the student will be placed on Academic Probation (see above). If three U grades are reported for these courses, the student will be dismissed from the Graduate School (see [Administrative Rules and Procedures 4.55, Part 2 E](#)).

4.2 Department Course Requirements

MS coursework

A **MS degree with thesis** requires a minimum of 30 credits. The core coursework will comprise 15 credits along with at least 3 credits of additional graduate coursework (>450 level) relevant to the student's research and at least 3 credits of Graduate Research Seminar (CHEM 510). Students must pass the Qualifying Exam based on a research summary and critical literature review at the MS level (see section 4.3). They must also register for a minimum of 9 research credit hours in CHEM 600 and complete and defend a written thesis to conclude the degree.

A **non-thesis MS option** is also available. Degree requirements are the same as the thesis option except that students can substitute up to 9 credits of CHEM 600 with other graduate credits (course numbers 450 and above) approved by their committee. A qualifying exam is not required for non-

thesis students, who will give a final oral exam covering all course material given by the student's committee during the final semester of the program. Students should refer to the detailed course requirements for both degrees specified in the graduate catalogue.

Master's Accelerated Plan (MAP) coursework

The master's accelerated program provides an opportunity for academically qualified undergraduate students to begin working on a MS degree during their junior and senior years while completing a bachelor's degree. Typically, a bachelor's degree requires four years to complete, and a master's degree requires an additional two years. The master's accelerated programs allow students the opportunity to complete a graduate program in an accelerated manner. The eligibility requirements, tuition and financial aid/scholarships, and program guidelines can be found on the [MAP web site](#).

Program Participation Requirements:

1. Students must obtain prior approval by the graduate program
2. Graduate programs have the discretion to use up to 12 credits of NMSU coursework (450 level or higher) that can logically be applied towards the completion of master's program of study. A grade of B or higher in this coursework will be required. No required courses from the undergraduate program will be accepted towards the Master's Accelerated Program.
3. Students will enroll in approved graduate level courses. If course(s) requires instructor approval, it is the student's responsibility to obtain necessary approval
4. Students participating in MAP are required to submit a completed [Master's Accelerated Program Referral Form](#) to the Graduate School by the first Friday of classes, with all required signatures.
5. Students participate in the Developing New Scholars Program (DNSP) through the Graduate School. The DNSP program provides formal mentoring supporting application process to Graduate School. Upon awarding of the Bachelor's degree and formal admissions into a master's/graduate program at NMSU, the approved credits (up to 12) will be recorded on both the undergraduate and the graduate transcript.
6. Student advising each semester is required to participate in MAP. The advising requirement is accomplished by meeting with their potential graduate level advisor or their designee. It would then be possible for a MAP student to take several (if not all) of the core graduate courses as an undergraduate and then enroll in an additional 18 hours of coursework/research/thesis credits to complete the MS degree course of study during their first year as an "official" graduate student in our department.

Additional requirements for Chemistry MAP students:

- Have only a thesis option
- Do not need to take an oral comprehensive examination
- Do not rotate between research groups
- Are expected to do research as an undergraduate student

PhD coursework

The minimum course work required for a PhD degree is 51 credits. The core coursework will comprise 15 credits along with at least 6 credits of additional coursework and at least 5 credits of Graduate Research Seminar (CHEM 510) and 1 credit of Graduate Comprehensive Seminar (CHEM 520). Additional research credits (CHEM 600) will be taken to bring the total credits per semester to 9. Students must pass the Qualifying Exam after completing core coursework at the Ph.D. level. After completion of the Comprehensive Exam, students must enroll in a total of 18 CHEM 700 Doctoral Dissertation credits. Students should refer to the detailed course requirements 7

specified in the graduate catalogue.

Chemistry “Core” Courses

All Chemistry graduate students take a core curriculum composed of the following courses:

- CHEM 501 Energy, 3 credits
- CHEM 502 Structure, 3 credits
- CHEM 503 Dynamics, 3 credits
- CHEM 504 Measurements, 3 credits
- CHEM 475 Safety, 1 credit
- CHEM 476 Research Ethics, 1 credit
- CHEM 477 Professional Development, 1 credit

Students will normally be expected to complete the course sequence within the first 2 semesters of study.

Chemistry Additional Courses

All Chemistry M.S. and Ph.D. students must enroll in at least 3 or 6 credits, respectively, from the courses below or from pre-approved non-Chemistry courses (see below). Several of these courses are variable credit and may be taught in 1 credit modules.

- BCHE 451 Special Topics in Biochemistry, 1-3 credits
- BCHE 542 Biochemistry I, 3 credits
- BCHE 545 Molecular and Biochemical Genetics, 3 credits
- BCHE 546 Biochemistry II, 3 credits
- BCHE 647 Physical Biochemistry, 3 credits
- CHEM 451 Special Topics in Chemistry, 1-3 credits
- CHEM 456 Inorganic Structure and Bonding, 1-3 credits
- CHEM 466 Advanced Organic Chemistry, 1-3 credits
- CHEM 471 Instrumental Methods of Analysis, 1-3 credits
- CHEM 507 Chemistry of the Elements, 1-3 credits
- CHEM 514 Organic Structure Determination, 1-3 credits
- CHEM 515 Modern Organic Chemistry, 1-3 credits
- CHEM 516 Physical Organic Chemistry, 1-3 credits
- CHEM 517 Synthetic Organic Chemistry, 1-3 credits
- CHEM 521 Chemical Instrumentation, 1-3 credits
- CHEM 526 Advanced Analytical Chemistry, 1-3 credits
- CHEM 527 Separations, 1-3 credits
- CHEM 528 Electroanalytical Techniques, 1-3 credits
- CHEM 529 Spectrochemical Analysis, 1-3 credits
- CHEM 536 Chemical Thermodynamics, 1-3 credits
- CHEM 537 Quantum Chemistry, 1-3 credits
- CHEM 538 Chemical Kinetics, 1-3 credits
- CHEM 539 Spectroscopy, 1-3 credits

Students will normally be expected to complete the additional course requirements within the first five semesters of study.

Non-Chemistry Courses

In most cases, the classes taken to satisfy the coursework requirements for a graduate chemistry

degree will be those offered by the chemistry department. With prior approval, credit received for graduate-level courses taught by other NMSU departments within or outside the College of Arts and Sciences may also be counted toward a chemistry graduate degree, provided those classes involve subject matter that is relevant to the student's degree program or research work. The student should consult with and receive approval from their graduate committee before taking such classes with the intention of having them count toward a graduate chemistry degree.

CHEM 510 Graduate Research Seminar

Beginning the second semester, all students must enroll in 1 credit of Graduate Research Seminar (CHEM 510) each semester for a total of 3 and 5 credits for MS and PhD students, respectively. PhD students are required to prepare a formal presentation of their research work no fewer than twice during graduate study. MS thesis students must present at least once. As part of the course, students are required to attend all Departmental Seminars. Unexcused absence from these will result in an Unsatisfactory grade. Students may be excused from enrolling in CHEM 510 during semesters where they are presenting a Graduate Comprehensive Seminar (CHEM 520, see section 4.4) or their thesis defense provided they satisfy the minimum number of credits.

4.3 The Qualifying Exam; Becoming a Ph.D. or M.S. (thesis) Candidate

A major step on the way to earning a graduate degree is the qualifying exam. This exam is intended to ensure that students have mastered the Chemistry core curriculum and are prepared for the next phase of their degree involving intensive research work.

The result of the qualifying exam will be based on the outcome of the student's first graduate committee meeting, to take place in the 3rd semester of study, not including summer. In that meeting the student will present to their committee on the following four topics, preferably using an electronic presentation medium such as Powerpoint:

1. An introduction to key objectives of their graduate research
2. A report on research progress
3. An overview of research plans for the period covering (at least) until the next scheduled committee meeting
4. A summary and critical review of a literature article assigned by the student's primary research advisor and pertinent to the student's general area of research.

The first 3 items listed above should be recognized as a common format for presentations in a graduate committee meeting and should take approximately 30 minutes to present. The final item, a critical review of assigned literature, is an additional component specific to the qualifying exam that should also require about 30 minutes to present. The graduate student's primary research advisor will assign the literature article two weeks before the scheduled committee meeting, providing the same article to other committee members at the same time. Graduate students are responsible for ensuring this portion of the exam is conducted, and therefore must remind their advisor of the required literature assignment prior to the two-week advance deadline if the advisor has not yet assigned the article to the student. This portion of the presentation will be assessed by the student's graduate committee on the basis of student comprehension, and on the quality of the student's own input by way of critique of the article and/or insights offered on potential follow up or alternative studies.

Assessment and Outcomes - The student's graduate committee will be tasked with coming to a consensus opinion on pass/fail on each of the 4 presentation criteria outlined above. Committee deliberations may also consider evidence of the student's prior academic performance and potential for future success in the program in addition to their exam performance. Ultimately, the committee's

deliberation will result in one of the following outcomes for the qualifying exam:

1. Pass at the PhD Level - the graduate student may continue towards earning a PhD
2. Pass at the Master's Level - the graduate student may continue towards earning a Master's degree
3. Remediation Needed - The student will repeat the exam at a date agreed upon by the committee.

Feedback will be provided from the committee on areas needing further remediation prior to repeating the exam. Students passing at the Master's level who wish instead to pursue a PhD degree have the option to elect option 3 above as their exam outcome. When a student repeats a qualifying exam, the committee may pass the student via options 1 or 2 above or may fail the student. Failure on a repeated examination means that a student is not suited to continue in the Chemistry & Biochemistry graduate program.

Upon successful completion of the exam, students must complete the [Qualifying Exam Form](#) with all required signatures and submit it to the Graduate School. This will allow them to advance to level G2 for GA salary.

4.4 The Comprehensive Exam

All Ph.D. candidates must take a comprehensive exam prior to completing their dissertation research and submitting a thesis. During the 4th semester of study, students will enroll in one credit of CHEM 520 Graduate Comprehensive Seminar and present a literature review to the Department on a topic of their choice. The seminar will culminate in a testable hypothesis and will be graded by the faculty. A passing grade will allow the student to take the comprehensive exam the following semester. In the event of a failing grade, the student will have one more opportunity to present, provided it is done the following semester. In the event of a second failing grade, the student will be asked to discontinue study or transfer to the MS track. Policies and guidelines governing the format and delivery of the seminar and exam are given below.

CHEM 520 Graduate Comprehensive Seminar

Selection of Topic - Selection of the seminar topic will be the student's choice. However, every topic must be approved by the seminar instructor prior to scheduling a seminar date. The topic cannot be in or closely related to the research interests of the student's research advisor. The topic should be sufficiently well defined (of sufficient breath and specialty) to allow coverage of all background material within 10 to 20 minutes. The remainder of the seminar should cover new developments of primary significance to the topic based on current research papers. The primary emphasis should be new developments and primary data, not summary data. Reproduction of textbook material, review articles or lecture material on an extensive scale will be considered unacceptable, except as introductory material.

Abstract - Prior to the seminar, each student will prepare an abstract of their talk. This should be written to be understandable to a broad chemistry/biochemistry audience and should not exceed 400 words. The abstract must be checked by the seminar instructor before dissemination to the faculty at least one week in advance of the actual presentation.

Presentation - Normally a seminar should require 45 minutes and should be comprehensible to the entire department. This is followed by a 15-minute discussion period. It is assumed that the speaker will have a reasonable understanding of every concept introduced. It is critical that the presentation end with a novel, testable hypothesis based on the material presented. This will form the basis of the written portion of the Comprehensive Exam. While minor modifications to the hypothesis prior to the written portion are acceptable with approval of the graduate committee, hypotheses deemed deficient will result in failure of the

CHEM 520 presentation.

Grading – The presentation will be graded on the following criteria:

- Subject organization and development
- Thesis support
- Visual aids
- Presentation style
- Comprehension

All faculty in attendance will be asked to suggest a grade, but the final grade will be assigned by the course instructor. The comments of the faculty will be summarized and provided to the student and a letter grade assigned within one week of the seminar date. Grades of C+ or lower will be considered unacceptable and the student will be required to present another seminar no later than the following semester.

Written Component and Oral Defense

Written Component – Students will prepare a research proposal to test the hypothesis introduced in the seminar. The proposal will be formatted according to a national funding body relevant to the research topic (NIH, NSF, DOE, etc.) and shall include:

- A summary of research objectives, limited to 1 page
- A detailed research plan, limited to 6 pages
- Bibliography, formatted according to funding body requirements

A draft must be submitted to the student's advisor for approval prior to scheduling the Oral Defense of the exam. This is only to determine if the language and content are comprehensible. The advisor is not permitted to assist the student with any aspect of the document.

Oral Defense – The student must schedule a meeting of their graduate committee and submit the [Doctorate of Philosophy Comprehensive Examination Form](#) to the Graduate School at least 10 days prior to the meeting. They must also submit their written proposal to committee members no less than one week prior to the meeting. Students will prepare a presentation (~ 30 minutes) outlining their research proposal. Committee members will then have the opportunity to question the student with regard to the proposal, thesis research work or course work. Successful completion of the qualifying exam is determined by a majority vote from committee members. Two or more votes to adjourn will result in a repeat of the exam within 3 weeks. Two or more votes to fail will result in the student being asked to discontinue study or transition to the MS track.

4.5 The Final Exam, Dissertation, or Thesis

MS THESIS, PHD DISSERTATION

Both the MS and PhD degrees in Chemistry are research-based, which means that the central feature of the program of study is pursuit of an independent research project under the direction of a chemistry faculty member. For both degree programs, this project culminates in the preparation and defense of a thesis to be written by the student, which provides background material and summarizes the research project. Successful completion of the writing of this thesis or dissertation, and its oral defense before the degree committee, is the capstone feature of both degree programs.

The research advisor will determine the amount of work required for the thesis or dissertation. A final corrected version of the thesis or dissertation will be given to each member serving on the degree committee at least two weeks before the oral defense.

Deadlines for applying for a degree and submitting all relevant forms and documents can be found on the [Graduate School Calendar](#). The student must schedule a meeting of their graduate committee¹¹

and submit either the [Doctorate of Philosophy Examination Form](#) or the [Masters Final Examination Form](#) to the Graduate School at least 10 days prior to the meeting. They must also submit their written proposal to committee members no less than one week prior to the meeting. An oral defense of the final version of the thesis or dissertation must be presented to the members of the student's committee.

MS (NON-THESIS)

Students may apply for a non-thesis MS degree after completion of the course work and final exam as indicated in the sections above.

4.6 Time Limits for Degree Programs

For students working toward an MS degree, the degree requirements must be completed by the end of the sixth semester of enrollment. For students working toward a Ph.D. degree, the final defense must be completed within five years. Support for enrollment beyond these limits may be provided for students in good academic standing upon petition to the graduate coordinator.

4.7 Overview of some relevant forms from the Graduate School.

Forms can be obtained from the [Graduate School website](#).

DOCTORAL QUALIFYING EXAM FORM - This form should be filled out immediately after completion of the Qualifying Exam. This form is required for advancement to level II graduate status

DOCTORATE OF PHILOSOPHY EXAMINATION FORM - This form is to be submitted to the graduate school at least 10 days prior to the student's Comprehensive Exam and Thesis Defense.

DOCTORAL DISSERTATION TITLE SUBMISSION FORM - This form must be completed along with other paperwork for degree application. This is required for students to participate in the Commencement ceremony.

MASTERS FINAL EXAMINATION FORM – This form is to be submitted to the graduate school at least 10 days prior to the student's Masters Thesis Defense.

4.8 TIME-LINE FOR COMPLETION OF REQUIREMENTS FOR GRADUATE DEGREES IN CHEMISTRY & BIOCHEMISTRY

This document is intended to act as a guide to satisfactory progress through graduate degrees. **Annual milestones** to be completed are indicated in red. Deviations from this timeline are permitted but must be discussed with and approved by your graduate committee.

First Semester

- Enroll in [Scholar Dollar\\$](#). Answer **all of the questions**, using “n/a” for those that do not apply
- Enroll in 9 credits of academic course work including CHEM 501 (3Cr), 502 (3Cr), 475 (1Cr), 476 (1Cr) and 598 (1Cr)
- Consult with at least 3 faculty in your discipline on possible research projects. You may choose to join a lab directly or rotate in as many as 3 research labs. Complete and submit the [Selection of Research Advisor Form](#) by December 15
- Attend scheduled Chemistry & Biochemistry departmental seminars
- Complete formal safety training workshops (<http://safety.nmsu.edu>) in the following areas:

Hazardous Communications (required immediately)	Fire Safety
Laboratory Standards (required)	Chemical Waste Disposal

Second Semester

- Enroll in 9 credits of academic course work including CHEM 503 (3Cr), 504 (3Cr), 477 (1Cr), CHEM 510 (1Cr) and CHEM 600 (1Cr)
- Initiate your thesis research project with your research advisor
- Select and organize your graduate committee members-consult with your research advisor
- Arrange and secure your summer financial support (TA or RA) in April
- Participate in CHEM 510 and attend scheduled Chemistry & Biochemistry departmental seminars

First Summer

- Continue your thesis research with vigor – work like you have never worked before

Third Semester

- Update and renew your [Scholar Dollar\\$](#) account
- Enroll in 9 credits combined of academic course work (including CHEM 510) and research credits (CHEM 600). 3 (MS) or 6 (PhD) credits of additional chemistry or related courses are required. Include at least 3 credits here.
- Schedule and complete the **Qualifying Examination**. Bring a degree audit to your committee meeting. Whether you will complete a MS or PhD degree is determined by this exam.
- Submit the [Qualifying Examination Form](#) to the Grad School – This will increase your pay!
- Report your exam completion to program staff at etyukl@nmsu.edu and kimhub@nmsu.edu
- Prepare for your comprehensive examination.
- Enroll and participate in CHEM 510 and attend scheduled Chemistry & Biochemistry departmental seminars
- Continue your thesis research with vigor

Fourth Semester

- Enroll in 9 credits combined of academic course work and research credits. You should have completed all of your formal course work by the end of this semester.
- Enroll in 1 credit of **CHEM 520** and present a formal seminar
- Schedule a meeting with your graduate committee and present a progress report on your thesis research
- Arrange and secure your summer financial support in April
- Participate in CHEM 510 and attend scheduled Chemistry & Biochemistry departmental seminars
- Continue your thesis research with vigor

Second Summer

- Continue your thesis research with vigor – full bore

Fifth Semester

- Update and renew your [Scholar Dollar\\$](#) account

- Enroll in 9 credits of research and CHEM 510
- Schedule/complete your **Comprehensive Exam** using the **[Doctorate of Philosophy Exam Form](#)**
- Report exam completion to program staff at etyukl@nmsu.edu and kimhub@nmsu.edu – This will increase your pay!
- Participate in CHEM 510 and attend scheduled Chemistry & Biochemistry departmental seminars

Sixth Semester

- Enroll in 8 credits of research credit (CHEM 700) and CHEM 510 after you pass the Comprehensive Exam
- Complete your **Comprehensive Examination** if you have not already done so.
- Schedule annual meetings with your graduate committee and inform them of progress on your research
- Participate in CHEM 510 and attend scheduled Chemistry & Biochemistry departmental seminars

Third Summer

- Continue your thesis research with vigor... it is just you and your research to complete now

Subsequent Semesters

- Update and renew your **Scholar Dollar\$** account each fall
- Enroll in 700-level research and CHEM 510 once the comprehensive exam is completed.
- Participate in CHEM 510 and attend scheduled Chemistry & Biochemistry departmental seminars
- Continue your thesis research with vigor
- Begin writing the INTRODUCTION for your thesis in the seventh semester
- Visit the **Graduate School Calendar** for important deadlines and dates
- Write your **thesis** as you conduct experiments in the final year to refine and complete your data
- Write a **manuscript** of your results and plan for its publication
- Complete your thesis and schedule your final oral defense using the **[Doctorate of Philosophy Exam Form](#)**
- Start looking for a postdoctoral position and arranging for financial support for your work
- Complete all the myriad details in finalizing your thesis and checking out of the university
- Complete the **[Graduate Student Exit Checklist and Interview](#)**

OTHER USEFUL INFORMATION

Your Fall or Spring assistantship will not be processed unless you are registered in 9 credit hours.

Promptly notify the department of changes, milestones, and training.

All Graduate School **forms** can be found at <https://gradschool.nmsu.edu/current-students/graduate-forms.html>

Financial support for more than 5 years for the PhD and 2 years for the MS is highly unusual.

Maintain an updated scholarship application **Scholar Dollar\$**.

Apply for travel awards and fellowships.

Three semesters with Unsatisfactory grades for research will result in termination from the program

You must maintain a 3.0 GPA.

You must attend the annual safety refresher.

You must have a graduate committee meeting annually. This is your responsibility.

You must confirm your summer support. Do this in the spring.

You must complete 30 hours minimum credit hours plus 18 credits 700-level research for a PhD degree.

A non-thesis MS degree can be awarded upon completion of the Qualifying Exam.

MS thesis degrees should be completed in two years. You must complete 30 hours minimum credit hours.

Any deviations from this guide should be discussed with your advisor.

Familiarize yourself with University policies, especially regarding harassment and equity, <https://equity.nmsu.edu>

5. SAFETY AND STUDENT CONDUCT

Graduate students in the Department of Chemistry & Biochemistry conduct their work in teaching and research laboratory settings. Working in a laboratory involves a degree of risk due to potential exposure to chemical, biological, radiation and/or other hazards. These risks are mitigated by effective training in risk management, hazard communication, and the safe conduct of laboratory work. NMSU requires that our graduate students complete *at minimum* the following training modules/classes:

[Fundamentals of Laboratory Safety](#)

[Hazard Communication](#)

[Hazardous Waste Management](#)

[Fire Extinguisher Training](#)

In addition, Lab Safety Refresher training is required every year. The list given above includes *only the bare minimum* training required of graduate students working in research and teaching laboratories in our department. The specific content of research or teaching activities will likely require further training. NMSU's [Environmental Health Safety & Risk Management](#) department provides a detailed list of required training modules for various laboratory and research activities. Students are *required* to consult this list and their advisor/supervisor to determine the most appropriate training courses/modules to mitigate the risks involved in their research and teaching activities. A partial list of additional training that many of our graduate students will find applicable are given below:

[Biosafety Awareness](#)

[Bloodborne Pathogens](#)

[Basic Radiation Safety](#)

[Fundamentals of Laser Safety](#)

Training can only mitigate laboratory risks when students, faculty, and staff are in compliance with the practices and policies expressed in that training. Therefore, it is the responsibility of all graduate students to conduct their work with best safety practices, and to maintain a safe working environment for themselves and their coworkers. Graduate students failing to maintain best practices and standards of safety will face disciplinary action through a process defined in [the Collective Bargaining Agreement \(CBA\)](#).

Graduate students must comply with [University Administrative Rules and Procedures \(ARP\)](#) regarding student conduct, academic integrity, etc. Grievance and conflict resolution procedures are defined here as well as in the [CBA](#). Training in research integrity is provided as part of the Chemistry curriculum as well as by individual research advisors and must be adhered to.

6. WORKING AT NEW MEXICO STATE UNIVERSITY

Graduate students in good academic standing in the Chemistry and Biochemistry program are normally supported as either teaching assistants (TAs) or research assistants (RAs). Students supported on assistantships receive a stipend which provides for living expenses while the student pursues their degree. Funds for teaching assistantships will typically come from the department, while funds for research assistantships normally come from faculty research grants. Both assistantships require, at a minimum, 20 hours per week of time either in research work, or in preparation for and conducting undergraduate laboratories and grading papers. Working conditions and hours for graduate assistants are defined in the [CBA](#).

Depending on a student's level in the department, TA / RA stipend amounts may vary. NMSU administration determines the stipend amount for each classification of assistantships annually. A first-year graduate student enters the department at level 1 and advances as follows:

Level 2 is attained after passing the qualifying examination and completing 18 hours of graduate credit or completion of a master's degree

Level 3 is attained upon passing the doctoral oral comprehensive examination

The typical TA / RA stipend is for a 9-month period, renewed annually, and awarded monthly over two semesters. To help augment this salary, the Department of Chemistry and Biochemistry normally has available a number of one-month teaching assistantships for the summer at a monthly rate of pay commensurate with your rank level. You may also be supported all three summer months as an RA, the funds for which will typically come from your faculty advisor's research grants.

The Chemistry and Biochemistry Department also participates in campus programs in which various federal fellowships or traineeships are available. The stipend for these awards is determined by the granting agencies. When the granting agency places restrictions on the student's involvement in a teaching responsibility, the teaching requirement can be waived.

The Department will not normally provide financial assistance to a master's candidate for more than three years. Appointment as a graduate assistant of a doctoral candidate is limited to five years, but a sixth year of support can be obtained by successful petition to the graduate school if the candidate has passed his or her doctoral oral comprehensive examination.

6.1 Teaching Assistantships

All graduate students will be required to serve as teaching assistants for at least one semester unless granted a special exemption by the department head. Teaching assignments will be considered as part of a continuing educational process.

Students supported as teaching assistants will be assigned specific duties which may include one or more of the following: supervising and teaching laboratory sections, grading papers, maintaining office hours, and proctoring exams.

It is important that these responsibilities be taken seriously. If illness, accident, or an emergency prevents you from meeting your commitment, you must inform your immediate supervisor (the instructor of record for your laboratory class) and / or help make arrangements to cover that duty. For anticipated absences from your teaching duties (e.g., scheduled vacation or a conference presentation), you must also arrange with your immediate supervisor to cover your specific duties for the duration of that time. In the event of extraordinary circumstances (e.g., serious health problems, pregnancy) the Department will make every effort to provide a suitable TA assignment. However, it may not be possible to do so in every situation.

Teaching assistantships are provided contingent upon satisfactory performance. Student teaching evaluations will be administered through Canvas on your behalf and assessed each semester. A poor teaching evaluation will result in a letter

of reprimand. Students with two letters of reprimand will no longer be provided teaching assistantships.

6.2 Research Assistantships

Through mutual agreement, a student may work for a professor on a research grant and while doing so be supported as a research assistant (RA). The particulars of such an assignment are given to the student by the supervising professor but you should anticipate spending at least 20 hours per week working on a research problem.

6.3 Summer Support

Graduate students at the in the Department of Chemistry and Biochemistry are supported in the summer as either teaching assistants or research assistants.

As stated previously, the typical TA / RA stipend is for a 9-month period, renewed annually, and awarded monthly over two semesters. To help augment this salary, the Department of Chemistry and Biochemistry normally has available a number of one-month teaching assistantships for the summer at a monthly rate of pay commensurate with your rank level. You may also be supported all three summer months as an RA, the funds for which will typically come from your faculty advisor's research grants.

Please note, graduate education in chemistry is considered to be a full time, 12 month per year engagement.

6.4 Time Limit on TA Support

Teaching assistantship support is normally made available to graduate students for only a limited time. A student pursuing a PhD degree may be supported from departmental funds for no more than 5 calendar years (10 academic semesters), and a student pursuing an MS degree may be supported for no more than 3 years (6 academic semesters).

While most chemistry graduate students are supported as either teaching or research assistants, no student is ever guaranteed financial support. Unsatisfactory performance of teaching duties, poor academic performance in graduate level course work or research work can be cause for termination of financial support at any time. To help qualify this statement, unsatisfactory performance of teaching duties may be based on either poor teaching evaluations or written documentation from your supervising instructor; poor academic performance may be equated to receiving a C or lower in any of your graduate-level classes; and inadequate research productivity can be determined if your advisor assigns two unsatisfactory (U) grades for CHEM 600 / 700 in two sequential semesters.

Finally, graduate education is primarily a research experience and as such, it is impossible to predict the outcome and time required to complete a degree. Situations arise in which the research demands more than the average time. For students in good standing, support will be provided beyond these limits whenever possible.

6.5 Payroll

All the New Mexico State University, employees receive bi-monthly paychecks on the 1st and 15th during the academic year, so long as those days fall on a weekday. If either the 1st or the 15th falls on a weekend, you may receive your paycheck on the Friday before or the Monday after that date. The departmental human resource office can inform you of the paycheck schedule. Direct deposit is available for all University employees.

6.6 Leave

The chemistry department understands that it may be necessary for students to sometimes be away from campus. Whenever possible, students should try and schedule any vacation day(s) so as not to impose upon their teaching or research obligations. Students holding a research assistantship should discuss any leave in advance with their research advisors. Students holding a teaching assistantship must adhere to the departmental policies regarding absences.

If you are a teaching assistant, you are expected to be on campus for the entire semester in which you teach. You must also be present the week before classes begin and present for any department training sessions and / or TA meetings held

by your teaching supervisor. You must also be present for all grading and proctoring activities at the conclusion of the semester.

6.7 Outside Employment

The graduate assistantship (research or teaching) is expected to support the student during graduate studies. Therefore, it is university policy to not permit students to hold outside employment. Exceptions to this policy include temporary consulting and tutoring. Graduate students may not be compensated for tutoring any student for whom they have a grading responsibility.

6.8 Maternity Policy

As soon as possible after becoming aware of a pregnancy, the student should visit the graduate coordinator to discuss an accommodation plan. If a graduate student becomes pregnant during a semester, they will finish that semester normally if possible. If a TA in a laboratory, arrangements can be made to provide a substitute for laboratory teaching duties. If an RA, it will normally be expected that they and their research advisor will reach agreements as to the conditions under which they will finish the current semester.

A graduate student who is expecting a baby may request a TA appointment from the Department that is consistent with the condition of pregnancy. That is, they will be assigned non-laboratory-related responsibilities, either handling discussion/quiz sections or administrative duties, according to departmental needs.

A student who has been granted such a maternity-related TA will also be entitled to a total of eight weeks of paid maternity leave, which may commence at the student's discretion any time after the beginning of the eighth month of pregnancy.

Pregnant students may also choose to take an unpaid leave-of-absence from the chemistry graduate program, without prejudice, for a period of up to four semesters.

6.9 Sexual Harassment Training

New Mexico State University has a commitment to providing a workplace and academic environment which is free of harassing behavior. Completion of harassment prevention training is an expectation of employment for all employees at the University. New graduate students are expected to complete harassment prevention training within the first 30 days of employment and provide their certificate of training completion to the department HR office. Training is expected of all faculty and staff every two years.

In addition, all chemistry graduate students should review the New Mexico State University Administrative Rules and Procedures document regarding Title IX. It states:

NMSU does not discriminate on the basis of sex in education programs or activities. Title IX of the Education Amendment Act of 1972 is a federal law that states, "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance."

Title IX prohibits:

- Sexual misconduct (sexual violence)
- Sexual harassment (discrimination on the basis of sex or gender)
- Stalking
- Domestic Violence
- Dating Violence
- Retaliation

Title IX applies to all NMSU students, staff and faculty. NMSU policy requires reporting, of any discriminatory or alleged discriminatory conduct, by all “responsible employees”. Responsible employees include:

- Those with the authority to address and remedy sex-based discrimination and harassment; and/or
- Those with the responsibility to report sexual misconduct to a supervisor and OIE; and/or
- Those who a student would reasonably believe have such authority or obligation.

NMSU has “actual knowledge” of discriminatory conduct when notice of sexual harassment or allegations of sexual harassment are made to the Title IX coordinator or any NMSU official who has the authority to institute corrective measures. In assessing OIE’s jurisdiction of off-campus behavior under Title IX, as well as all other alleged discriminatory conduct, OIE will apply a two-pronged test:

- Does NMSU have control over the harasser; and
- Does NMSU have control over the context of the harassment (on our property, in our programs, on land we lease or control, or at events we sponsor).

– NMSU reserves the option to take jurisdiction of off-campus misconduct when deemed necessary due to the involvement and/or impact on students and/or employees.

– Discriminatory conduct, alleged to have occurred outside of the United States of America, must be reported, but will be investigated as a policy violation, not as a Title IX policy violation.

NMSU will respond promptly to reports of sexual harassment in an education program or activity.

As the designated Title IX Coordinator, the Executive Director is charged with oversight of the resolution of Title IX complaints, as well identifying and addressing systematic problems and patterns of conduct arising from such complaints. The Executive Director is authorized to appoint Deputy Title IX Coordinators(s).

PROHIBITION OF SEX DISCRIMINATION/SEXUAL HARASSMENT

NMSU is committed to providing a place of work and learning free of sexual misconduct which includes sexual harassment, sexual misconduct and sexual violence. Engaging in sexual behavior that is inappropriate, unwanted, unsolicited and without consent is a violation of NMSU policy.

Sexual harassment under Title IX includes: (1) quid pro quo; (2) “unwelcome conduct” of a sexual nature that a reasonable person would find “so severe, pervasive, and objectively offensive” that it effectively denies someone equal access to an education program; or (3) sexual assault, dating violence, domestic violence or stalking.

No student or employee, either in the workplace or in the academic environment, should be subjected to unwelcome, non-consensual, non-verbal, verbal or physical conduct that is of a sexual nature. Even one incident may constitute a violation of NMSU policy, rule or procedure.

Conduct of a sexual nature, constitutes a violation of NMSU policy and/or law and policy when:

1. Submission to such conduct is made either explicitly or implicitly a term or condition of an individual’s employment or academic status;
2. Submission to or rejection of the conduct is used as a basis for academic or employment decisions or evaluations, or permission to participate in an activity; or
3. The conduct has the purpose or effect of substantially interfering with an individual’s academic or work performance, or creating an intimidating, hostile and offensive environment in which to work or learn.

PROHIBITION OF RETALIATION

Retaliation against an individual who in good faith reports allegations of discriminatory conduct or provides information in an investigation about behavior that may violate NMSU policy, rules or procedures is prohibited.

Such conduct will be grounds for disciplinary action, up to and including termination/suspension from the university.

Any student or employee engaging in the protected activity of making a complaint/report of discrimination or sexual harassment, in good faith, and/or cooperating in an investigation of allegations, may not be adversely affected in the terms and conditions of their education or employment.

Retaliation includes, but is not limited to:

1. Adverse action taken to keep someone from opposing a discriminatory practice, or from participating in a discrimination proceeding;
2. Employment actions such as terminations, refusal to hire and denial of promotion;
3. Action, such as an assault or unfounded threats, or actual civil or criminal charges that are likely to deter a reasonable person from pursuing their rights; or
4. An unfair or unjustified grade.

7. DEPARTMENTAL OPERATIONS AND GENERAL INFORMATION

7.1 Student Offices

Graduate students will be assigned an office space associated with the laboratory of their research advisor.

7.2 Building Security and Keys

The inventory of equipment of the Chemistry and Biochemistry Department is very large and many of its items are portable and, therefore, subject to possible theft. It thus becomes the responsibility of each person who has authorization to enter any area where equipment is stored to assume responsibility for the safeguarding of this equipment.

The graduate students should use their NMSU ID cards to enter the Chemistry buildings. Lab keys can be ordered at the Chemistry office with the permission of advisor and picked up at the Facilities & Services building when they are ready. It shall be clearly understood by all those receiving keys that he or she shall:

- Exercise great care to prevent loss. Report any losses of keys immediately to the Chemistry Office.
- Not loan a key to anyone.
- See that the outside door used is locked when entering or leaving the building after regular hours.
- Under no circumstances allow anyone into the building after hours who has no access to it.
- Report to the University Police and to the Department chair any unusual or suspicious occurrence or persons found in the Chemistry building complex after the buildings are normally closed.

- Return the keys to the chemistry office or advisor when leaving the group.

7.3 E-mail, IT services and FERPA

E-Mail

Each graduate student is required to have an @nmsu.edu e-mail account. The Chemistry department and NMSU uses e-mail as an official form of communication within the department. It is important that you check your e-mail frequently to stay informed.

Student Privacy

The New Mexico State University follows strict guidelines with respect to student privacy as dictated by the [Family Educational Rights and Privacy Act \(FERPA\)](#). Full details are available at the University web site.

NMSU IT Services

The NMSU IT services is your source for all things related to the internet, e-mail, and software site licenses. More information is available on <https://studenttech.nmsu.edu/>.

For Your Personal Devices (includes laptops, phones, tablets, etc...) Network Registration:

If you own a desktop or laptop computer that you plan to use on the NMSU's network using an Ethernet connection, you need to register that computer with NMSU IT. After connecting to the NMSU network, please open an internet browser of your choosing (Google Chrome, Mozilla Firefox, Internet Explorer, etc.). This will automatically redirect you to the [registration page](#). The network registration procedure is described on the following page, <https://kb.nmsu.edu/page.php?id=79693>.

If you plan to connect your device using WiFi, use the network named AggieAir-WPA2.

Security:

All personal computers, in use on our network, need to run a current and self-updating antivirus scanning utility. All Operating Systems should be configured to auto-update to ensure that all patches are installed in a timely manner.

If you want to join the NMSU campus network while being off campus, use [VPN](#).

[Sophos antivirus](#) is available FREE to all NMSU faculty, staff, and students for both business and personal use.

Software:

NMSU offers licenses for various software packages by the leading software companies including Microsoft, Adobe, SPSS, and SAS. Also, NMSU offers subscription to OneDrive for the cloud file storage.

7.4 The Chemistry Department Stockroom

Many of the chemicals, supplies, gases and equipment needed in research labs may be purchased from the Department Stockroom. Stockroom purchases are recorded at checkout and are charged to a teaching or research grant account. Reports of purchases by each research group will be furnished to faculty members directing the research groups. Your research advisor will provide guidance on the account number to use for stockroom purchases.

Members of the chemistry and biochemistry staff may use the stockroom during normal working hours. However, all staff members are required to sign out with the stockroom attendant any pieces of equipment or chemicals removed from the stockroom. Under no circumstances is any undergraduate student to be permitted access to the stockroom.

7.5 Procedure for Work Injury

All work-related injuries, illness and incidents occurring in the workplace must be reported. See the [Health and Wellness Center website](#) and the [CBA](#) for more details.