## BS/MS Roadmap – Spring 2023

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Chemistry Administrative Assistant: JD Lloyd Chemistry Department Chair: Joshua Pak

Chemistry Graduate Program Committee (GPC): Caryn Evilia, Andy Holland, John Kalivas,

Last modified March 24, 2023

## **Overview of Graduate Degrees in Chemistry**

The Chemistry department offers three distinct graduate programs, each intended to serve a different type of student. Although these degrees all include the letters "MS" and all require 30 credits of graduate coursework including 15 6600-level credits focused in chemistry, each carries a unique set of privileges and expectations, and students should not expect to freely switch among them after starting one program. In particular, BS/MS students will be asked to reapply if they wish to move to either standalone MS program.

The **Thesis MS** is a two-year research-centered degree. While it requires significant coursework, this program emphasizes year-round laboratory research, including one summer, and culminates in the writing and defense of an original thesis. Thesis MS students are fully eligible to receive financial support in the form of teaching or research assistantships to help them meet the program's substantial time commitments.

The **Non-Thesis MS** is a two-year coursework-centered degree. This track requires a significantly larger number of traditional courses, and only 4 credits of research (and no thesis credits) may be counted towards its requirements. The program concludes with written and oral exams on selected coursework subjects. While Non-Thesis MS students may choose to take on paid teaching assignments on a course-by-course basis, they are less likely than Thesis MS students to receive full-time teaching assistantships.

The **BS/MS** is an accelerated three-year program enabling undergraduate students to earn MS degrees in one additional year beyond the undergraduate degree by pursuing full-time research for two summers and beginning MS coursework before completing their undergraduate degrees. Students in this program may also count up to 6 credits of 5500-level coursework simultaneously toward both undergraduate and graduate degrees. This program is intended for ambitious students seeking to deepen their engagement with chemistry as undergraduates, and to quickly burnish their credentials for applying to jobs or competitive PhD programs. The program concludes with the composition and defense of a research paper similar to a thesis. BS/MS students are fully eligible to receive teaching or research assistantships as financial support during all three years of the program.

#### **Funding**

A limited number of teaching assistantships, which award a full tuition waiver and stipend to students fulfilling three teaching assignments each semester, are awarded for the following year each April. To apply for consideration, a student should submit a brief personal statement, their transcript, their expected grades in current coursework, and letters of reference ideally from current teaching and research supervisors. Research assistantships may also be available by arrangement with individual faculty.

Department-funded MS students must obtain permission from the GPC to maintain an additional job during the first semester in the program. Thereafter, permission must be obtained from a student's research committee. Additional employment by the University also requires permission from the Dean of the Graduate School.

## Introduction to the BS/MS Degree Road Map

The primary purpose of this document is to detail the procedural steps to complete your BS/MS degree in chemistry. This road map also describes departmental expectations of your performance and your obligations in the BS/MS program. It is your responsibility to ensure that you meet all deadlines and satisfy all requirements as you progress through the program. A checklist of deadlines is provided in this booklet on page 13.

Please note that this is an advisory document that is meant to assist your planning, rather than to define official university policy. For the authoritative version of all official policy definitions please see the ISU Graduate and Undergraduate Catalogs.

#### **Timeline Overview**

During years one and two of the BS/MS program you should finish 120 undergraduate credits including all general education requirements and the courses required for your BS degree. Up to 6 of these credits may be taken at the 5500 level and counted toward both the undergraduate and graduate degree requirements. See page 6 for more coursework details and page 7 for a recommended schedule.

#### Year One (Junior Year):

<u>Fall</u> – Draft a program of study and take courses prioritizing any remaining prerequisites for BS/MS coursework. Choose your research advisor and form your research committee.

Spring - Write a research overview, apply for renewal of funding.

Summer - Begin research project in earnest, conducting full time research.

#### Year Two (Senior Year):

<u>Fall</u> – Start taking the advanced chemistry lectures offered at the 6600 level each semester. Continue your research, and write a preliminary introduction to the research paper. You may apply for Spring graduation with your BS degree.

<u>Spring</u> - Continue your research project and write a preliminary experimental section to the research paper. Apply for renewal of funding, and for admission to the Graduate School, and arrange to take any necessary exams.

Summer – Conduct research on a full-time basis.

#### Year Three (Graduate Year):

<u>Fall</u> – Present a literature seminar in CHEM 6601. Write the introduction and experimental sections of the research paper, submit the Final Program of Study to the Graduate School, and apply for graduation with the MS degree (and also the BS, if you haven't yet).

<u>Spring</u> – Complete your research paper, schedule an oral examination with the Graduate School, present your research in CHEM 6601, and defend the research paper.

# Performance Expectations & Continuation in the BS/MS Program

You are required to maintain good standing in the BS/MS program by meeting Departmental expectations and fulfilling Graduate School and BS/MS requirements. These requirements are outlined below and in the Graduate Catalog, and include both academic and professional standards.

Funded BS/MS students are given various teaching assignments. For example, you may be assigned to instruct an introductory laboratory section, assist an instructor in a lab class, or help grade assignments and exams. You will typically be expected to hold one or more office hours in the Chemistry Study Room. You are expected to meet the obligations of your assigned duties at all times, including:

- Make a reasonable effort to accommodate scheduling needs, and be present, punctual, and prepared at all meetings scheduled by your teaching supervisor.
- Complete grading on the schedule set by your supervisor.
- Deliver laboratory curriculum according to the standards set by your supervisor, prioritizing student safety and learning.
- Be professional and respectful in all interactions with students.

Funded BS/MS students may be employed by the university and receive compensation additional to the BS/MS stipend only with permission from the Dean of the Graduate School, and must obtain permission from Chemistry Graduate Programs Committee or their research advisor to maintain a job outside the university.

You are expected to attend all seminars sponsored by the Chemistry Department whether or not you are enrolled in the seminar course. Chemistry seminars are generally held on Friday afternoons at 1:00. Naturally, if you have course or teaching assignment conflicts, you are excused.

As one of the requirements for the BS/MS program, you will write a paper describing your research under the supervision of your faculty advisor. The research paper replaces the written examination required by the Graduate School, and should therefore be substantial. To help you reach this standard, you are assigned to write various sections of the paper throughout the course of the program, with each section subject to approval by your research committee. These assignments may be waived or changed at the discretion of your research advisor, but you will be expected to continue your research effort and progress toward research goals throughout your time in the program. Continuation in the program also requires that you maintain a minimum overall GPA of 3.0 from the date of entrance and make satisfactory progress toward your coursework requirements.

Failure to meet departmental expectations could result in your dismissal from the BS/MS program, depending on the determination of the Chemistry Department Chair upon recommendation from the Chemistry Graduate Programs Committee. BS/MS *funding* can be renewed for up to a maximum of three years, but will be re-evaluated each spring based on not only your coursework and research progress, but also your contributions to the department's teaching mission.

To be considered for continued funding, please submit to the Chemistry Department by April 1 each year a formal request, a current transcript, a list of your current courses (with expected grades), a letter from your research supervisor, and a letter from your teaching supervisor. If you worked with multiple teaching supervisors, please obtain a letter from the one who is most familiar with your work as a laboratory TA. If you are an unfunded BS/MS student and would like to be considered for funding, submit the same package and request letters from your research supervisor and another faculty member who can address your record or potential as a teacher.

If you choose to withdraw from the program for any reason, you should notify the department and indicate the undergraduate degree toward which you intend to continue. If you wish to apply your BS/MS progress towards a stand-alone MS degree (thesis or non-thesis) you must reapply to that program following the steps described in the graduate catalog. It is important to recognize that the accelerated BS/MS degree in chemistry is not the same as a BS degree plus an MS degree, but is a separate degree program with unique opportunities and expectations, and its graduate requirements cannot necessarily be freely exchanged with those of other programs.

## **Coursework Requirements**

## Required Prerequisites for the BS/MS Program

You are expected to enter the BS/MS program with 64 credits including the courses below. You should discuss any missing prerequisites with the Chemistry Department Chair as soon as possible.

CHEM 1111,1112	General Chemistry I and II	9 cr
CHEM 3301,3302	Organic Chemistry I and II	6 cr
CHEM 3303,3304	Organic Chemistry Laboratory I and II	2 cr
MATH 1170,1175	Calculus I and II	8 cr
PHYS 2211,2212	Engineering Physics I and II	8 cr
PHYS 2213,2214	Engineering Physics I and II Laboratory	2 cr

### Recommended Preliminary Coursework for the BS/MS Program

The following courses are crucial prerequisites, and should be taken as soon as possible if not completed before entering the program.

BIOL 1101,1101L	Biology I and Laboratory	4 cr
CHEM 2211,2213	Inorganic Chemistry I and Lab	4 cr
CHEM 2232,2234	Ouantitative Analysis and Lab	4 cr

## Recommended Schedule for Coursework while in the BS/MS Program

To earn a Chemistry BS within the BS/MS program you should complete all of the courses for a regular BS degree except CHEM 4481 & 4482, which are replaced by CHEM 4485. In addition, CHEM 4407 is required and MATH 2240 and MATH 3360 are recommended. You may also elect to complete a standard BS in Biochemistry in place of the Chemistry degree. You should plan to complete all undergraduate requirements (general education, major courses, and 120 total undergraduate credits) by the end of your senior year, but may begin taking graduate level courses at any time.

Up to 6 credits of 4400/5500 courses taken at the 5500 level and earning a B- or higher may be counted simultaneously toward both undergraduate and graduate credit requirements. The recommended schedule below fills these credits with the two-semester CHEM 5545/5547 Biochemistry sequence, which satisfies the biochemistry requirement and fills a 3-credit elective. Other options are listed below the schedule.

You are required to complete 30 total credits at the graduate level, which you may begin at any time after admission. At the 6600 level you must complete 12 lecture credits including at least two of the 6600-level advanced chemistry courses (CHEM 6609, 6630, 6655, and 6671), 10 credits of CHEM 6635 Masters Research, and 2 credits of CHEM 6601 Seminar. Note that CHEM 6609, 6655, 6630, and 6671 are offered once every two academic years and you will take whichever one is offered each semester of your second and third years in the program. This limited schedule makes it imperative to strategically complete prerequisites for these courses before each is offered. The 6 remaining credits at the 5500 or 6600 level are most efficiently completed by taking senior undergraduate requirements at the 5500-level as described above.

This sample schedule applies to a student who has completed 43 credits of prerequisites, 15 credits of additional general education courses, and 6 elective credits before entering the BS/MS program, and is entering the program in an odd year. In addition to satisfying the requirements above, students receiving scholarships or graduate assistantships should be mindful of maintaining full time enrollment by completing 12 (junior and senior years) or 9 (graduate year) credits every Fall and Spring term. The electives in the third year serve this purpose.

## First Year (Junior Year)

Electives

CHEM 2211,2213 CHEM 3331,3334 <sup>a</sup> CHEM 3351,4451 <sup>a</sup> CHEM 3352,4452 <sup>a</sup> MATH 2240 MATH 3360	Inorganic Chemistry I and Lab Instrumental Analysis and Lab Physical Chemistry I & Lab Physical Chemistry II & Lab Linear Algebra Differential Equations	4 c 4 c 4 c 3 c 3 c	er er er
Undergrad Electives	(including general education)	7 c	
CHEM 4485 <sup>b</sup>	Senior Research	6 c	cr
Second Year (Senior Year)			
CHEM 3365,3366	Synthetic Methods and Lab	4 c	cr
CHEM 4407ª	Inorganic Chemistry II	2 c	cr
CHEM 4485	Senior Research	2 c	cr
CHEM 4491	Seminar	1 c	cr
CHEM 5545°	Biochemistry I	3 c	cr
CHEM 5547 <sup>c</sup>	Biochemistry II	3 c	cr
Undergrad Electives	(including general education)	6 c	cr
CHEM 6630 <sup>d</sup>	Advanced Analytical Chemistry	3 c	cr
CHEM 6655 <sup>d</sup>	Advanced Physical Chemistry	3 c	cr
CHEM 6635 <sup>b</sup>	Master's Research	6 c	cr
Third Year (Graduate Year)			
CHEM 6601	Seminar	2 c	cr
CHEM 6635	Master's Research	4 c	cr
CHEM 6609 <sup>d</sup>	Advanced Inorganic Chemistry	3 c	cr
CHEM 6671 <sup>d</sup>	Advanced Organic Chemistry	3 c	cr

<sup>&</sup>lt;sup>a</sup> Prerequisite for a 6600-level lecture, may need to be completed in the junior year.

6 cr

<sup>&</sup>lt;sup>b</sup> Although these research credits are earned for summer work, you should register for them during the preceding Spring term (and/or following Fall) to avoid paying additional fees.

<sup>&</sup>lt;sup>c</sup> Alternative courses eligible to count toward both graduate and undergraduate degrees (up to a maximum of 6 credits) include CHEM 5500, 5507, 5533, 5537, 5538, 5570, and 5599.

<sup>&</sup>lt;sup>d</sup> Two 6600-level chemistry lectures may, with your committee's approval, be replaced with other 6600-level lecture courses in chemistry or allied disciplines.

## **Detailed Description of the BS/MS Program**

## Year One of the BS/MS Program

If you are receiving funding from the department, you should coordinate with Suzzie Morris (<u>suzziemorris@isu.edu</u>) in the Chemistry office to set up your tuition and stipend payments. If you have not previously been employed by ISU this may require significant HR paperwork, so it is best to get started as soon as you are on campus to avoid delays in payment.

Before the Fall term begins, you should meet with the Chemistry Chair or another advisor to draft a program of study specifying when you will take the courses required for completion of the BS/MS degree. These requirements are described on pages 6-7 of this document and in the graduate catalog. Prerequisites and limited offerings of some courses make it important to plan ahead as you are beginning the program to make sure that you can complete the required courses when they are offered. If you want to begin taking graduate level coursework in your first Fall, you should inform the Department Chair of your intended course schedules as soon as possible so that you can be assigned the necessary permissions in the registration system. To enroll in graduate coursework for the Spring, you should give the Chair a copy of your intended schedule by November 1.

During the Fall semester you will select your research committee, which will be composed of three members drawn from ISU's graduate faculty. The chair of your committee (a.k.a. your research advisor) will advise your research and bear primary responsibility for approving your program of study, and the rest of the group will aid in monitoring your progress and administering your exam at the end of the program. You are required to meet with all available graduate faculty in the department before making this selection, which is an important one; your progress toward graduation will typically be set back if you change research advisors after the first year. Another committee member must be from the Chemistry Department, preferably in a sub-discipline different from your area of research concentration. The third committee member, who will serve as the Graduate Faculty Representative (GFR), must be from a different department. (While it is preferable to select the GFR as you begin your research, they will not have formal obligations until you complete the program and may be selected at that time.) The GFR may be involved in your research as a collaborator, but it is important that at least one member of your committee be sufficiently distant from your research that you trust them to mediate any conflicts that arise with your advisor(s). Ultimately, the Chemistry Department Chair must approve your committee selection. You and your committee chair should agree on a formal program of study that ensures you are taking courses relevant to your research. At this time, you should also consider whether to register for summer research credits during the Spring (see below).

By March 1, you should inform the Department Chair of your planned schedule for the following Fall so that the registrar can approve you to enroll in graduate coursework. You should plan to take one of the 6600-level courses, as described below.

During the spring semester, you will write a research overview that describes your research project. Your overview should include an introduction to the significance of the research, a description of

the experimental work, and an accounting of equipment and/or materials required. The research overview should be approved by your research committee by April 1 of the spring semester.

By April 1 you should also apply for renewal of your funding by submitting to the Chemistry Department a brief personal statement, a transcript, a current schedule (with expected grades), and letters of reference from your research and teaching supervisors.

You should vigorously pursue your research project during the summer, spending at least 10 weeks doing research on a daily basis. This work will correspond to 6 credits of senior research (CHEM 4485) taken with your research advisor as the instructor, but the timing of these credits is variable – to avoid additional fees you should register for them in the *preceding* Spring term, with the expectation of receiving an incomplete grade until the work is completed during the summer. If this plan would exceed the credit cap or interfere with completion of a full-time credit load, you can also shift some of these credits to the following Fall. Please work with your advisor to make sure your plan for these credits is reasonable.

#### Year Two of the BS/MS Program

You will continue research during your second year and enroll in 2 more credits of CHEM 4485 across the two semesters. Your research advisor and committee may require some form of progress reports periodically during the year, such as monthly reports or participation in weekly group meetings. Unless your program of study excludes them, you should enroll in the advanced chemistry courses offered at the 6600 level in each of the fall and spring semesters. Note that you will be able to skip a maximum of two such courses, and even then only with your advisor's approval.

During the Fall semester you will write a preliminary introduction to your research paper, which describes the context, significance, and goals of your work. Unless your project has changed, this and subsequent report sections will extend on what you already wrote in your research overview by adding detail and specifics. The paper should be approved by your committee by November 1.

By November 1 you should also inform the Department Chair of your intended schedule for Spring term. Like in Year One, this schedule should factor in your plans to register for summer research credits.

In December you should apply for Spring graduation with your BS degree if you have completed the requirements (see catalog for specific deadlines and application instructions).

In the spring semester, you will write a preliminary experimental section, which must be approved by your research committee by April 1. This section will describe how you actually performed the experiments you have completed so far.

By April 1 you must apply to the Graduate School. Applicants are not typically asked to complete standardized tests, but please see the Graduate School admission policies for the most recent guidelines. As in the first year, you should also apply for renewed funding by April 1.

During the summer you will continue your research project by working on a daily basis for at least 10 weeks, earning 6 credits of CHEM 6635. As with the first summer, to avoid paying additional fees you should register for these CHEM 6635 credits during the preceding Spring and/or following Fall semester.

#### Year Three of the BS/MS Program

You will complete your research project during your third and final year of the BS/MS program. You will enroll in CHEM 6635 for 4 credits distributed across the fall and spring semesters bringing you to the required 10 credits of CHEM 6635 overall. In the fall semester, you are to finalize the introduction and experimental sections to your research paper. These sections must be approved by your research committee by November 1 of the fall semester. The introduction and experimental sections should reflect revisions and additions to the preliminary documents approved during Year Two, based on prior feedback and additional experimental work you have completed.

Unless your program of study excludes them, you will enroll in the advanced chemistry courses offered at the 6600 level in each of the Fall and Spring semesters.

The Fall seminar you present in CHEM 6601 should not be on a topic directly involved with your research paper. Instead, the seminar should be on a research topic from the literature that you find interesting. During your second credit of CHEM 6601 in the Spring semester you will present your own work.

As you take steps to graduate, you should refer to current graduate school policy and forms. The details of graduate school procedures may change without sufficient notice for this document to accurately reflect them, so it is a good idea to doublecheck the resources below for the most current information on programs to study, graduation applications, and exam scheduling:

https://www.isu.edu/graduate/current-students/graduation-information/

https://www.isu.edu/graduate/forms--info/graduate-faculty-forms--graduate-council/

You will submit your <u>Final Program of Study</u> to the Graduate School for evaluation by December 15. The Graduate School will inform you of any deficiencies that you must rectify before graduation, and the Department Chair will likely need to approve specific aspects of your program via petition to the Graduate School. Note that you cannot notify the Graduate School of your oral examination date until your Final Program of Study has been approved by the Graduate School.

During the Fall semester, you should apply for graduation with the BS degree if you did not do so in Year Two. Once your Final Program of Study has been approved, you should apply for graduation with the MS degree as well. This must be completed no later than the second week of Spring semester. If you do not complete all the requirements for the BS/MS program by the end of the Spring semester, you will have to reapply for graduation in a later term.

During your final semester, you will complete your research paper and defend it before your committee in an oral examination. Although your research paper is not formally a thesis, it is still

best to construct it according to the thesis guidelines published by the Graduate School. Since you must provide your completed research paper to your examination committee no fewer than 14 days before your scheduled defense, you should plan to complete it no later than April 1. (If you have not done so already, you will have to identify a GFR at this time.) If your examination committee finds that your research paper is not substantive, you will not be allowed to proceed with the oral examination and will need to delay graduation to a later semester.

Your oral examination must be conducted after your committee has approved the content of your research paper and at least three weeks prior to the date of graduation. (The final draft of the research paper will typically continue to be refined after the exam.) The Graduate School must be informed of your oral examination date at least two weeks before the exam occurs, and will not accept scheduling until your final program of study has been approved. Typically, the exam will immediately follow your CHEM 6601 seminar presentation on your research. You should work with your committee to schedule a time and location, and have your advisor notify the Graduate School using their online form.

The oral examination will begin with a seminar open to the public and be followed by the usual question and answer period. At the conclusion of the open Q&A, the public will be dismissed and your examination committee will question you on your research paper and related subjects from all your coursework. The GFR will help ensure that the exam is conducted appropriately, and will help the committee ascertain whether or not your research paper is substantive and your exam performance is adequate. Committee members will discuss their impressions immediately after the defense, and share them with you prior to reporting the exam outcome to the Graduate School. If you fail your oral examination, your committee may agree to schedule a second exam after you brush up on some subjects. A second oral exam may not be scheduled earlier than four weeks after the failed oral exam unless permission is granted from the Chemistry Graduate Programs Committee.

Before you depart with your BS/MS degree, you must submit a fully signed electronic copy of your final research paper to the Chemistry Department. You must also clean up your work area, properly dispose of all waste, and complete the Checkout Approval form.

## **Getting Started: First Year Duties**

Following are duties that you must complete in your first semester of the BS/MS program. Dates are associated with each of these duties.

- 1. If you are funded by the department, meet with Suzzie Morris (suzziemorris@isu.edu) in the Chemistry Office no later than the <u>first day of the term</u> to arrange payment of your tuition and stipend.
- 2. Complete the Faculty Research Discussion Form. The purpose of this form is to acquaint you with the Chemistry faculty. They will discuss their research interests with you, so allow at least 30 minutes to spend with each faculty member. Return this form to the Graduate Programs Committee by **November 1**.
- 3. Come to an agreement with one of the faculty who will then act as your advisor (research committee chair) for the remainder of the program. You will do your research with this faculty member.
- 4. With the guidance of your advisor, form a committee consisting of two other members. One of the members must be from the Chemistry Department. The other member must be from another department and will act as your GFR. After you have formed your research committee, please return the BS/MS Research Committee Form to the Graduate Programs Committee by **December 1**. Because the Chair of the Chemistry Department must approve your committee selection, please obtain that signature last.
- 5. Notify the Department Chair of your intended schedule for the following Fall by March 1.
- 6. If you want to be considered for departmental funding in the following year submit to the Chemistry Department by <u>April 1</u> a letter requesting funding, a current transcript, a list of your current courses (with expected grades), a letter from your research supervisor, and a letter from your teaching supervisor (if applicable). If you worked with multiple teaching supervisors, please obtain a letter from the one who is most familiar with your work as a laboratory TA.
- 7. Apply to the graduate school for admission to Classified (with Performance Requirements) status by **April 1**.
- 8. Write a research overview outlining the justification and plans for your research project, and obtain your research advisor's approval by **April 1**.

## Checklist

Unless otherwise indicated, all forms should be submitted to the Chair of the Graduate Programs Committee.

## YEAR 1

ITEM	DATE DUE	DATE COMPLETED
Faculty Research Discussion Form	November 1	
Submit intended spring schedule to Dept. Chair	November 1	
Submit BS/MS Research Committee Form	December 1	
Submit intended fall schedule to Dept. Chair	March 1	
Approval of Research Overview Form	April 1	
Apply to the Chemistry Dept. for funding	April 1	

## YEAR 2

ITEM	DATE DUE	DATE COMPLETED
Report any required test scores to Graduate School	August 1	
Approval of Preliminary Introduction Form	November 1	
Submit intended spring schedule to Dept. Chair	November 1	
Apply for graduation with BS degree	Check with Registration	
Approval of Preliminary Experimental Section Form	April 1	
Apply to the Chemistry Dept. for Funding	April 1	
Apply for admission to Graduate School, and arrange to take any required tests	April 1	

## YEAR 3

ITEM	DATE DUE	DATE COMPLETED
Approval of Introduction and Experimental Section Form	November 1	
Final Program of Study Form	December 15	
Apply for graduation with MS degree	Within first two weeks of Spring semester.	
Approval of Research Paper Form	At least two weeks before oral exam date.	
Schedule Oral Examination	At least two weeks before oral exam date.	
Oral Examination	At least three weeks before graduation date.	
Submit a copy of the Research Paper in final form to Chemistry Department Administrative Assistant.	Upon graduation.	
Checkout Approval Form	Upon graduation.	

Forms To Be Completed During the BS/MS Program Follow

# FACULTY RESEARCH DISCUSSION FORM FOR SELECTION OF RESEARCH ADVISOR AND COMMITTEE MEMBER

BS/MS CANDIDATE		
NAME	ROOM/PHONE	SIGNATURE OF FACULTY MEMBER
Dr. Caryn Evilia	356/4006	
Dr. Lisa Goss	340/2542	
Dr. Andrew Holland	352/4278	
Dr. Courtney Jenkins	347/3737	
Dr. John Kalivas	253/2726	
Dr. Leslie Nickerson	361/2668	
Dr. Joshua Pak	360/2612	
Dr. René Rodriguez	343/2613	
Dr. Jeff Rosentreter	150/4281	

Submit to the GPC by November 1, Year 1.

## **BS/MS RESEARCH COMMITTEE FORM**

BS/MS Candi	date		
	Name	Signature	Date
Major Researd Advisor	ch		
	Name		
	Signature		Date
Chemistry Fac Member	culty		
	Name		
	Signature		Date
Additional Committee			
Member	Name		
	Department		
	Signature		Date
Department C	hair		
	Name		
	Signature		Date

Submit to the GPC by December 1, Year 1.

## APPROVAL OF RESEARCH PAPER OVERVIEW

The undersigned, which compose the BS/MS candidate's research committee, find the submitted research overview to be satisfactory.

BS/MS Candid	late	
	Name	
Major Researc Advisor	h	
	Name	
	Signature	Date
Chemistry Fac Member	ulty	
	Name	
	Signature	Date
Additional Committee		
Member	Name	
	Signature	Date
Comments		

Submit to your research advisor by April 1, Year 1.

## APPROVAL OF RESEARCH PAPER PRELIMINARY INTRODUCTION

The undersigned, which compose the BS/MS candidate's research committee, find the submitted preliminary introduction to be satisfactory.

BS/MS Candida	re	
	Name	
Major Research Advisor		
	Name	
	Signature	Date
Chemistry Facul Member	ty	
	Name	
	Signature	Date
Additional Committee		
Member	Name	
	Signature	 Date
Comments		

Submit to your research advisor by November 1, Year 2.

## APPROVAL OF RESEARCH PAPER PRELIMINARY EXPERIMENTAL

The undersigned, which compose the BS/MS candidate's research committee, find the submitted preliminary experimental section to be satisfactory.

BS/MS Candid	late	
	Name	
Major Researc Advisor	h	
7 <b>14 1</b> 1501	Name	
	Signature	Date
Chemistry Fac Member	ulty	
	Name	
	Signature	Date
Additional Committee		
Member	Name	
	Signature	Date
Comments		

Submit to your research advisor by April 1, Year 2.

## APPROVAL OF RESEARCH PAPER INTRODUCTION AND EXPERIMENTAL SECTION

The undersigned, which compose the BS/MS candidate's research committee, find the submitted introduction and experimental section to be satisfactory.

BS/MS Candida	te_	
	Name	
Major Research Advisor		
	Name	
	Signature	Date
Chemistry Facul Member	ty	
Wichioci	Name	
	Signature	Date
Additional Committee		
Member	Name	
	Signature	Date
Comments		

Submit to your research advisor by November 1, Year 3.

## GRADUATE PROGRAM OF STUDY

See the following page. The original form is available at:

https://www.isu.edu/graduate/current-students/graduation-information/

Submit Final Program of Study to graduate school by December 15, Year 3.

**Degree**: Master of Science **Major**: Chemistry

### **STUDENT INFORMATION**

Name: Click here to enter text. Major advisor: Click here to enter text.

Email: Click here to enter text. Committee members: Click here to enter text., Click here to enter text.

Banner ID: Click here to enter text. enter text., Click here to enter text. Expected Graduation Date: Choose an item. GFR: Click here to enter text.

Choose an item.

Date: Click here to enter text. Catalog year: Click here to enter text.

DEGREE PROGRAM COURSES				iter text.		
Prefix/Num	Title	Cr	Semester	Year	Grade	Notes
General Require	ements					
			Choose an		Choose an item.	
			item.			
			Choose an		Choose an item.	
			item.			
			Choose an		Choose an item.	
			item.			
			Choose an		Choose an item.	
			item.			
			Choose an		Choose an item.	
			item.			
			Choose an		Choose an item.	
			item.			
			Choose an		Choose an item.	
			item.			
			Choose an		Choose an item.	
			item.			
			Choose an		Choose an item.	
			item.			
			Choose an		Choose an item.	
			item.			
Seminar						
			Choose an		Choose an item.	
			item.			
			Choose an		Choose an item.	
			item.			
Thesis Only (6 C	Credits)					
			Choose an		Choose an item.	
			item.			
			Choose an		Choose an item.	
			item.			

### Thesis $\Box$ / Non-Thesis $\Box$

**Notes:** (Substitutes/Waivers/Notes – Add additional pages as needed)

Student Signature	Department Chair (If Applicable)	Total Credits	30
		500 Level	
Advisor Signature	Dean (If Required by College)	600 Level	15 min
		700 Level	
	Dean of Graduate School	Transfer	

### APPROVAL OF RESEARCH PAPER

The undersigned, who compose the BS/MS candidate's research committee, find the submitted research paper to be of a substantive nature and agree that the oral examination may proceed.

BS/MS Candid	late	
	Name	
Title of Resear	rch Paper	
Major Researc Advisor	h 	
	Name	
	Signature	Date
Chemistry Fac Member	ulty	
2,101110 01	Name	
	Signature	Date
GFR	Name	
	Signature	Date

Submit to your research advisor at least 2 weeks before your presentation and oral exam.

#### **CHECKOUT APPROVAL**

The undersigned, which comprise the BS/MS candidate, research advisor, and the Laboratory Materials Supervisor, find the BS/MS candidate's research work area to be satisfactorily clean. The undersigned also agree that all chemicals and other items of a hazardous nature resulting from the BS/MS candidate's research have been disposed of properly.

BS/MS Candidat	e	
	Name	
	Signature	Date
Major Research Advisor	Name	
	Signature	 Date
Stockroom Supervisor	Name	
	Signature	 Date

Submit to the Chemistry department administrative assistant before leaving the department.