



Biological Chemistry
Graduate Program Handbook

University of Nebraska-Lincoln

Contents

Introduction	5
Contacts and Communication	5
CBC and MMOD Graduate Program Contacts	5
CASNR Graduate Program Contacts	5
Communication	6
Graduate Forms	6
Orientation	6
Academic coursework.....	7
Accelerated BS/MS program matrices	7
MS program matrix	8
PhD program matrix.....	8
Options for specialty courses	9
Selection Process for Laboratories for Rotation and Thesis Advisor	9
Molecular Mechanisms of Disease (MMoD) PhD Training Program.....	10
Introduction	10
Eligibility	10
MMOD Program Requirements	10
Supervisory Committee	11
Supervisory Committee Membership	11
Mentoring and Trainee Expectations	11
Mentor and Mentee Expectations	11
Annual Report	12
Lab Handbooks	12
Individual Professional Development Plan (IPDP).....	12
MS Final Exam	12
Switching from a MS to a PhD program	13

PhD Comprehensive Exam	13
Overview.....	13
Purpose and Format.....	13
White papers.....	14
Examination Process	14
Guidelines for Success	14
Evaluation	15
Timeline and PhD Candidacy.....	16
PhD Dissertation.....	17
Switching from the PhD to the MS program.....	18
AI/ML use policy.....	18
AI/ML use for research and presentations.....	18
AI/ML use in the classroom	18
Academic Requirements and Probation	18
Academic coursework	18
Indicators of academic progress Issues include:.....	19
Indicators of lack of technical research progress include:.....	19
IP and XP Grades in Thesis and Dissertation Courses	19
Remediation Process	20
Assistantship (Stipend) Support.....	20
Teaching Assistantships (TA).....	20
Research Assistantships (RA)	21
Fellowship Awards.....	21
Internships and Externships	21
Tuition and Fees	21
Graduate Student Associations.....	21
Biological Chemistry Graduate Student Association (BCGSA).....	21
CROPS	22
ASUN	22

Seminars.....	22
Scholarships, Internships and Fellowships	22
Conflict Resolution Resources and Appeal Protocols.....	22
Interpersonal conflicts.....	22
Academic appeals	23
Remediation plan and probation appeals.....	24
UNL Title IX.....	24
Center for Advocacy, Response and Education (CARE) Office.....	25
Vacation and Leave of Absence	25
Vacation	25
Leave of Absence	25
Excess Absence	25
Mental Health	25
Counseling and Psychological Services (CAPS)	26
Students with Disabilities (SSD)	26
Housing	26
Off Campus Housing.....	26
University Housing.....	26
International Students (ISSO) Resources.....	26
Student Advocacy and Support Resources	27

Introduction

The Center for Biological Chemistry (CBC) Graduate Program is designed to meet disciplinary expectations for MS- and PhD-level Biochemists in accordance with guidelines from the American Society for Biochemistry and Molecular Biology (ASBMB) and the National Academies of Sciences, Engineering, and Medicine (NASEM).

The CBC administers the following graduate degree programs:

- PhD in Biological Chemistry
 - Molecular Mechanisms of Disease (MMOD) training program
- MS in Biological Chemistry
- Accelerated BS/MS in Biochemistry
 - Analytical Biochemistry specialization
 - Cellular Biochemistry specialization

Through a combination of academic coursework, original research, teaching practicum, seminars, and other professional development activities, CBC graduate students will complete graduate degree requirements and acquire the skills needed to become independent research scientists. Our major research training areas are:

- Structural and chemical basis of biomolecular function (protein, lipid, and nucleic acid)
- Metabolism and metabolic engineering
- Metabolic dysfunction
- Molecular mechanisms of disease
- Plant and microbial biochemistry and biotechnology
- Computational and systems biology

Contacts and Communication

CBC and MMod Graduate Program Contacts

<u>Graduate Program Chair</u> Dr. Jaekwon Lee jlee7@unl.edu BEAD N210	<u>MMod Program Co-director</u> Dr. Ed Harris eharris5@unl.edu BEAD N133
<u>CBC and MMod Program Administration Support</u> Paula Adams aadams@unl.edu BEAD N200	<u>Department of Biochemistry Head</u> Dr. Don Becker dbecker3@unl.edu BEAD N258

CASNR Graduate Program Contacts

<u>Graduate Student Success Coordinator</u> Hoai Vu hvu7@unl.edu AGH 103H	<u>CASNR Dean (Interim)</u> Thomas Burkey tburkey2@unl.edu AGH 103
--	---

Office of Graduate Programs Contacts

<u>Master's Program Coordinator</u> Terri Eastin teastin1@unl.edu SEH 126	<u>Doctoral Program Coordinator</u> Lisa Cordonier lcordonier2@unl.edu SHE 125
<u>Associate Dean</u> Dr. Brigitte Tenhumberg btenhumberg2@unl.edu SEH 203	<u>Dean of Graduate Education</u> Dr. Debra Hope dhope1@unl.edu SEH 101

Communication

University email

It is mandatory university policy that all official communication with students, staff, and faculty is disseminated via a UNL-assigned email address. Students are responsible for checking their UNL email accounts regularly (preferably daily).

MS Teams

University business is often conducted through Microsoft Teams. The CBC Graduate Program has created a Teams channel to coordinate communication, enable video conference and chat, and to organize program files. The Teams site houses required forms including the Graduate Program Handbook, Annual Report Forms, Office of Graduate Studies Forms, and Individual Development Plan templates. [General | UNL-BiologicalChemistryGraduateProgram](#)

Beadle Business Center

Please see the Beadle Business Center for all questions relating to payroll and human resources, technology support, purchasing, shipping, and receiving at <https://ianrbc.unl.edu/business-centers/beadle-business-center/>.

Graduate Forms

Program info and applications can be found on the Department of Biochemistry website (<https://biochem.unl.edu/academic-programs/graduate-programs/>) and the graduate catalog (<https://catalog.unl.edu/graduate-professional/courses/bioc/>).

Required graduate forms and useful resources can be accessed on the CBC MS Teams site (see Files tab) as well as through the Biochemistry website (<https://biochem.unl.edu/academic-programs/graduate-resources/>) and via the OGS website:

- MS forms: <https://graduate.unl.edu/academics/program-steps/masters-degree-steps-to-completion/>
 - Memorandum of Courses
 - Request to Amend MOC
 - Application for Graduation
 - Final Examination Report Form
 - Certification of Full-Time Status
 - Academic Leave Form
 - Extension Request Form
- PhD forms: <https://graduate.unl.edu/academics/program-steps/doctoral-degree-steps-to-completion/>
 - Appointment of Supervisory Committee Form
 - Change of Supervisory Committee Form
 - Special Committee Member Form
 - Program of Studies
 - Application for Admission to Candidacy Form
 - Application for Graduation
 - Application for Final Oral Examination
 - Report of Completion Form
 - Certification of Full-Time Status
 - Academic Leave Form
 - Extension Request Form

Orientation

All first-year CBC graduate students are required to attend *Orientation Week*, which is held the week before UNL classes begin for the Fall semester. During *Orientation Week*, the Graduate Committee will provide onboarding guidance and assist all students in initial course selections and laboratory rotation choices. A poster session will be held to allow students to interact with each faculty member and/or members of their labs to find out about their research and get an

overview of the active research areas in Biochemistry. This will help students in choosing a research advisor and Supervisory Committee. Students will also have a one-on-one guidance interview with the Chair of the Graduate Committee to learn about the program in Biochemistry, discuss any curricular remediation needs and training goals, and choose courses for the first semester.

New CBC Graduate students are encouraged to use UNL graduate onboarding resources (please see the New Student Arrival checklist at <https://graduate.unl.edu/orientation/checklist/> and <https://graduate.unl.edu/orientation/onboarding/>) and to attend Orientation Week events (announced through email and at <https://graduate.unl.edu/orientation/welcome-events/>).

Academic coursework

Academic program requirements are described in the graduate catalog: <https://catalog.unl.edu/graduate-professional/policies/academic-program-requirements/>. Please see program milestones: <https://graduate.unl.edu/academics/program-steps/>.

Successful completion of the MS degree requires 30 credit hours, of which 20 credits are coursework

Successful completion of the Ph.D. degree requires 90 credit hours, of which 35 credits are coursework, and the remainder is thesis research. No more than 55 of the 90 credit hours may be dissertation research, and 45 credit hours must be in Biochemistry offerings (including dissertation research, BIOC 999).

A minimum grade of "C" or "P" (Pass) is required for graduate credit in 900-level courses or 800-level courses without 400 or lower counterparts. A minimum grade of "B" is required for graduate credit in 800-level courses with 400 or lower counterparts within the student's major department or area. See <https://registrar.unl.edu/academic-standards/academic-policies/academic-standards-graduate/>

All CBC MS and PhD program students are required to take the following **core courses**:

- BIOC 932, Proteins, 2 credits
- BIOC 933, Enzymes, 2 credits
- BIOC 934, Genome Dynamics and Gene Expression, 3 credits
- BIOC 935, Metabolic Function and Dysfunction, 3 credits
- BIOC 936, Physical Basis of Macromolecular Function, 3 credits
- GRDC 901, Professional Ethics, 1 credit

In addition, all students in the PhD program are required to register for (1) BIOC 898 for lab rotation during the first semester and (2) BIOC 992K (graduate seminar, 1 credit per semester) every semester, for a total of 8 credits over four years. Students in the M.S. program also take BIOC 992K every semester, receiving one credit per semester for at least two years (4 credits).

Other course requirements are arranged in consultation with the Supervisory Committee. Before one half of the course requirements are complete, the student and advisor submit a Program of Studies (for the Ph.D.) or Memorandum of Courses (for the M.S.) that details the student's coursework requirements to the Graduate College. Forms can be found on the Graduate Studies website (<http://www.unl.edu/gradstudies/home>).

Coursework Matrices

1. Accelerated BS/MS program

Students will need 30 credit hours, including 20 coursework credits. Students took BIOC 831, 832, and 836 (12 credit hours) during their undergraduate. These credits can count toward both the BS and MS degrees.

Fall Semester 9	Spring Semester 10
-----------------	--------------------

Course		Cr	Course		Cr
BIOC 932	Proteins	2	BIOC 934	Gen Dyn & Gene Exp	3
BIOC 933	Enzymes	2	BIOC 992k	Res. Sem/J. Club	1
BIOC 992k	Res. Sem/J. Club	1		BIOC 899 (Research), 900-level courses, and/or 800 level courses without undergraduate counterparts	5 or more
GRDC 901	Ethics	1		MS Exam	
	BIOC 899 (Research), 900-level courses, and/or 800 level courses without undergraduate counterparts	3 or more			
	Credit towards 20	9		Credit towards 20	9

2. MS program

Year 1, Fall Semester			Year 1, Spring Semester		
Course		Cr	Course		Cr
BIOC 932	Proteins	2	BIOC 934	Gen Dyn & Gene Exp	3
BIOC 933	Enzymes	2	BIOC 936	Phys Basis Macromol Func	3
BIOC 899	Research	3	BIOC 899	Research	3
BIOC 992k	Res. Sem/J. Club	1	BIOC 992k	Res. Sem/J. Club	1
GRDC 901	Professional Ethics	1			
	Credit towards 20	6		Credit towards 20	7
Year 1, Summer					
BIOC 899	Research	1	optional		
Year 2, Fall Semester			Year 2, Spring Semester		
BIOC 935	Metab Func & Dys	3	BIOC 899	Research	2
BIOC 899	Research	2	BIOC 992k	Res. Sem/J. Club	1
BIOC 992k	Res. Sem/J. Club	1			
	Specialty Course	2		MS Exam	
	Credit towards 20	6		Credit towards 20	1

3. PhD program

Year 1, Fall Semester			Year 1, Spring Semester		
BIOC 932	Proteins	2	BIOC 934	Genome Dyn & Gene Exp	3
BIOC 933	Enzymes	2	BIOC 936	Phys Basis Macromol Func	3
BIOC 898	Research (Lab rotation)	3	BIOC 999	Research Credit	3
BIOC 992k	Res. Sem/J. Club	1	BIOC 992k	Res. Sem/J. Club	1
GRDC 901	Professional Ethics	1		Specialty Course (It can be taken in year 2 or 3.)	3
	Specialty Course (It can be taken in year 2 or 3.)	3			
	Credit towards 35	12		Credit towards 35	10
Year 2, Fall Semester			Year 2, Spring Semester		
BIOC 935	Metab Func & Dys	3	BIOC 999	Dissertation Research	8
BIOC 999	Dissertation Research	2	BIOC 992k	Res. Sem/J. Club	1
BIOC 992k	Res. Sem/J. Club	1		Specialty Course	3
	Specialty Course	3			
	Credit towards 35	7		Credit towards 35	4
Year 3, Fall Semester			Year 3, Spring Semester		
BIOC 999	Dissertation Research	8	BIOC 999	Dissertation Research	8

BIOC 992k	Res. Sem/J. Club	1	BIOC 992k	Res. Sem/J. Club	1
	Credit towards 35	1		Credit towards 35	1
Year 4, Fall Semester			Year 4, Spring Semester		
BIOC 999	Dissertation Research	8	BIOC 999	Dissertation Research	8
BIOC 992k	Res. Sem/J. Club	1	BIOC 992k	Res. Sem/J. Club	1
	Credit towards 35	1		Credit towards 35	1

Options for specialty courses

Below is a list of popular specialty courses for CBC program students. **This is a non-exhaustive list**; students are encouraged to take specialty courses that best match their research interests as long as they meet prerequisite requirements. Selection of specialty courses should be discussed with and approved by your Supervisory Committee.

Fall Semester			Spring Semester		
Course		Cr	Course		Cr
CHEM 871	Physical Chemistry	4	BIOS 964	Signal Transduction	3
CHEM 855	Adv. Organic Chemistry	3	BIOS 841	Pathogenic Microbiology	3
CHEM 964	Bioorganic Chemistry	2-4	BIOC 810	Plant Molecular Biology	3
ASCI 842	Endocrinology	3	BIOC 834	Plant Biochemistry	3
BIOS 812	Human Genetics	3	BIOC 848	Redox Biochemistry	3
BIOS 818	Advanced Genetics	3	BIOC 837	Research Techniques	4
This is a subset of all grad courses. Other courses are available upon approval of your supervisory committee. Bold indicates offerings of required core courses in the semester.					

In addition to coursework and thesis research, PhD students are required to serve as a teaching assistant for two semesters to gain experience with classroom instruction. For more information, please see the **Assistantship (Stipend) Support** section below.

Selection Process for Laboratories for Rotation and Thesis Advisor

Earning a PhD in the CBC requires conducting original research that makes a meaningful and novel contribution to the field of biochemistry. This scholarly contribution is the result of years of mentored research in the laboratory of a faculty advisor selected by the student and culminates in the defense of a written thesis containing published or publication-quality work. The sections below outline a process for identifying the advisor who mentors your research.

Selecting an advisor is one of the most critical decisions in a student's graduate career. Thesis advisors must hold Graduate Faculty status and are responsible for mentoring students to conduct high-quality original research and to assist with building a professional skills portfolio and competitive curriculum vitae (CV) for a STEM career. Students typically choose an advisor based on their research interests and a strong professional rapport with the faculty member. To facilitate this decision, the program provides structured opportunities for students to explore different research environments through at least two 8-week laboratory rotations.

Laboratory Rotations

MS students do not do rotations due to the short training period.

PhD students are required to participate in two 8-week laboratory rotations during their first semester. The first rotation begins Monday of the first week of the Fall semester through the third week of October. The second rotation begins in the fourth week of October and runs through the third week of December, until Winter Break begins. In the Spring semester, rotations run from the first week of January through the end of February, then the first week of March through the end of April. These rotations allow students to gain exposure to diverse research areas and methodologies, providing insight into potential thesis projects and mentorship styles. Rotation mentors often become co-mentors and thesis Supervisory Committee members.

Third Rotation

In specific circumstances, such as participation in the MMod program or other extenuating factors, a third rotation may be conducted by PhD students in the second semester. If you would like to do a third rotation, a prior consultation with the Graduate Program Chair is required.

Rotation Preferences

During orientation week, PhD students must identify, contact, and meet with potential mentors to discuss their research interests and the mentors' availability to supervise rotations. After these discussions, students will submit a ranked list of three potential advisors to the Chair of the Graduate Program Committee by email **on or before 4 pm on Friday of orientation week.**

Rotation Assignments

The Graduate Program Chair will review rotation preferences and assign rotations. Every effort is made to match students with their top choice. However, students may be paired with their second or third choice.

Final Advisor Assignment

After completing the final rotation and after discussion with rotation mentors, PhD students will submit their advisor preference to the Graduate Program Chair **by 4 pm Friday the third week of December** (or sooner) by email. The final advisor assignments are made in consultation with the Chair of the Biochemistry Department. Unless doing a third rotation, **students will join their thesis mentor's lab at the start of the Spring semester, in the first week of January.** Inability to match with a thesis mentor after a maximum of four rotations is grounds for dismissal from the graduate program due to inability to progress.

Molecular Mechanisms of Disease (MMod) Pre-doctoral Training Program

Introduction

The CBC graduate program administers the NIH Molecular Mechanisms of Disease (MMod) PhD training program. MMod students pursue research relating to diseases, which is one subset of the research done by CBC students. Although a limited number of MMod students are selected each year, MMod programming, including workshops, seminars, the annual symposium, and other activities, is open to all CBC students.

Eligibility

Per NIH policy, only US citizens or permanent residents are eligible for a pre-doctoral fellowship through MMod. MMod fellowships for years 2 and 3 of the Ph.D. degree program are awarded based on a competitive application process. Applications for MMod fellowships are due in April/May of the Spring semester of the first year, with funding decisions completed in June. Please see CBC and MMod emails for more information.

MMod Program Requirements

Students selected for the MMod program will follow the same trajectory as all other CBC graduate students with some minor differences. As the MMod program focuses on interdisciplinary training with a Mentor and a co-Mentor, it will be important to rotate in diverse laboratories. MMod students will do three lab rotations, the third of which will be performed at the start of the Spring semester of their first year in the proposed co-Mentor's lab.

Additional requirements for MMod students include participation in the MMod monthly works-in-progress seminar, career development workshops, and the annual symposium. All CBC students typically attend MMod activities. Because the MMod training grant prohibits teaching during the two-year period of support, students in MMod will need to perform their required service as a teaching assistant starting in their fourth year in the PhD program. CBC students with MMod specialization will fulfill all CBC program requirements.

Supervisory Committee

Shortly after students have chosen a mentor and started working in the lab (*i.e.* in the first semester for MS students and in the second semester for PhD students), students will confer with their research mentor to form a Supervisory Committee. The purpose of this committee is to evaluate student progress in the degree program, to offer a support network within the University, and to assist students with practical guidance in their research project. The Supervisory Committee is chaired by your faculty adviser.

For MS students, the Supervisory Committee will set the MS Exam format requirements – options include a thesis, internship/externship, manuscript draft, or other original scholarly product with a written and/or oral presentation and defense.

Students in the PhD program will contact their Supervisory Committee to schedule their annual meeting, during which they will give a 30-45-minute presentation on their research progress to date and their goals for the coming year. The Committee will ask questions during the presentation to assess the student's level of development as a scientist and will advise the Graduate Program Committee whether the student is making satisfactory progress toward the degree objective. Students should prepare a **CBC Annual Report Form** (available from the Biochemistry office or Teams) before each committee meeting. After revisions, the *Annual Report* will be submitted to the Graduate Program at **biochemistrygrad@unl.edu** for signature routing. The Supervisory Committee will check a box indicating either "satisfactory", "needs improvement", or "unsatisfactory" progress and sign the *Annual Report Form*. **Annual Report forms are due September 15 each year from students' second year.**

If student progress is deemed unsatisfactory, it is the responsibility of the Supervisory Committee to provide written recommendations for improvement, probation, or termination (where warranted) to the student and to notify the Biochemistry Graduate Chair.

Supervisory Committee Membership

For MS students, the committee is composed of the Chair (the thesis or project mentor) plus two other faculty with Graduate Faculty or Graduate Faculty Associate status. At a minimum, the committee Chair must be a CBC Mentor.

For PhD students, the committee is composed of the Chair (the thesis mentor) plus four other faculty with Graduate Faculty or Graduate Faculty Associate status. Two of the members are designated as thesis readers, and one may be from an outside department. At least three of the committee members must be CBC faculty. The approval form for the PhD Supervisory Committee can be downloaded from the Graduate Studies website (<https://graduate.unl.edu/academics/program-steps/doctoral-degree-steps-to-completion#degapp>). If changes need to be made to the Supervisory Committee membership, a *Change of Supervisory Committee Form* must be filed with Graduate Studies.

Mentoring and Trainee Expectations

The University of Nebraska-Lincoln values quality mentoring and supports positive relationships between mentors and mentees. The CBC curriculum and mentoring expectations follow best-practice recommendations as outlined by the National Academies, professional societies, and the College of Agricultural Sciences and Natural Resources. These guidelines can be found at the following websites:

- <https://www.nationalacademies.org/projects/PGA-BHEW-15-06>
- <https://www.nationalacademies.org/projects/PGA-POLICY-24-21>
- <https://casnr.unl.edu/teaching-learning/graduate-framework/>
- <https://www.asbmb.org/asbmb-today/education/topics/graduate-education>
- <https://asm.org/education>

Mentor and Mentee Expectations

Both mentors and mentees are responsible for maintaining open and transparent dialogue on a daily basis. This involves informal communications as well as formal requirements as outlined in this handbook, which are all designed to provide mentors and mentees opportunities to work together productively to achieve the shared goals of carrying out cutting-edge research and innovation at a world-class professional level. Mentors are responsible for setting expectations, communicating, and assessing that students have achieved professional standards worthy of a MS or PhD in biological chemistry. Mentees are responsible for making a best effort to acquire new knowledge and develop technical skills in research, teaching, leadership, and communication under the direction and supervision of their mentor and the Supervisory Committee. Mentors will be a student's faculty Adviser, but will also include members of their Supervisory Committee or other more senior members of the CBC community. Likewise, although faculty advisers are primarily responsible for supervising the trainees on their research teams, they often provide mentorship, advice, and letters of support for students they work with across the CBC community as a whole. **All members of the university community are expected to adhere to all university policies and procedures.**

Annual Report

As outlined above, the Annual Report is structured to facilitate communication between students and their mentors, track progress toward shared objectives, and help keep students on track for timely graduation. Over time, the Annual Report can easily be reformatted into a professional CV to pursue next career steps.

Lab Handbooks

Faculty Advisers are encouraged to provide lab members with a **Lab Handbook** that explains specific professional expectations (including attendance, vacation, and communication channels), safety and other training required beyond the basic chemical, recombinant DNA, and biosafety training required by Environmental Health and Safety (EHS), data management, and other policies governing the operation of the team.

EHS training must be completed during Orientation Week and/or before beginning experiments. Note that different research groups may have different EHS biosafety requirements, and requirements may be periodically updated depending on project changes and federal requirements. Students must keep their EHS training updated and must follow all EHS policies and procedures as directed.

Individual Professional Development Plan (IPDP)

The student and mentor will fill out an annual Individual Professional Development Plan (IPDP) with a record of this conversation kept in the student file. This is for both the student's and thesis advisor's benefit in that their goals are aligned and to keep the flow of communication open. Mentees are expected to consider a variety of future career objectives and to engage with their best effort to work towards developing skills in alignment with those objectives. Mentors are expected to advise trainees on their strengths and deficiencies to address and to help mentees align their activities with the mentee's desired career objectives. Annual IDPDs should be sent to biochemistrygrad@unl.edu.

MS Final Exam

In the first semester, MS students will form a Supervisory Committee and meet to discuss the format and requirements for the MS Exam. Options for the format of the MS Exam include:

- An original research thesis. A thesis involves testing a hypothesis, collecting data, and evaluating results. Thesis research may be "wet bench" involving biochemical techniques, "dry bench" using or developing computational tools, or a combination thereof. Results of thesis research will be reported in the format of an original research manuscript or as a thesis.
- A 6-page original research proposal meeting National Science Foundation, National Institutes of Health, Department of Energy, or United States Department of Agriculture formatting specifications for investigator-initiated research funding proposals. Please see PhD Comprehensive Exam Written component details below for more information.
- Internship/externship. Must be pre-approved by the Supervisory Committee and include agreements for stipend support, intellectual property, and scope of work. Work carried out by the student must be "pre-competitive" or

able to be shared in a non-enabling way such that their technical and intellectual contributions to the work can be sufficiently evaluated by the Supervisory Committee.

- Manuscript draft. Manuscripts may be minireviews, comprehensive reviews, or data analysis or meta-analysis manuscripts.
- Other original scholarly product with approval of the Supervisory Committee

Regardless of the format of the Final Exam, students will prepare a written and/or oral presentation and defense. Students will follow the **AI Use Policy** (see page 20) and are encouraged to discuss expectations for AI tool use with their Mentor and Supervisory Committee before beginning their project and throughout their program. In the final Spring semester of the student's program, MS students in good academic standing will present their MS final exam material at a Biochemistry Symposium. Presentations will involve a 30-minute PowerPoint presentation followed by 10 minutes of questions from the audience and Supervisory Committee members. Supervisory Committee members will evaluate the depth, breadth, and quality of the student's original scholarly work to determine if it meets the standards for conferral of an MS degree.

If a MS student who has completed the MS Exam changes to a MS degree candidate and does not graduate within three years of passing the Exam, the Graduate College requires the Supervisory Committee to administer another exam. More information can be found on the Graduate Studies website (<https://graduate.unl.edu/academics/program-steps/masters-degree-steps-to-completion/>).

Switching from a MS to a PhD program

Students must be in good academic standing to be eligible to switch from the MS to the PhD degree program. For information on switching degree programs, please consult with your Supervisory Committee and the CBC Graduate Program Chair. More information can be found on the Graduate Studies website (<https://graduate.unl.edu/academics/program-steps/doctoral-degree-steps-to-completion/>).

PhD Comprehensive Exam

Overview

Students are required to pass a Comprehensive Examination, consisting of written and oral components, during their fifth or sixth semester and completed before the beginning of the seventh semester. Failure to complete the exam by this deadline may result in the Supervisory Committee issuing an "unsatisfactory" evaluation on the student's CBC Annual Report Form and is grounds for receiving a BIOC 999 grade of XP for the semester. Any delay in taking the Comprehensive Exam will extend the student's graduation timeline and must be approved beforehand by the Supervisory Committee with appropriate justification.

Purpose and Format

The written component of the Comprehensive Examination is modeled after an NIH/National Research Service Award (NRSA) individual predoctoral fellowship application, which is a 12-page version (see below for details) of a federal funding proposal for investigator-initiated research. This format is intended to provide students with valuable experience that may lead to the submission of a research proposal to a funding agency in their scientific area of interest. In consultation with their Supervisory Committee, the student will prepare their proposal in the style of NIH, NSF, DOE, or USDA as appropriate for the topic. Specific formatting requirements can be found in the CBC Teams site.

While collaboration is inherent in scientific research, the written proposal must be entirely the student's work. It is essential that the proposal include material over which the student has intellectual ownership. Aims/objectives proposed must carve out a distinct line of investigation complementary to but materially different from their thesis research. The aims/objectives in the proposal must not overlap directly with the student's thesis project or advisors' grant proposals.

Students are encouraged to consult with their peers and thesis advisors during the planning and drafting stages. The advisor and peer graduate students may provide general feedback or critiques but should not proofread or edit the document and oral defense presentation. Advisors may review the proposal once to offer broad suggestions for improvement. Students will follow the **AI Use Policy** (see page 20) and are encouraged to discuss expectations for AI tool use with their Mentor and Supervisory Committee before beginning their project and throughout their program.

White papers

When preparing to take the Comprehensive Exam, the student will prepare **two 1-2 page white papers** that briefly state the Title, Overview, Hypothesis, three Aims or Objectives, and Expected Outcomes. The white papers should be provided to the Supervisory Committee two weeks before a meeting, where the student will share their research progress and discuss the white papers. The Committee will help the student choose one of the topic ideas to expand into their Comprehensive Exam written proposal. The two **topic ideas will NOT be on the student's thesis project**, although it is recommended that the topic is somewhat related to their thesis such that the questions and experiments proposed represent their original ideas, and that the required reading complements their thesis. Suggestions include project ideas that focus on a different metabolic pathway in the same organism, or the structure/function of a paralog or ortholog to the enzyme being studied in the student's thesis, etc.

Students will aim to complete the Comprehensive Exam within 8 weeks of the date the Supervisory Committee selects the proposal topic (6 weeks for writing and 2 weeks for preparing the presentation). Students are encouraged to discuss time-management strategies with their mentors during comprehensive exam preparation to ensure timely completion of the exam. The graduate program supports spending focused time on drafting the proposal.

Examination Process

Students will have 6 weeks to write the written proposal (12 pages, not including references) and will submit it to their Supervisory Committee by email. Students will then have 2 weeks to prepare an oral defense to be delivered on the previously scheduled date and time. During the oral component, the student will present their research proposal using PowerPoint slides and defend it against questions from the committee. The oral component typically involves a 30–45-minute presentation with 30-45 minutes of questions from the Supervisory Committee. This evaluation assesses the student's depth and breadth of knowledge in biochemistry, critical thinking skills, and ability to engage in scientific reasoning. After the presentation and defense, the Supervisory Committee will meet in a closed-door meeting to discuss the student's strengths and areas for improvement. Based on the discussion, the Committee will make a recommendation to pass, conditionally pass, or not to pass the student.

Guidelines for Success

Format

Students must ensure their comprehensive exam proposals are clear and well-organized to maximize readability. The document should use single-spaced text in either Arial (11-point) or Times New Roman (12-point) font. Margins must be at least 0.5 inches on all sides. Page limits specified below include all figures and figure legends, which should be embedded within the body of the proposal and accompanied by clear, concise legends. The bibliography does not have a page limit. References must be in Springer Nature format and include DOI.

Title and Abstract

The proposal title should be brief yet descriptive. The abstract should summarize the proposal's content and must not exceed half a page.

Specific Aims

The *Specific Aims* section, limited to one page, defines the research problem and objectives. It should briefly describe the experimental approach and explain why the anticipated results would significantly advance the field.

Research Strategy

This section is the primary component of the proposal and must not exceed 10 pages in total. It should be divided into the following subsections:

- Significance (1–2 pages): Explain the importance of the research problem and its potential impact.
- Innovation (0.5–1 page): Highlight novel concepts, approaches, or methodologies that differentiate the proposal.
- Approach (7.5–8.5 pages): Detail the experimental design, objectives, and rationale for the proposed research. For each Specific Aim or Objective, outline the methods, anticipated results, and interpretation of those results. Include any preliminary data or feasibility studies where relevant. Discuss potential challenges and alternative strategies should the primary approach fail. Clearly indicate the independence of specific aims and the prioritization of objectives.

Other Requirements (optional)

Depending on the ideas proposed, the Supervisory Committee may require additional sections as follows. Forms and guides can be found at: <https://research.unl.edu/sponsoredprograms/proposal-preparation-resources/>

- Budget
- Animal Vertebrate Form
- Biosketch
- Facilities and Equipment
- Mentoring Plan
- Data Management Plan

Evaluation

The completed Written Comprehensive Examination must be submitted as a PDF to the supervisory committee at least 2 weeks prior to the scheduled oral defense. During the oral defense, the Supervisory Committee will ask questions relating to biochemistry concepts, background information, techniques (whether proposed or not), data analysis and interpretations, and alternative approaches. The Supervisory Committee may ask abstract hypothetical questions or ask about published literature to test the student's ability to reason and adapt given new information. Based on the quality and depth of the student's responses, the Committee will issue one of the following decisions based on the following rubric:

Pass

- The written proposal is correctly formatted, readable, and represents the student's original intellectual product.
- The student has demonstrated a breadth of background knowledge gleaned from reading primary literature in preparation for the Comprehensive Exam.
- There is a clear hypothesis and the scope of work is reasonable for a three-year project.
- Experiments are feasible, and the student demonstrates excellent understanding of the appropriate application of the techniques to research questions, including strengths and limitations and proper interpretation of results. Alternative experiments are discussed.
- Experiments test the hypotheses, and the student can discuss a variety of possible observations and how those observations affect the interpretation of the data and evaluation of hypotheses.
- The student is able to apply their proposal questions and expected outcomes to foundational biochemistry concepts.

Conditional pass

The student's written proposal or oral defense generally meets the expectations for a Pass, but a few minor weaknesses are identified. The Supervisory Committee will decide on additional requirements to meet the deficiencies. The student will be given a defined length of time (e.g., 2 weeks) to satisfy the deficiency, which may include one or more of the following:

- Answering additional written questions about the proposal or its contents
- Assigning additional reading and providing an oral or written presentation
- Rewriting one of the Aims/Objectives or proposing and discussing an alternative experimental approach
- Assigning calculations to better assess data analysis and statistical concepts related to the proposal
- Other at the Committee's discretion

If the student meets the additional requirements, the Supervisory Committee will award a "pass" grade for the Comprehensive Exam. If the student cannot satisfy the additional requirements on the assigned timeline, the Supervisory Committee will issue a "No pass" decision.

No pass

A “No pass” decision should be rare and is only given when students demonstrate one or more critical deficiencies. These may include: lack of effort in the effort of preparation for the exam or low quality of readability and lack of sufficient content according to program guidelines, insufficient breadth of background knowledge, inappropriate application of biochemistry concepts to the experimental questions being proposed, lack of testable hypotheses, lack of mechanistic line of reasoning, or if unethical behavior is suspected, including experiments proposed that violate biosafety standards, plagiarism, etc.

If a “No pass” is decided, the student will be given **one calendar month** to revise their proposal and retake the exam. If the student elects not to retake the Comprehensive Exam, they may request the Supervisory Committee consider recommending the student for the MS degree based on coursework, technical skill development, and/or the quality of the proposal and defense.

If two “No pass” decisions are received, the Supervisory Committee will consider recommending the MS degree based on coursework, technical skill development, and/or the quality of the proposal and defense. If the Supervisory Committee does not think the student has met the standard for the MS degree, they will recommend termination from the program.

Timeline and PhD Candidacy

First year: complete core courses in Biochemistry; first year of seminar

- First semester: rotations and selection of a lab.
 - *OPTIONAL: Apply for Graduate Research Fellowships (see Adviser)*
- Second semester: select supervisory committee
 - Complete IPDP
 - Complete *Appointment of Supervisory Committee* form and file with Graduate Studies
 - First meeting of supervisory committee
 - Complete *Program of Study* form, and file with Graduate Studies
 - Select coursework for second year of study.
 - *OPTIONAL: Request and complete a 3rd rotation*
- *TA option (see Adviser)*

Second year: continue/complete all coursework; continue meeting research and seminar requirements

- First semester: Annual Report due.
- Second semester: second meeting of supervisory committee
 - Select format / topic for written and oral portions of comprehensive exam.
 - Complete IPDP
- *TA option (see Adviser)*

Third year: continue meeting research and seminar requirements; first semester of teaching

- First semester: complete comprehensive exam
 - Complete *Application for Admission to Candidacy* and file with Graduate Studies.
 - Annual Report due.
- Second semester: third meeting of supervisory committee.
 - Complete IPDP
 - *OPTIONAL: Apply for Graduate Research Fellowships or Internships (see Adviser)*
- *TA option (see Adviser)*

Fourth year: continue meeting research and seminar requirements; complete teaching assignment

- First semester: Annual Report due.
- Second semester: fourth meeting of supervisory committee; discuss time to graduation.
 - Complete IPDP
- *TA option (see Adviser)*
- *OPTIONAL any semester: Apply for Graduate Research Fellowships or Internships (see Adviser)*

Fifth year: complete research; write thesis; final defense of thesis work; final examination by supervisory committee; Ph.D. conferred

- First semester: Annual Report due.
- In the graduation year, complete *Application for Graduation* and *Application for Final Oral Exam* forms and file with Graduate Studies.
- *TA option (see Adviser)*
- *OPTIONAL any semester: Apply for Postdoctoral Research Fellowships or next-stage employment (see Adviser)*
- *NOTE: Program extension past 5 years may be requested from the Supervisory Committee in case of experimental delays, publication delays, or approved Leave of Absence. However, the Graduate College requires students to defend their thesis or take another Comprehensive Exam after three years of PhD candidacy.*
- *NOTE: The maximum length of PhD assistantship support is 8 years, after which termination will result.*

It is in the best interest of both students and advisers that students progress through their degree program in a timely manner: approximately 2 years for an MS, and approximately 5 years on average to earn a PhD.

Accelerated BS/MS students are expected to take the final MS Exam at the end of their 5-year program (semester 10). The specific MS Exam format and requirements will be determined by the Supervisory Committee.

Full-time MS students are expected to take the final MS Exam at the end of the second year (semester 4). The specific MS Exam format and requirements will be determined by the Supervisory Committee.

For PhD students, **the Comprehensive Exam should be taken in the 5th or 6th semester**. To avoid delays inherent in scheduling faculty meetings, students are strongly encouraged to schedule their Comprehensive Exam with their Supervisory Committee well in advance. Successful completion of the Comprehensive Examination results in a recommendation for admission to PhD candidacy. **Students must achieve candidacy status at least seven months before their final oral dissertation defense**. The majority of PhD students graduate in 5-6 years upon submitting a written PhD thesis and passing the oral defense as administered by the Supervisory Committee.

Students are encouraged to defend their PhD thesis within three years after passing the Comprehensive Exam. **If a PhD student who has completed the Comprehensive Exam does not graduate within three years of passing the Comprehensive Exam, the Graduate College requires the Supervisory Committee to administer another exam.** For more information on switching from the PhD program to the MS program, please consult with your Supervisory Committee and the CBC Graduate Program Chair. More information can be found on the Graduate Studies website (<https://graduate.unl.edu/academics/program-steps/masters-degree-steps-to-completion/>).

PhD students may only be awarded up to eight years of assistantship support. After eight years, the student would be responsible for living expenses, tuition, fees, and benefits. In exceptional cases, such as Medical/Pregnancy or approved Academic Leave of Absence, brief delays may be granted upon consultation with the Supervisory Committee and with approval from the Graduate Chair.

The following is a stepwise breakdown of the PhD timeline. For more details, please see:

<https://graduate.unl.edu/academics/program-steps/doctoral-degree-steps-to-completion/>.

PhD Dissertation

The dissertation must be submitted and approved by Graduate Studies three weeks prior to the semester deadline. The doctoral candidate should allow the thesis committee at least four weeks to read and review the dissertation prior to the defense. All committee members should read and comment on the document. During this time, the committee is advised to make recommendations for any corrections that need to be made to the written document. On the day of the thesis defense, there should be at most only minor corrections (e.g., syntax, spelling, grammar) to the written document.

An example of how this would look is:

- if the semester deadline is April 22,
- the dissertation should be submitted and approved by the Office of Graduate Studies (OGS) by April 8, and
- the written thesis distributed to the committee members by March 25.

- Between March 25 and April 8, major changes may be made at the request of the committee.
- The oral defense and minor corrections to the written thesis (if needed) may be completed anytime up to April 21.

Switching from the PhD to the MS program

Students must be in good academic standing to be eligible to switch from the PhD to the MS degree program. For information on switching degree programs, please consult with your Supervisory Committee and the CBC Graduate Program Chair. More information can be found on the Graduate Studies website (<https://graduate.unl.edu/academics/program-steps/masters-degree-steps-to-completion/>).

Students are encouraged to complete all the requirements for the MS degree in 2-2.5 years. If a PhD student who has completed the Comprehensive Exam changes to a MS degree and does not graduate within three years of passing the exam, the Graduate College requires the Supervisory Committee to administer another exam.

AI/ML use policy

AI/ML use for research and presentations

Although it is permitted that students use statistical Machine Learning (ML) and Artificial Intelligence (AI) software to generate hypotheses or to analyze data as a research tool, the ideas put forth in presentations, theses, manuscript text, or presentations may not be AI-generated and must be the original intellectual product of the student. **Any use of ML or AI must be explicitly acknowledged in any presentation regardless of format. Students are encouraged to discuss AI tools and their appropriate use with their mentor and Supervisory Committee.**

AI/ML use in the classroom

AI/ML use for coursework is governed by university policy and is at the instructor's discretion. Please see <https://teaching.unl.edu/resources/ai/AI-Policy-Creation/> for more details.

Academic Requirements and Probation

There is an expectation that graduate students are admitted to the program for demonstrating motivation and a desire to pursue a rigorous advanced degree in biological chemistry. All students will be challenged to expand their skills and knowledge to their limits. Although pursuing a graduate degree is difficult for everyone, most will proceed through the program to achieve milestones on the anticipated timeline. A small number of students will unfortunately experience challenges that result in not meeting the expectations of the graduate program. This section describes possible programmatic deficiencies and the process for addressing issues.

Academic coursework

For courses at the 400/800 level, students must earn a B or higher. For courses with 800-only or 900-level, students must earn a C or higher. A low grade will result in either the class being retaken (core CBC courses) or substituted with another course (graduate electives) at the earliest available opportunity with permission of the Supervisory Committee and Graduate Program Chair. Failure to satisfactorily address academic deficiencies is grounds for dismissal. A cumulative GPA for graduate courses below 3.0 is grounds for dismissal. See <https://registrar.unl.edu/academic-standards/academic-policies/academic-standards-graduate/>

Students are not allowed to deviate from the approved Memorandum of Courses (BS/MS and MS students) or Program of Studies (PhD students) without prior documented approval by their Supervisory Committee. Unapproved changes, for example, dropping courses, substituting courses, or taking unapproved courses, are grounds for dismissal.

Indicators of academic progress Issues include:

- **Cumulative GPA Below 3.0.** A GPA below this threshold is a significant indicator of academic struggle, suggesting an inability to retain necessary information or to meet the professional standard in the discipline of biological chemistry.
- **Unauthorized Course Drops.** Dropping courses without prior approval from an academic advisor or the supervisory committee is not allowed as it will disrupt the progress toward degree completion.
- **Repeated Course Failures.** Failing to pass required courses after a repeated attempt may indicate a lack of understanding of the material or insufficient effort suggesting an inability to retain necessary information meet the professional standard in the discipline of biological chemistry.
- **Inconsistent Academic Performance.** Multiple low grades or withdrawals may raise concerns about a student's commitment to the program and ability to succeed.
- **Failure to Meet Program Requirements.** Not completing required coursework or failing to adhere to the program's academic timeline (e.g., completing comprehensive exams, scheduling timely Supervisory Committee meetings or thesis defense, etc.)

Indicators of lack of technical research progress include:

Lack of technical research progress refers to a situation in which a student fails to meet the established milestones and expectations for their research work. This may include deficiencies in various aspects of research development, such as design, execution, analysis, and communication of results.

Students may be considered to be lacking in technical research progress if they exhibit one or more of the following indicators:

- **Failure to Meet Deadlines.** Inability to complete assigned research tasks, experiments, or projects by specified deadlines, as outlined in the research timeline established with the supervisory committee.
- **Insufficient Research Development.** Lack of advancement in developing research proposals, hypotheses, or methodologies that meet the standards set by the program. Failure to design experiments or studies that are rigorous and align with the objectives of the research project.
- **Inadequate Data Collection or Analysis.** Failure to collect necessary data or complete required analyses as per the research plan. Inability to use appropriate statistical methods or analytical techniques, leading to incomplete or inconclusive findings.
- **Lack of Engagement in Research Activities.** Limited participation in research group meetings, seminars, or workshops that are crucial for the exchange of ideas and collaboration. Minimal interaction with advisors, mentors, or peers regarding research progress and challenges.
- **Poor Quality of Work.** Submission of research materials (e.g., proposals, reports, presentations) that do not meet academic or professional standards. Consistent feedback from advisors or committee members indicating that the work is below expectations in terms of quality, originality, or scientific rigor.
- **Neglect of Required Research Milestones.** Failure to complete necessary components such as literature reviews, preliminary findings presentations, or annual progress reports as mandated by the program.

IP and XP Grades in Thesis and Dissertation Courses

Graduate students will be given IP or XP grades for BIOC899 and BIOC999 research credits. The In Progress (IP) and Unsatisfactory Progress (XP) grades are specifically designated for thesis and dissertation hours. These grades are applicable only before a student enters their final semester.

IP Grade

The IP grade signifies that a student is making satisfactory progress in their thesis or dissertation work, as evaluated by the student's advisor or supervisory committee. The IP grade remains in effect until the student's final examination. At that time, the student's performance will be evaluated, and a grade of Pass (P) or a letter grade will be submitted to the Office of the University Registrar for all thesis and dissertation hours.

XP Grade

The XP grade indicates that a student is not making satisfactory progress, as determined by their advisor or supervisory committee. An XP grade will prompt the graduate committee to notify the student and Graduate Studies about concerns regarding the student's continuation in the graduate program. Receiving two consecutive or non-consecutive XP grades will result in recommending the student's termination from the program for failure to progress.

The following factors may contribute to the assignment of an XP grade:

- Violations of the Student and/or Employee Code of Conduct
- Engaging in academic misconduct, such as cheating on closed-book exams, or violating course guidelines that define acceptable collaboration for take-home exams, homework assignments, or problem sets
- Research misconduct, unethical scientific behavior including plagiarism, data fabrication, and data falsification
- Inability to meet program benchmarks and deadlines (e.g., annual reports, committee meetings, timely completion of comprehensive exams or thesis defense)
- Unexplained or chronic unapproved absences

Remediation Process

As outlined, the following steps are required when a student receives one or more XP grades:

- The student or their Adviser must schedule a meeting with the Supervisory Committee. During this meeting, a plan for remediation must be developed.
- The Advisor is responsible for submitting a letter to the CBC Graduate Chair (with copies sent to the student and the supervisory committee) that summarizes the identified deficiencies, outlines the remediation plan, and sets the date for a follow-up meeting. The Follow-up meeting will be held one month after the date the Remediation Plan is sent to the student.
- **Follow-Up Meeting:**
 - After one month, a follow-up committee meeting must be held to assess whether the remediation plan has been successfully completed by the student.
 - If the committee determines that the student has made satisfactory progress, all committee members must approve and document this change in status in writing to the Graduate Committee.
- **Probationary Status:**
 - Should the student fail to achieve satisfactory status, they will be placed on probation.
 - During the probation period, the student will have an additional four months to reach satisfactory status. Failure to do so is grounds for dismissal from the graduate program.

Assistantship (Stipend) Support

Assistantship support is a competitive privilege awarded to a limited number of students who have demonstrated exceptional preparation for and commitment to pursuing an advanced graduate degree. MS trainees are not guaranteed stipend support. In some cases, a Mentor's research funding may be used to provide a Research Assistantship or Teaching Assistantship for BIOC 999 credit, however this is not guaranteed. Alternatively, MS trainees may secure an outside paid internship to satisfy BIOC 999 credit requirements in consultation with the Graduate Program.

PhD trainees in good academic and research standing are supported through a variety of assistantship mechanisms depending on program requirements, research funding sources, and fellowship awards. Pre-candidacy PhD students receive a stipend. PhD students are eligible for Assistantships for up to eight years. Assistantships may be rescinded with 30 days' notice based on a change in academic standing, a change of Adviser, or availability of funding support.

Below are funding mechanisms used to support stipends in pursuit of BIOC 999 credit requirements:

Teaching Assistantships (TA)

PhD trainees are required to serve as a teaching assistant for two semesters as part of their professional development. Learning to communicate effectively as a teacher is also critical to a student's future career. Serving as a TA develops key communication and presentation skills often required as a scientist. To facilitate this aspect of students' development,

they will be required to assist with teaching biochemistry courses for two semesters. This responsibility may be fulfilled in some cases by providing teaching assistance in a lab course, or in others by assisting course instructors with grading and fielding student questions. MS or PhD students may be awarded teaching assistantships for additional semesters to support pursuit of their career goals or BIOC 999 credit requirements. Teaching assignments are coordinated by Dr. Jing Zhang.

All PhD students are encouraged to enroll in TA workshops through the Graduate College before teaching their first class. International students **who earned their degree in a language other than English must attend and pass a three-week intensive training session (ITA training) in the summer after their first year** to prepare for their teaching assignments. Please see <https://graduate.unl.edu/graduate-support/teaching-development/> for pedagogy training opportunities available for graduate students.

Research Assistantships (RA)

Trainees may be supported by their Adviser's grant funding to conduct research in pursuit of BIOC 999 credit requirements. RAs are provided to students so they may pursue their degree program full-time.

Fellowship Awards

Students are encouraged to apply for merit-based stipend support or cash awards to supplement a research or teaching assistantship. Please consult with the Office of Graduate Studies to check that fellowships are used for allowable costs and do not conflict with other Assistantships.

Internships and Externships

Students may pursue outside internships, funded or unfunded, in consultation with their Supervisory Committee. Terms of internships vary widely. In some cases, the student may be required to take a Leave of Absence or to pay tuition. Please consult with the Office of Graduate Studies to check that internships do not conflict with other Assistantships or degree program requirements. In some cases, due to the structure of the opportunity, an internship or externship may extend the student's degree program timeline. A defined **Scope of Work** and an **Intellectual Property Agreement** between all parties (University of Nebraska-Lincoln, the Faculty thesis supervisor, the student, and the company or external partner) must be negotiated.

Tuition and Fees

BS/MS and MS trainees are responsible for all tuition, health benefits payments, and fees. In some cases, a Mentor's research funding may support tuition and/or health benefit contribution; however, this is not guaranteed and must be arranged on an individual basis.

PhD trainees are supported by an Assistantship which includes stipend, tuition, and health benefits for up to eight years with permission.

All BS/MS, MS, and PhD students are required to pay the employee portion of their health benefits as well as university student fees.

Graduate Student Associations

Biological Chemistry Graduate Student Association (BCGSA)

All graduate students in the Center for Biological Chemistry (CBC) form the Biological Chemistry Graduate Student Association (BCGSA) (<https://biochem.unl.edu/biochemistry-graduate-student-association/>). The purpose of this organization is to represent our graduate students in communications among members of the Biochemistry community,

the college, and also to promote unity, camaraderie, and active participation in departmental affairs. Membership is open to all Biochemistry graduate students. Meetings are typically on a monthly basis.

CROPS

CBC students with interest in plant sciences are encouraged to participate in the Collective Research Organization of Plant Scientists (CROPS) (<https://psi.unl.edu/graduate-programs/collective-research-organization-plant-scientists-crops/>).

CROPS supports graduate students and postdoctoral scholars through outreach and social events, professional development activities, seminars and more.

ASUN

CBC graduate students are represented by the Association of Students of the University of Nebraska (ASUN) (<https://asun.unl.edu/>). CBC students are encouraged to participate in ASUN activities and governance.

Seminars

Attending seminars is just as important as giving them. Students are strongly encouraged to educate themselves by participating in seminars and engaging with the content. External speakers are regularly invited to present in various seminar series and annual symposia, which students are urged to attend. Announcements for these events are often shared via email.

Students should prioritize attending the weekly Biochemistry Departmental Seminar on Tuesday. These seminars feature distinguished speakers who present their research at the invitation of our faculty. This is an excellent opportunity for students to learn from experts and stay updated on cutting-edge developments in the field. Students are expected to help host invited speakers by attending lunch or giving campus tours, and will have an opportunity to organize a student-invited speaker visit through BCGSA.

Scholarships, Internships and Fellowships

Trainees are encouraged to submit applications for scholarships, internships, and fellowships or travel awards as a way to burnish their CV and to broaden their career horizons. There are many UNL opportunities that can be found on university websites:

- <https://graduate.unl.edu/funding/fellowships/>
- <https://ard.unl.edu/funding-and-awards/student-funding/graduate-student-fellowships/>

You should consult with your PI and Supervisory committee for external fellowship, internship/externship, and travel award opportunities. Many of these can be found on conference websites, through funding agencies, philanthropies, and professional societies. Please see the CBC Teams Channel for a list of opportunities.

Conflict Resolution Resources and Appeal Protocols

Conflicts and grievances are unavoidable in any workplace, including in any academic department. The CBC Graduate Program is committed to a culture where conflicts between graduate students and faculty are managed to promote a collegial and healthy work environment. The following outlines the processes for graduate students to handle conflict and grievances in the program. Please note that the sources and causes of conflict can vary; thus, there is no one pathway to resolve all conflicts. However, the points below can serve as a useful guide for managing conflicts and promoting trust and transparency in the community. If internal attempts are unsuccessful, people may file reports, grievances, or grade appeals through formal University processes. These protocols do not replace any University policies or procedures (Title IX reporting, police reporting for suspected crime, etc).

Interpersonal conflicts

Most often, conflict arises from misunderstandings, poor communication, differing values or interests, limited resources, or personality clashes. Bigger issues can be avoided if small conflicts are addressed early on. There are two broad categories of interpersonal conflict that graduate students may experience in a university: student-student conflict and student-faculty conflict.

Interpersonal conflict between students is handled by Student Life. For Student Life resources to handle student-student conflict, see <https://studentconduct.unl.edu> for guidance.

The following is a general procedure for managing interpersonal conflict between students and faculty.

- **Consult for advice and support.** Seek advice and support from a faculty member who can discuss any issues and advise on next steps. Generally, this will be the student's primary faculty advisor or, in case of conflict with the primary advisor, another member of the faculty or the Graduate Chair. This provides an opportunity to talk through the issue and concerns with a neutral 3rd party. The faculty member may seek additional information about options on behalf of the student if desired by the student. Together, the student and faculty member can decide on a strategy for the best actions to take moving forward.
- **Direct discussion with the other person(s).** Open and direct dialog gives the other person an opportunity to know how they may have harmed others and provides both parties an opportunity to resolve the issue. Face-to-face conversations are recommended to allow both parties to listen attentively and express themselves accurately. Email or other text-based communication can be used for scheduling a discussion but are not preferred for the discussion itself, because it can be difficult to accurately express and interpret feelings through text.
- **Facilitated conversation.** When two parties are having difficulty resolving conflict on their own, they may reach out to a neutral third-party faculty member or the Graduate Chair to facilitate a conversation. In the facilitated conversation, the third party will guide towards mutual understanding of how to move forward. The third party will listen, ask clarifying questions, and help the parties identify solutions. Often, these conversations will end in a verbal or written commitment by both parties to make specific changes to resolve the issue.
- **Third Party Representative.** There are situations when students and faculty may be concerned about power differences in a dispute. In these cases, one or both parties may seek a third party faculty member to act as a representative. With the permission of the complainant, the third-party faculty member will speak directly to the other person(s) about the issue or may seek out consultation with the Graduate Chair to address the issue in a broader context so as not to single out any one person. The complainant should discuss their desire for confidentiality or anonymity with the third party.

The following are examples of common conflicts in research and recommended outcomes:

- **Insensitive or inappropriate language.** Can be resolved through discussion to give parties the opportunity to share how words and actions may unintentionally harm the other person. Resolution may include acknowledgement, training, and an informal or formal apology.
- **Workload or resource disputes.** Can be resolved through clear communication to reset expectations or identify ways to meet resource needs.
- **Authorship disputes.** Can be resolved through clear communication of workload and resources allocated to the project. Some outcomes include re-ordering authors (potentially by random or alphabetical order), co-authorship designation, or adding additional details to manuscript author contribution statements.

Suggested order of contacts for conflict management

1. Advisor or other trusted faculty member
2. *Ombuds*: Neutral third parties who provide confidential, informal, independent and impartial assistance.
 - Department of Biochemistry – Graduate Program Coordinator staff person
 - CASNR Graduate Student Success Coordinator
 - Student Advocacy and Support services (<https://studentadvocacy.unl.edu/>)
3. Graduate Chair
4. Department Chair

Academic appeals

Grade appeals, including for BIOC 899/999 XP grades, should first be made to the instructor to ensure that there were no misunderstandings or emails missed. If the student desires to elevate their concerns, they can appeal to the Graduate Program Chair.

Upon receiving an Appeal, the Graduate Program Committee Chair will consult with the student and faculty involved separately to collect information on the complaint and the appeal. The Graduate Program Chair will weigh the available evidence and make a decision.

If students are still unsatisfied, they may make a final appeal to the Dean for Graduate Studies, who shall request a review by a subcommittee of the Graduate Council. The decision of the Graduate Council shall be final and is not subject to further appeal beyond the campus. Please see <https://catalog.unl.edu/graduate-professional/policies/grades/> for more information about final appeals.

Remediation plan and probation appeals

Students who receive XP grades and are placed on a Remediation Plan are encouraged to reach out to the Graduate Program Chair to discuss any issues. The Graduate Program Chair will advise the student on possible options and provide advice on next steps. If desired, the Graduate Program Chair will discuss the situation with the Adviser and Supervisory Committee separately, or through a facilitated conversation. In general, the options for the student include:

1. Making the recommended improvements to regain good standing.
2. Identifying a different adviser within the CBC graduate program. This option is dependent on available funding and will likely involve changing the thesis topic, which in some circumstances may require re-taking the comprehensive exam, taking additional elective courses, and will likely result in a longer program timeline.
3. Identify a different adviser in another graduate program. This option will require agreement by the Admission Committee of the other graduate program at their discretion depending on available funding. This option will involve changing the thesis topic, will likely require re-taking the comprehensive exam, taking additional core and elective courses, and will result in a longer program timeline.
4. Change from the PhD to the MS program. The Supervisory Committee must agree that the student has satisfactorily met all MS program requirements.
5. Withdraw from the program.

UNL Title IX

(Excerpted from <https://equity.unl.edu/sexual-misconduct-and-title-ix-resources/>)

The University of Nebraska-Lincoln adheres to all federal, state, and local civil rights laws prohibiting discrimination in employment and education. The University of Nebraska does not discriminate based on race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation in its programs, activities, or employment. As a recipient of federal financial assistance for education activities, the university is required by Title IX of the Education Amendments of 1972 to ensure that all of its education programs and activities do not discriminate on the basis of sex or gender. The university also prohibits retaliation against any person opposing discrimination or participating in any discrimination investigation or complaint process internal or external to the institution. Sexual harassment, sexual assault, dating and domestic violence, and stalking are forms of sex discrimination, which are prohibited under Title IX and by the university's policy. Any member of the campus community, guest, or visitor who acts to deny, deprive, or limit the educational, employment, residential, or social access, opportunities, and/or benefits of any member of the university community on the basis of sex is in violation of the Sexual Misconduct Policy and Nondiscrimination Policy. Any person may report sex discrimination (whether or not the person reporting is the person alleged to have experienced the conduct), in person, by mail, by telephone, by video, or by email, using the contact information listed for the Title IX Coordinator (below). A report may be made at any time (including during non-business hours) by:

Email: titleixcoordinator@unl.edu

Voicemail: (402) 472-3417

UNL Report System: <https://unlreport.unl.edu/>

Calling University Police: 911 or (402) 472-2222

Online Sexual Misconduct Report Form: <https://go.unl.edu/sexualmisconductreportingform>

Questions regarding Title IX, including its application and/or concerns about noncompliance, should be directed to the Title IX Coordinator. For a complete copy of the policy or for more information, please visit

<https://cms.unl.edu/chancellor/equity/>

Center for Advocacy, Response and Education (CARE) Office

CARE is a confidential, supportive resource for victims/survivors of interpersonal violence. CARE provides advocacy and support for students, faculty, and staff who have experienced sexual violence, domestic/dating violence, sexual harassment, and stalking.

CARE Advocates are confidential and will support the decision to report or not to report to police, Institutional Equity and Compliance (Title IX) or neither.

Call 402-472-3553 to speak to an advocate.

In an emergency, call 911 or University Police at 402-472-2222.

CARE office is located on the City Campus, Louise Pound Hall on the 2nd floor, Room 211.

Vacation and Leave of Absence

Vacation

Graduate students are allowed 20 business days off as well as UNL-recognized holidays. The 20 days off include sick days as well as any vacation time. Students are expected to discuss taking sick and vacation time with their supervisor beforehand to ensure continuity of experiments and as a professional courtesy. Vacation and sick time taken in excess of 20 days per year will likely result in an extension of the student's degree timeline. Any additional time off must be pre-approved by their adviser in writing.

Graduate students traveling for research meetings or professional development must be pre-approved by their supervisor and are subject to all university travel policies. Any extension to professional travel is considered personal travel and is subject to the 20 business day rule above. Personal travel cannot be charged to research grants as per university policy.

Leave of Absence

In exceptional cases, such as Medical/Pregnancy or approved Academic Leave of Absence, brief delays may be granted upon consultation with the Supervisory Committee and with approval from the Graduate Chair. Leaves will extend the student's degree timeline and are only granted for students in good academic standing (no XP grades, not on probation).

Excess Absence

Unapproved vacations and sick time exceeding 20 business days a year or a Leave of Absence that exceeds the approved duration will result in program termination.

Mental Health

Graduate school is an intense experience and, although it can be a lot of fun and very rewarding, it is imperative that students learn ways to manage stress and protect their mental and physical health in order to have a long and productive

career in STEM. There are multiple resources at the University of Nebraska-Lincoln available to support emotional, psychological, and social well-being for graduate students.

Counseling and Psychological Services (CAPS)

CAPS is a team of psychologists and counselors that works collaboratively with students to help them explore their feelings and thoughts and learn ways to improve their mental, psychological, and emotional well-being when issues arise. If you would like to meet with a counselor, call [\(402\) 472-7450](tel:4024727450) to schedule an appointment.

If you are experiencing a mental health crisis:

Call [\(402\) 472-7450](tel:4024727450) 24/7 and follow the prompts to speak with an on-call counselor.

Call [911](tel:911) or Campus Police ([2-2222](tel:2222)) if you are a danger to yourself or others.

Students with Disabilities (SSD)

Services for Students with Disabilities (SSD) is an office within the Division of Student Life. SSD partners with students, faculty, administrators, and staff to create accessible and inclusive educational and campus experiences for students with disabilities including physical disability, learning disability, ADHD, chronic health issue, mental health condition, complications with a pregnancy, long Covid, temporary injury, or other conditions. SSD meets and facilitates access on an individualized, case-by-case basis. This interactive process requires collaboration and engagement among students, their instructors, supervisors and staff.

Contact us: ssd@unl.edu or 402-472-3787

Housing

Off Campus Housing

Graduate students typically live off-campus year-round. UNL has partnered with [myhousr/](https://www.myhousr.com/) to help UNL students navigate off-campus housing needs. For more details on their services, visit <https://www.myhousr.com/>. Graduate students are also welcome to secure their own housing in the Lincoln community.

University Housing

The university offers several housing options, including traditional or suite-style residence halls and apartments. All halls are open over university break periods.

Contact University Housing

Location: 530 N. 17th Street

Office hours: 8 a.m. to 5 p.m., Monday – Friday

Phone: (402) 472-3561

Email: housing@unl.edu

International Student (ISSO) Resources

UNL support services are managed by the International Student and Scholar Office (ISSO). Support includes registering with SEVIS, help with visa questions and issues, assistance with settling in Lincoln, organizing social events, and more. See <https://global.unl.edu/isso/> for details.

Student Advocacy and Support Resources

For other individualized support needs, please contact Student Advocacy and Support at <https://studentadvocacy.unl.edu>. This office is equipped to provide individualized support through navigating university and community resources, policies, processes, and conflict.