BIOCHEMISTRY

Graduate Program

Student Handbook

2019 - 2020

THE UNIVERSITY OF TEXAS AT AUSTIN

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Welcome!

Welcome to the graduate program in Biochemistry at The University of Texas at Austin. This handbook will serve as a resource for incoming and current graduate students in the program, acquainting you with the policies and procedures involved in obtaining an advanced degree. We look forward to working with you and supporting your progress towards a graduate degree in Biochemistry. We encourage you to actively use this handbook throughout your studies. This handbook is a summary of the university and program policies. For more complete information, refer to the Graduate School Catalog or inquire to the Graduate Advisor or Graduate Program Administrator. This handbook contains guidelines applicable to the class entering in **Fall 2019** and subsequent years and replaces all preceding versions applicable to previous classes.

Your Responsibilities as a Graduate Student

You are responsible for understanding and following the rules and policies that govern your academic degree. Diligent planning is required to ensure that you meet all the milestones and deadlines of your degree. Note that the Graduate School requires all graduate students to maintain a cumulative graduate GPA of at least 3.0. If your cumulative GPA falls below 3.0, the Graduate School will place you on academic probation. You will have one semester to raise your cumulative GPA above 3.0 or you will be dismissed from the program. The Graduate School website is a centralized resource for information on degree requirements, deadlines, and policies (https://gradschool.utexas.edu). The policies and requirements governing your graduate career are dynamic. You are well advised to stay in frequent contact with the Graduate Program Administrator and default to her whenever you have questions.

Two University catalogs are essential references: The General Information Catalog and The Graduate Catalog. These catalogs are available online at http://catalog.utexas.edu/graduate/.

The Graduate School

As a graduate student, you are admitted to both the Biochemistry Graduate Program and the Graduate School of The University of Texas at Austin. All graduate degrees are the responsibility of the Graduate School.

The Graduate School includes the Vice President and Dean of the Graduate School and staff, plus about 100 Graduate Studies Committees. The Graduate School can be reached at (512) 471-4511.

Each department or field of study offering a graduate degree has a Graduate Studies Committee (GSC) composed of active assistant professors, associate professors, and full professors (tenured and tenure-track faculty). Each GSC sets policy and supervises its graduate program.

Approximately 30 faculty members from various GSCs, plus six graduate students, serve as representatives in the Graduate Assembly, the legislative body of the Graduate School.

There is also a student organization concerned with issues related to graduate study, called the Graduate Student Assembly (GSA) (http://www.utgsa.net/). Each graduate program may elect one representative to the Graduate Assembly, although any graduate student is welcome as a member.

The College of Natural Sciences (CNS)

Dr. Paul Goldbart is the Dean of Natural Sciences (http://cns.utexas.edu/). The Dean's office is located in W.C. Hogg 3.134 and can be reached at (512) 471-3285.

The College of Natural Sciences consists of 34 Organized Research Units, including the departments of **Astronomy, Chemistry, Computer Sciences, Human Ecology, Integrative Biology, Marine Science, Mathematics, Molecular Biosciences, Neuroscience, Physics and Statistics and Scientific** Computation. There are also several research institutes including the Institute for Cellular and Molecular Biology (ICMB).

The Institute for Cellular and Molecular Biology (ICMB)

The Institute for Cellular and Molecular Biology (http://www.icmb.utexas.edu/) is a university-wide unit that supports the Cell and Molecular Biology (CMB), Biochemistry (BCH) and Microbiology (MICRO) Graduate Programs. ICMB faculty members are from seven departments within the College of Natural Sciences (Molecular Biosciences, Integrative Biology, Neuroscience, Computer Science, Nutrition, Physics, Chemistry), the College of Engineering, College of Pharmacy, and the Dell Medical School. The Institute Director is Dr. Jon Huibregtse and the Associate Director is Dr. Alan Lloyd.

ICMB administrative offices are currently located in NHB 2.606

US mailing address:
The University of Texas at Austin
The Institute for Cellular and Molecular Biology
100 E. 24th St.
Austin, TX 78712

Campus mailing address:
ICMB, Mail Code A5000

Phone number: (512) 471-2150

The Biochemistry (BCH) Graduate Program

The Biochemistry Graduate Program is administered through an executive committee that represents the Graduate Studies Committee (GSC). These members are drawn from diverse departments, with faculty primarily from Molecular Biosciences, Chemistry, Pharmacy and Biomedical Engineering.

Campus mailing address:
BCH Graduate Program, A5000

US mailing address:
The University of Texas at Austin
Biochemistry Graduate Program
100 E. 24th St.
Austin, TX 78712

Numbers:
Phone number: (512) 471-2150

Biochemistry Graduate Program Administration

Jason McLellan, Ph.D. Graduate Studies Committee Chair	jmclellan@austin.utexas.edu	NHB 4.342 512-232-1906
David Taylor, Ph.D. Graduate Program Advisor	dtaylor@utexas.edu	NHB 4.128 512-471-7859

Justine Meccio Graduate Program Administrator	justine.meccio@austin.utexas.edu	NHB 2.622 (512) 471-0934

Biochemistry Graduate Studies Committee

Hal Alper	Walter Fast	Dan Leahy	Shelley Payne
Eric Anslyn	Ilya Finkelstein	Songmin Lee	Pengyu Ren
Dean Appling	George Georgiou	Hung-Wen (Ben) Liu	Rick Russell
Jeffrey Barrick	Marvin L Hackert	Edward Marcotte	Jason Shear
Karen Browning	Rasika Harshey	Stephen Martin	Scott Stevens
Lulu Cambronne	David Hoffman	Andreas Matouschek	Christopher Sullivan
Lydia Contreras	Jon Huibregtse	Mikhail Matz	David Taylor
Richard M Crooks	Brent Iverson	Jennifre Maynard	Lauren Webb
Kevin Dalby Dan Dickinson	Arlen Johnson	Jason McLellan	Christian Whitman
Livia Eberlin Schiavinato	Ken Johnson	Edward Mills	Claus Wilke
Ron Elber	Adrian Keatinge-Clay	Som Mukhopadhyay	Blerta Xhemalce
Andrew Ellington	Alan Lambowitz	Tanya Paull	Yan (Jessie) Zhang

Graduate Studies Committee Chair (Dr. Jason McLellan)
The GSC Chair oversees the Graduate Studies Committee, which is a committee of all BCH faculty members. The GSC Chair also chairs the BCH Executive Committee, which generally consists of 12 BCH GSC faculty members. The Executive Committee sets policies concerning academics and requirements for the graduate program.

Graduate Program Advisor (Dr. David Taylor)
The Graduate Program Advisor is a member of the BCH GSC who is appointed by the Dean of the Graduate School to advise BCH graduate students, maintain student records, and represent the Graduate School in matters relating to graduate students. Questions about degree requirements and academic policies should be directed to the Graduate Advisor.

ICMB Graduate Program Administrator (Justine Meccio)
The Graduate Administrator is a full-time staff person who handles most of the day-to-day operations involved in running the program. Her responsibilities include responding to inquiries, handling petitions and special requests, assisting with TA assignments, registration, international student issues and maintaining graduate student files. Questions concerning the program should be addressed to the Graduate Program Administrator, who will consult with the Graduate Program Advisor as necessary.The Graduate Program Administrator also oversees the recruitment and admission of applicants to the ICMB. She is also responsible for onboarding for the incoming cohort, and supporting the administrative needs of new students throughout their first year in the program until they matriculate into a permanent lab.

Admission to BCH from Cell and Molecular Biology (CMB) or Microbiology (MICRO) Graduate Programs

The Graduate Programs administered by the ICMB are set up to have maximum flexibility for students to move between them. The GSC Chair and the Graduate Program Advisor must approve transfers to the BCH program from CMB or MICRO. Approval is on a case-by-case basis and dependent on academic and research performance prior to the transfer request. Transfers for first-year students are typically performed at the end of the summer, upon completion of a full year in the original program. If students are

considering changing programs, they should consult with the Graduate Advisor and the Graduate Program Administrator at the beginning of deliberations to ensure that a change is warranted.

Laboratory Rotations

During the first nine months in the program, students perform rotation projects in the laboratories of three ICMB faculty. These rotations broaden laboratory experience and will help students find the research area and permanent laboratory that best suits them. Students are required to spend at least 20 hours per week working in their rotation lab. At the end of each rotation, the faculty member completes a rotation evaluation of the student's performance. These evaluations determine whether the student receives credit that semester for research hours.

2019/2020 Laboratory Rotation Schedule

• Early Summer Rotation	June 3 – August 23, 2019
• First Rotation	September 6 – November 8, 2019
• Second Rotation	November 11, 2019 – January 31, 2020
• Third Rotation	February 3 – April 24, 2020

Rotations are arranged through mutual agreement between the student and the faculty member (Principal Investigator or 'PI') of the lab in which the rotation is arranged. Students should start this process early to ensure rotation through the labs that they are interested in.

Faculty members must be part of the BCH, CMB or MIC GSCs in order to accept a BCH student for rotation. Changes in an assigned rotation may be made only with permission of the Graduate Program Advisor.

Permanent Laboratories

At the end of your third rotation, you will choose which laboratory to work in on a permanent basis. This is done after careful consideration and consultation with the supervising professor (also known as PI or Primary Investigator) of the lab. First-year students who start their first rotation in June will be required to join a lab by the end of their third rotation, which will be in the beginning of February, 2020. All other students who start their first rotation in September will join a permanent lab after their third rotation ends, at the beginning of May, 2020. ICMB support ends on 5/31/20 for all students. Subsequent support becomes the responsibility of the permanent lab (starting on 6/1/20). It is program policy that 1st year students may not TA, therefore, PIs are expected to support their 1st year BCH student as a GRA in the summer of 2020.

If you have not made arrangements for a permanent supervisor by the end of your first 9 months in the program, you will be notified that the next 3 months are your last in the program. If you find a permanent supervisor before the end of the 3-month period, that supervisor must petition the Graduate Advisor asking that you be allowed to continue in the Ph.D. program. You may not be eligible for financial support during this 3-month period.

If, for any reason, you end your association with your permanent laboratory before arranging for a new laboratory, you will be allowed two months to find another laboratory. While you are without a laboratory, you may not continue to work toward the Ph.D. and may not have financial support unless you have a TA position. Your new supervising professor must be a member in good standing of the Biochemistry GSC and must petition the Graduate Advisor asking that you be allowed to continue in the Ph.D. program.

Once in a permanent laboratory, you may change your laboratory if necessary. However, any change must be discussed with and approved by the Graduate Advisor. Your new supervising professor must be a member in good standing with the Biochemistry GSC. If you select a supervising professor that is not a member of the Biochemistry GSC, that faculty member must request to be added to the Biochemistry

GSC or if they are a member of the GSC for the CMB or Microbiology program, you may transfer to the new graduate program, pending approval of the new graduate program.

Co-PI Rule

It is possible to have two faculty members listed as supervisors (co-PIs). You may designate one as primary supervisor or you may have them listed equally as co-supervisors, in which case they will have equal responsibility over your progress. However, if one of the supervisors is not a member of the Biochemistry GSC, that faculty member cannot be the primary supervisor. He or she can be a co-supervisor or a secondary supervisor.

Core Courses

The standard core courses are:
BCH 395G Structure and Function of Proteins and Membranes
BCH 395J Genes, Genomes, and Gene Expression
BCH 387D Physical Methods in Biochemistry and Molecular Biology
BCH 394 Structure and Dynamics of Protein and Nucleic Acids

BCH 395G and BCH 395J are taken in the first fall semester, and BCH 387D and BCH 394 taken the following spring semester.

If a student earns less than a B (3.0) in any of the core courses, they need to retake the course. If it is necessary to repeat a core course, it must be taken at the very next opportunity that the course is offered. The core courses may not be taken more than twice. Note that the Graduate School requires a cumulative GPA of 3.00 to remain in good standing. Failure to pass a core course that is being re-taken for the second time and/or failure to maintain a GPA of 3.0 or higher will result in a probationary status or dismissal from the program.

Core Course Descriptions

BCH 395G Structure and Function of Proteins and Membranes
Explore how genomes are maintained, propagated, and converted to functional RNAs and proteins. Understand the primary literature that has led to key advances in these research areas and the experimental approaches that are currently being used to forge new advances. Appreciate the current frontiers in these areas and explore the boundaries; what questions have known or hypothesized answers, and what questions remain to be answered by the next group of researchers and students.

BCH 395J Genes, Genomes, and Gene Expression
BIO 395J requires graduate students to develop novel approaches to problems, especially translation and entrepreneurial approaches. It focuses on providing insights into recent work, especially from UT faculty, that has the opportunity to play out in larger contexts, and challenges them to figure out what could be done to realize these greater innovations. It is primarily a course about biotechnology, but is largely student-led. Assignments focus on multiple in-class presentations and numerous short writing pieces.

BCH 387D Physical Methods in Biochemistry and Molecular Biology
Theory of physical methods used in biochemistry and molecular biology, with a strong emphasis on macromolecular structure determination by X-ray crystallography and cryo-electron microscopy. Other topics include surface plasmon resonance, isothermal titration calorimetry, and biolayer interferometry.

BCH 394 Structure and Dynamics of Protein and Nucleic Acids
The structure and function of proteins and nucleic acids will be presented. Students will learn the tools they need to understand and evaluate structure and measure function through kinetic and equilibrium methods. Students are expected to have a basic knowledge of protein and nucleic acid structure at the introductory biochemistry level.

Additional Required Coursework

BIO 391 Grant Writing and Presentation Skills
In preparation for the qualifying exam, 2nd Year students are required to take BIO391 Grant Writing & Presentation Skills. BIO391 is a writing-intensive course for 2nd year Ph.D. student in the fall semester that involves writing of an NIH-style grant proposal on their own research, presentation of the proposal to the class, and practice in identifying specific aims in research areas outside their primary area. The class is taken by students in the Microbiology, Biochemistry, and Cell and Molecular Biology Programs.

Required Elective
The Biochemistry program requires students to complete one additional elective course related to Biochemistry that will be selected in consultation with the student's PI.

Degrees Offered

The Biochemistry Graduate Program is designed for students seeking a Ph.D.; however, under certain rare circumstances with the consent of the supervisor and Graduate Advisor, a Master of Arts with Thesis may be allowed.

Doctor of Philosophy

The Ph.D. program prepares you for a career in research by emphasizing scholarship and original research. By the submission of a dissertation, you demonstrate that you have a mature knowledge of the field and that you can design and execute original research.

Academic Requirements for a Biochemistry Ph.D.

The Biochemistry Graduate Program expects incoming students to have successfully completed at least one year each of calculus, biology (genetics and cell biology recommended), organic chemistry, biochemistry and general physics. Students with any deficiencies in these areas should remedy as soon as possible. You are urged to speak with the Graduate Advisor if you have any concerns about what remedial courses you may need.

The requirements for a Ph.D. from the Biochemistry Graduate Program are:

- GPA of 3.0 or higher
- Continuous membership in a permanent lab after completion of 3 rotations
- Completion of the core courses with a grade of at least a B
- Completion of BIO 391 Grant Writing course (fall of 2nd year)
- 1 additional elective (3 credit hours each and related to Biochemistry)
- Completed TA Training Workshop prior to 1st TA position
- 1 semester as a teaching assistant
- International Students - successful completion of ITA English exam and workshop (1st year)
- Successful completion of Qualifying Exam (spring of 2nd year)
- Admission to candidacy (after completion of exam, spring or summer of 2nd year)
- Concurrent registration in dissertation hours from admittance to Candidacy until Graduation
- Annual meetings with dissertation committee
- Successful completion of dissertation and final defense

The UT Graduate School has set up a web-based system of Milestones that should be achieved during the Ph.D. It is a Graduate School requirement for students to update their Milestones. The site for this system is https://gradschool.utexas.edu/academics/milestones.

Qualifying Examination

In order to proceed with the Qualifying Exam, you must:

- Have a cumulative grade point average of at least 3.0
- Have completed all core courses with a grade of B or above
- Be assigned to a permanent laboratory
- International students must be ITA certified as eligible for employment "with student contact"

I. Purpose

The Qualifying Examination represents a final hurdle for admission to candidacy for the doctoral degree. Students will be expected to prepare a written research proposal and a short presentation, and defend the proposal orally before a committee of three faculty. The examination is designed to test whether the student is ready to plan and carry out independent research. The exam will also test the breadth of the student's preparation beyond the focus of the dissertation research. It is scheduled typically at the beginning of the 4th long semester, so that students will have completed their core courses, and spent considerable time in a research laboratory. The examination will concentrate on the experiments and background aspects of the proposed research, but may also test general knowledge in all areas of biochemistry.

II. Format

There will be a single written proposal and oral exam on the topic of the student's laboratory research. The written component of the exam will consist of a proposal following the NIH guidelines for a pre-doctoral fellowship, but with an added appendix of relevant figures and preliminary data. In writing the proposal, you are expected to consult with your advisor, but the work must be entirely your own. For example, you are not allowed to copy sections of your advisor's research grant proposals. **In addition, you must propose at least one set of experiments that have NOT been suggested to you by your advisor.**

You will be expected to have a thorough understanding of your proposed research, both broadly and specifically. The following is a partial list of the things you are expected to understand in preparation for your oral exam.

- What is the significance of your proposed research? What are the anticipated results and implications to the broader field of biochemistry and biology? What motivates the proposed research?
- You should understand the basis for your research in terms of prior literature and foundations of biochemistry (e.g., structures of proteins and nucleic acids, basic energy metabolism, etc.) upon which you build your research.
- You should provide quantitative and/or statistical analysis of your data, including an understanding of the equations used in data fitting and the use of numerical integration in data fitting, when appropriate.
- Understand all aspects of any method your research is using or proposing to use. For example, be able to explain how mass spectrometry, qRT PCR, nexgen sequencing, etc. work if you propose to use these methods.
- If you are using kits in your research, you must understand the biochemical reactions that are taking place, how they are used to get the desired result, and what variables you can control to optimize the efficiency of the reactions.
- Do you have a working hypothesis that guides the design of your experiments?
- What are the appropriate controls, both positive and negative for your experiments?
- How will you adjust your methods if your controls are not working or you are not getting the expected results?
- If you are making mutations, you must know the structures of the amino acids, the rationale in choosing mutations, and biochemical basis for expected outcomes. You should have a working

knowledge of the structure of any protein you are studying and how any mutation will impact the structure and/or function of your protein.

- You should know the meaning of steady state kinetic parameters and equilibrium binding constants, and how they are measured.
- You should know what it would take to probe the mechanisms underlying the phenomena you are observing in your research?
- You should consider how your research could lead to a new patent? What might be required to translate the results of your research into a useful product?

III. Timing

Each student is required to submit an abstract and title for the proposed research at least **5 weeks before the qualifying exam date**. The abstract should concisely state the problem, and briefly describe the approach that will be used in the research plan. The most relevant references should be included (typically 1 or 2 references), as well as a general description of the methods to be used. Each abstract typically fits on one page. The abstract should be emailed to the graduate advisor (dtaylor@utexas.edu). Exams will typically be scheduled between early February and early March.

IV. Proposal Format

After submitting the abstract, the student has four weeks to complete the written research proposal (the written proposal is due one week prior to the exam). This document involves a detailed description of the background and logic behind the proposition, and the experiments proposed to address it. The proposal should address the following questions: (a) What do you intend to do? (b) Why is this important? (c) What has already been done? (d) How are you going to attack the problem? Proposals are usually hypothesis driven, with experiments designed to test the proposed hypothesis.

The format to be used is as follows:

A. Cover Page: Includes your name, project title and the name of your supervising professor.

B. Abstract: This should be a self-contained description of the project, that should be understandable on its own. Include a statement of objectives, and methods to be employed. Limited to 30 lines, the abstract should fit on one page.

C. Specific Aims: State concisely the goals of the proposed research, and its impact on the research fields involved. List succinctly the specific objectives (e.g., to test a stated hypothesis). Limited to one page.

D. Background and Significance: Present the background to the proposal, critically evaluating existing knowledge, and specifically identify gaps which this project is intended to fill. State the importance of the research described in this proposal by relating your specific aims to longer term goals. Suggested length is two to three pages.

E. Experimental Design and Methods: Describe the experimental design and the procedures to be used to accomplish the specific aims. Discuss how the data will be analyzed and interpreted. Discuss potential difficulties and limitations with your approach and suggest alternative approaches. Point out necessary controls. Potential outcomes of the experiment should be presented, and results described using hypothetical data. These figures should be included under "Supplemental Material" and will not be counted against your page limitations. Your objective in this section is to convince the reviewer that you know what you are talking about, have thought things through, and are prepared for the inevitable surprises. (Suggested length typically three to five pages)

F. Literature Cited: Use a standard citation format.

G. Appendix: Figures, tables, etc. relevant to the proposal may be included in an Appendix. This appendix may be used to show preliminary data and illustrate anticipated results.

H. Biographical Sketch page: Include your undergraduate and any other degrees, TA or GRA experience, and other relevant information.

The proposal should be single spaced with at least 1 inch margins on each side, using a 12-point font size. Each item should be identified by its title. Be concise and clear. An electronic copy (PDF format) must be submitted to the Graduate Advisor by 5 PM on the due date, which is one week prior to the examination date.

V. Examination Format

The student will make an oral presentation and defense on the assigned date. Plan a 20-minute talk. The examination committee will generally focus on questions pertaining to the proposal, but may lead you off in unexpected directions. The student's major professor is invited to the oral defense, but is not a member of the examination committee, and is asked to observe only. The examination committee will decide the result and its evaluation will be indicated on a form to be included in the student's permanent file. The examination committee will discuss the performance and decision with the student and any recommendations or conditions made. Possible outcomes are: Unconditional Pass, Conditional Pass, No Pass, Fail.

Assuming you pass the examination, you will then proceed to the next steps of the Qualifying procedure: (1) setting up your dissertation committee; (2) file your Candidacy papers, which consist of forms to be turned into the graduate office. You will then be an official Ph.D. candidate.

Note: Be extremely careful to avoid plagiarism in preparing the text and figures of your proposal. Here is a one suggestion as to how to avoid plagiarism: While reading the sources of information that you plan to use in preparing your assignment, take notes on the content, using your own words. While preparing your paper, refer to your notes, rather than the original source. If you feel the need to use a phrase from a source, be sure to put the phrase in quotes, and reference the source.

VI. Outcomes

1. Unconditional pass. Self-explanatory.
2. Conditional pass. Your committee may ask you to re-write a portion of your proposal, or satisfy some other condition before you pass the exam. Establishing conditions is up to the discretion of the committee.
3. No pass. This outcome indicates that the proposal and/or defense are inadequate. Any student receiving this outcome will need to substantially re-write the proposal and re-defend it.
4. Fail.

After your (successful) defense.

Get in the lab and get going! You should use your proposal as a starting point and a guide to help you get immersed in your thesis project. Consider sending your proposal to the NIH (or re-formatting and sending it elsewhere).

Admission to Candidacy

Once a student successfully completes their Qualifying Exam, they will apply for, and be admitted to candidacy. From this point on, students no longer register for Advanced Study and Research but instead must be registered for Dissertation Hours every long semester. Candidacy students must enroll in

Dissertation Hours with a course number ending with a ”W” (e.g. BCH 399W, BCH 699W, or BCH 999W) all subsequent semesters until graduation.

You are expected to apply for and be admitted to candidacy by the end of your 2nd year, after completing course requirements and the qualifying exam. There may be a small number of students who are not able to complete their qualifying exam with the rest of their cohort. If this situation applies to you, you may delay reaching candidacy until your third year with the approval of the Graduate Program Advisor. In any case, you must reach candidacy by the end of your 3rd year (6th long semester). Failure to meet this benchmark will result in loss of good standing in the program. Any exceptions require approval of the Graduate Program Advisor, and must be communicated to the Graduate Program Administrator.

Admission to Ph.D. candidacy has four requirements:

- Complete the 4 core courses with a grade of B or above.
- Maintain a GPA of 3.0 or higher
- Successful completion of the Qualifying Exam
- Submission and final approval of a Candidacy Application (https://utdirect.utexas.edu/ogs/forms/candidacy/stu_appsList.WBX)

When constructing their Dissertation Committee, students should consult with their PI and Graduate Program Advisor to form a suitable permanent Dissertation Committee. Students should explicitly confirm with proposed committee members that they agree to serve on the Dissertation Committee. Any changes in committee membership must be made prior to application for candidacy. Once students are admitted to candidacy, they must meet with their Dissertation Committee annually, beginning in the long semester following their Qualifying Exam, until their final defense. These Annual Committee Meetings are documented and made official by a form provided by the Graduate Program Administrator.

Biochemistry Dissertation Committees are typically comprised of five UT GSC members total, including the student’s supervising professor (PI). The student’s PI chairs the committee, and at least one member must be completely outside of the BCH GSC. If it’s not possible to acquire a committee member that is outside of the BCH GSC, then the student must have at least one member that is outside of the student’s primary department. The University permits a committee of four members if one member is completely outside of the BCH GSC. Nevertheless, the policy of the BCH Program is for each committee to include five members, regardless of whether one member is outside of the GSC.

If a student elects to have a scholar from off-campus serve on the Dissertation Committee, they must be appropriately credentialed to serve on a Dissertation Committee. The Graduate Advisor and Graduate Dean will approve an addition of such a committee member only under exceptional circumstances, and only if the expertise he/she offers cannot be provided by a faculty member on campus. Students should consult with the Graduate Advisor for approval prior to contacting faculty members outside of UT Austin.

It is sometimes necessary to change the membership of the Dissertation Committee prior to completion of the dissertation. The Graduate Advisor and the Graduate Dean must approve the “Petition for A Change to the Doctoral Committee” form found on the Graduate School website. Changes for the sole purpose of constituting a more compliant committee will not be approved. Changes in the committee must be completed well in advance of the dissertation defense.

Annual Meetings and Dissertation Committee

The Dissertation Committee has three primary responsibilities:

- For General supervision of the student’s research
- To Monitor progress toward degree
- To Certify to the Graduate Dean that an acceptable dissertation has been submitted

Once a student has been admitted to candidacy they are required to hold a meeting with their Dissertation Committee annually thereafter to review their progress. Following this meeting, the

committee will prepare a written summary of recommendations that emerged from the meeting, the chair of the committee will indicate approval by endorsing the summary, and the final document will be submitted to the Graduate Program Administrator and will become a part of the student's file.

If a student has not completed the dissertation within three years of admission to candidacy, the results of the annual review will be presented with recommendations to the GSC Executive Committee. The Executive Committee will decide what actions are required.

Although the supervising professor provides day-to-day guidance, all members of the committee are expected to be available for consultation and students should feel free to ask for advice from them or any faculty member.

The Final Oral Exam/Dissertation Defense

The final form of the dissertation must be circulated to the Dissertation Committee at least four weeks prior to the anticipated date of the final oral exam. When each member of the committee has had an opportunity to read the draft and agrees that it is ready to defend, as indicated by signing the petition to schedule the defense, students may schedule the final oral exam. The request is submitted to the Graduate School **at least three weeks** prior to the exam, as stated in the Graduate School graduation procedures.

The defense consists of two parts. The first is a public seminar that is open to all faculty and students. Immediately following the seminar, students meet privately with the Dissertation Committee to respond to questions from the committee members.

If all members of the committee approve, the committee signs the Degree Certification Form (also referred to as the "gold sheet"). The Chair of the BCH GSC committee must also sign the Degree Certification form. This is the **only** document that notifies the Graduate Dean of successful completion of the exam and is necessary for graduation.

All graduation paperwork must be turned into the Graduate School, located in MAI 101, by the last class day and no later than 3PM. Failure to turn in the paperwork at this time will result in the degree not being certified.

Timeline of the Ph.D. Program

First Year

Fall semester
RCR training (on-line)
ICMB Conference and Retreat
Core Courses (BCH 395G, BCH 395J)
Laboratory rotations

Spring Semester
Core Courses (BCH 387D, BCH 394)
Laboratory rotations
ITA Certification (International students only)
Choose a permanent laboratory by May 10
End of May: financial support from ICMB ends
First of June: newly assigned permanent laboratory assumes financial responsibility of student
End of August: TA workshop (if TA-ing for the first time in the second fall)

Second Year

Fall semester
BIO 391 Grant Writing Course

Required Elective (can be completed in 2nd or 3rd year)

Spring semester
Qualifying Exam
Required Elective (can be completed in 2nd or 3rd year)
Apply for Candidacy (end of spring/summer semester, if all requirements are complete)

Third Year

Fall semester
Enroll in Dissertation W course after first semester in Candidacy until graduation
Required Elective (can be completed in 2nd or 3rd year)

Spring semester
Enroll in Dissertation "W" course
Annual meeting with committee
Required Elective (can be completed in 2nd or 3rd year)

Fourth Year to Graduation

Annual meeting with committee
Completion of one semester TA requirement

Final semester
Apply to graduate – the deadline early in semester
Schedule final defense with committee
Complete all forms, graduation procedures
Meet all deadlines required by Graduate School

Master of Arts with Thesis

The Master of Arts with Thesis involves original research carried out under the supervision of a member of the Biochemistry GSC. This option is allowed only under certain circumstances and requires the permission of the research supervisor and the Graduate Advisor.

Academic Requirements of the Master of Arts with Thesis

- Completion of the Core Courses with a grade of at least a B and an overall GPA of 3.0 or higher. The core courses are the same as for the Ph.D.
- Two additional elective courses – One is the BIO 391 Grant Writing, and the second elective should be 3 hours and related to Biochemistry
- A total of at least 30 semester hours of course work with the following requirements:
    - 21 hours must be graduate-level course work,
    - 18 hours must be in the major area,
    - 6 must be in supporting work,
    - Supporting work: non-core biology/chemistry graduate or upper division course.
- All work counted for a MA must have been initiated no earlier than six years before date of degree.
- No more than six hours of credit/no credit courses.
- Approval of the Graduate Advisor is required prior to registration for a credit/no credit course.
- No course counted toward any other degree may be counted towards a Master degree.

Master of Arts Committee

The student's PI and one other BCH GSC member will serve as readers of the MA thesis. It is the student's responsibility to arrange for the second reader. Any faculty member asked to be a reader should have an interest in the topic.

The readers must be allowed at least two weeks to read the thesis and return it to the student. Since revisions are often necessary, it is pertinent that the student gets their thesis turned into the two readers with ample time to make revisions so that they may turn in their thesis to the Graduate School by the deadline.

Financial Support

Policy for Graduate Student Stipends

Entering graduate students are supported for the first 9 months (Sept-May) by the ICMB as graduate research assistants (GRA) or by university fellowships, which includes tuition and insurance, as long as they are in laboratory rotations. Continued financial support becomes the responsibility of the permanent laboratory starting on June 1. When selecting laboratories, students should inquire as to the availability of summer support from grants as TA positions are very limited during the summer. The primary means of support of continuing BCH students is through appointment as a teaching assistant (TA), graduate research assistant (GRA), receipt of a University Fellowship or external fellowship (NIH, NSF, etc.).

It is CNS and program policy for students to maintain a stipend in line with their entering year fellowship (2019/2020 support is 30K plus benefits and in-state tuition) throughout their graduate career. It is program preference that PIs choose to raise their student's stipends to remain in line with the 1st year student stipend of incoming students, as the 1st year student fellowship may increase from year to year.

CNS policy states that the minimum stipend should be no less than the TA stipend for that fiscal year or the 1st year student stipend, whichever is higher, and must include tuition and fees as stipulated by the Graduate School and Vice-President for Research. To remain in line with program policy, if a student serves as a TA, BCH requires that the PI supplement the student's stipend so that it is in line with the 1st year student stipend of their entering year. CNS policies on graduate student employment and stipends can be found here.

Graduate Research Assistants

Most faculty have research grants that allow them to appoint students as graduate research assistants. Students should be in communications with their PI concerning the availability of continued grant support.

Teaching Assistants

CNS policy states that BCH graduate students entering in 2019/20 may only TA a total of 3 times throughout their graduate studies. Exceptions to this rule would require approval in advance by the CNS Associate Dean for Graduate Education.

The BCH program does not directly control any TA positions; the Biology Instructional Office assigns BCH students TA positions. Requests for TA positions must be made by the **supervisor** (not the student) directly to the Graduate Program Administrator.

The BCH Graduate Program has a one semester teaching requirement, and all students must TA for at least one semester, by no later than their 4th year. In order to TA for the first time, students must have attended the TA Workshop that is offered before each fall and spring semester.

Teaching Requirement

The Biochemistry Graduate Program has a one long-semester teaching requirement. You will be required to complete this before you graduate but not before admission to candidacy. This is to allow increased flexibility in scheduling without compromising the standard timetable for advancement to candidacy. All TAs need to complete the TA workshop, which is offered twice a year in August and January, prior to the semester that they TA for the first time.

English Certification for International Students

UT Austin conducts English Certification for TAs whose first language is not English. The Biochemistry Graduate Program requires this certification of all international students, regardless of whether they serve as teaching assistants.

All international students admitted to the Biochemistry graduate program are anticipated to unconditionally pass the Oral English Proficiency Assessment and be "certified with student contact." Students must be certified to be employed "with student contact" before being admitted to candidacy.

Re-appointments

Re-appointment as a TA or GRA is contingent on satisfactory progress towards the degree. This includes compliance with the schedule set by the graduate program and demonstrated effectiveness as a TA or GRA.

Limit on the Number of Hours of an Appointment Per Semester

Graduate students may not be appointed as a TA, GRA, or grader, lone or in combination, for more than 20 hours during the first 2 long-session semesters of graduate study. In the 3rd semester of graduate study or beyond, a graduate student may not be appointed to these titles, alone or in combination, for more than 30 hours. International students on F-1 or J-1 visas may not be appointed for more than 20 hours during any fall or spring semester unless approved by the program and International Student Services.

University Fellowships

Each year the Graduate School accepts nominations from each graduate program for University Fellowships. These provide year-long stipends and some are quite lucrative. Your supervising professor will nominate you based on research accomplishments and promise of research excellence. The Graduate Advisor determines whose name(s) will be sent forward to the Graduate School. Nominees for these awards are selected based on the strength of their applications and on their records of performance.

Competitive National Fellowships

All first-year students with strong GRE scores and grade point averages should apply for federally funded competitive national fellowships, such as the NIH or NSF Pre-doctoral Fellowships or the Howard Hughes Pre-doctoral Fellowship. These fellowships are prestigious and will support you for several years of graduate education. You are also encouraged to explore and apply to fellowship programs on your own for which you may be uniquely qualified. Information may be found at the following links:

- www.nsf.gov/funding/
- www.grants.nih.gov/grants/oer.htm

Other Aid

The Office of Student Financial Services (512-475-6282, www.finaid.utexas.edu/) administers several long-term loan programs, the College Work-Study Program (for which graduate students are eligible), and a short-term loan program for registration and other emergency needs. Assistance with part-time or full-time job placement is also offered for students or student spouses. Student Accounts Receivable can provide information about institutional tuition/emergency loans and tuition and fee rates as well as information regarding fee payment and deadlines, loans, tax credits, etc. The Graduate Program Administrator will email notices of fellowships that become available throughout the year.

Outside Employment

Biochemistry students are **not** allowed to have outside employment such as part-time positions in restaurants, retail, etc. or any type of job that interferes with class work or research. Students may have 5-10 hours of employment that is related to their role as graduate students such as grading but only after the completion of the first year and international students are not eligible for these additional hours.

General Information

Contact Information

Mailboxes

All student's mailboxes correspond with their lab's mailbox. First-year students will need to routinely update their directory information to reflect what lab they are rotating in so that they receive mail. All MBS labs' mailboxes are located in the mailroom of NHB 2.606.

Change of Address and Phone Number

It is important that all directory information be kept up to date; it can be updated via UT Direct. Students must list a phone number where voice mail messages may be left.

Email Information

The BCH Graduate Program and the University of Texas uses e-mail as the primary method of communication with students. Whether we are communicating with students individually or with the entire cohort, it will be done via e-mail. If e-mail addresses given are not accepting mail (full mailbox) or if students are not checking e-mail often, students may miss important correspondence.

The BCH Graduate Program will correspond with students using a UT email account only. BCH students must have a UT email account at all times (https://get.utmail.utexas.edu).

Please notify the Graduate Program Administrator of any changes in email addresses immediately and only make changes in UT Direct to receive email from Canvas courses and groups.

Required Student Training

The University of Texas requires safety training for laboratory employees, which includes all BCH graduate students. BCH students are required to be in compliance with these safety classes prior to being assigned a rotation. The required safety courses are:

- OH 101 Hazard Communication
- OH 201 Laboratory Safety
- OH 202 Hazardous Waste Management

- OH 207 Biological Safety

You can find all above courses at this link: http://ehs.utexas.edu/training/training-courses.php

Fire Extinguisher Use, Animal Use Training, and Radiological Health are on-campus classes and are offered during the orientation period.

The Environmental Health and Safety Office: (https://ehs.utexas.edu) or 512- 471-3511.

The Fire Prevention Services Office sponsors the Fire Extinguisher Use course: https://fireprevention.utexas.edu/fire-safety/portable-fire-extinguisher-training

All of the above requirements must be satisfied within the first 30 days of the fall semester.

Academic Integrity

Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, and falsifying academic work, research, or records. The BCH graduate program has a zero-tolerance policy regarding academic dishonesty. Any student caught participating in academic dishonesty including, but not limited to plagiarism, falsifying academic work, research or records, will face immediate dismissal from the program.

Responsible Conduct of Research Online Training is required at the beginning of the 1st year. The Graduate Program Administrator will notify students of when the in-person training is scheduled.

Incomplete Grades:

If a student does not complete all the assignments in a course before the end of the course, the instructor may report the symbol X (incomplete) to the registrar in place of a grade. The student must then complete the course requirements by the last class day in his or her next long-session semester of enrollment. The instructor must report a final grade by the end of the grade-reporting period in that semester. If these deadlines are not met, the symbol X is converted to the symbol I (permanent incomplete). If the student is not enrolled during a long-session semester for twenty-four months following the end of the semester in which the X is reported and the instructor does not report a final grade, then the symbol X is converted to the symbol I. The symbol I cannot be converted to a grade. When the symbol I is recorded, the symbol X also remains on the student's record.

The period for completion of course requirements may be extended only under unusual circumstances beyond the student's control and only upon the recommendation of the instructor and the approval of the Graduate Dean. The instructor of record must make requests for an extension of X to the Graduate Dean through the submission of a completed “Update to Student Academic Record” form. This request must provide reasons why the student was unable to complete the course work by the last class day in his or her next long-session semester of enrollment after receiving the X.

Note: TAs and GRAs may acquire no more than one temporary incomplete grade (X) and one permanent incomplete grade (I), or two temporary incompletes (X).

Holiday Schedules

Graduate students do not have the same break schedules as undergraduates. All Biochemistry graduate students are paid continuously through the December, spring and May breaks, and thus, have the same work schedule and holiday schedule (http://www.utexas.edu/hr/holiday/) as university staff. The relative tranquility of campus during breaks is very conducive to research progress in the laboratory.

Second Degrees

Biochemistry students will not be allowed to work toward or obtain a second degree outside of the Biochemistry program (e.g., a Master's degree in a separate graduate program) without the written consent of their supervising professor and the graduate advisor.

Progress Towards Degree

All students are expected to make reasonable progress toward the degree. Among other situations, any of the following could be cause for being dropped from the Biochemistry Program due to failure to progress:

- Core courses not successfully completed by May of second year
- Qualifying Exam not completed by spring of second year
- Admission to Candidacy not initiated by start of third year
- Annual Meetings not conducted annually or on time
- Dissertation not completed within four years of admission to candidacy

Registration

Continuous Registration

The Graduate School requires that all graduate students be continuously registered for all long semesters (Fall and Spring) until completion of the degree. Students not yet in candidacy must obtain authorization from the Graduate Advisor for a leave of absence. Those admitted to candidacy must receive approval from the Graduate Dean and the Graduate Advisor for a leave of absence. A student on approved leave must apply for readmission in order to return to the University, but readmission during the approved period is automatic and the application fee is waived. A student on leave may not use any University facilities; nor is he/she entitled to receive advice from any member of the faculty. A leave of absence does not alter the time limits for degrees or course work.

Registration for continuing students for fall and summer semesters begins in April. Spring semester registration begins in October. New graduate students will have registration days in June, August and January. If you delay and are registered at the last minute, you will be responsible for paying the “late” registration fee, which ranges between $25 and $200. All late registrations require the approval of the Graduate Advisor. Be aware that if you are appointed to an academic title, you must be registered before the appointment can be processed. Late registration may delay your initial paycheck

Registration for Dissertation Hours

Once admitted to candidacy, you must register for dissertation hours every long semester until graduation. You no longer register for research hours but instead register for dissertation hours: 399W, 699W, or 999W.
Register for a dissertation course ending with a ‘W’. Registration for 999W fulfills the 9-hour credit requirement for teaching assistants, graduate research assistants, or fellowship holders.

Late Registration

If you miss the regular registration periods, you may be able to register late, but you will be responsible for paying the late fee, which ranges between $25 and $200. All late registrations require the approval of the Graduate Advisor.

Late registration takes place during the first four class days of each long semester and during the first two class days of each summer session. Check the Course Schedule for late registration procedures.

Registration for the Masters Student

The last two semesters before graduation, thesis students must be registered in thesis courses, BCH 698A and BCH 698B (3-hour courses). BCH 698A may only be taken once and must be taken before BCH 698B. Students must be registered for 698B the semester in which the thesis is submitted.

Early Withdrawal from BCH Program

Early withdrawal from the program in the first year could result in a requirement to pay tuition for that semester. Students should consult with 1st Year Graduate Advisor if they are considering leaving the program during the first year.

Withdrawal from BCH Program

Withdrawal from the university before the last class day of a semester will result in a requirement to personally pay the tuition for that semester. Withdrawals during a semester cancel most UT payments of tuition and tuition waivers. These cancelations result in a large balance due which UT Austin will bill to the student. This information does not apply to medical withdrawals.

Out-of-State Tuition Waivers

Employment as a TA or RA qualifies non-Texas residents for resident tuition through out-of-state tuition waivers. These are very important as they remove the out-of-state portion of the tuition bill. The waiver is requested online, applied directly to your fee bill, and must be completed each semester before your tuition bill is paid. You can access the waiver through UT Direct https://utdirect.utexas.edu/acct/fb/waivers/index.WBX.

Recipients of a Continuing or Pre-Emptive University Fellowship should **not** complete this form, as the Graduate Program Administrator will request waivers for you.

International Insurance Waivers

If you are an international student and will be appointed as a TA or RA, you will have health insurance provided to you. Therefore, you must request a waiver of the student international health insurance that is automatically added to your fee bill. You can get this charge removed from your bill by requesting this waiver. You will need to do this each semester that you are appointed as an RA or TA. This request must be done before your tuition bill is paid and you confirm your registration. Claim the waiver here: https://utdirect.utexas.edu/apps/isss/insr/waiver/.

Student Records

The Graduate Program Administrator maintains the official records of graduate students. It is your responsibility to ensure that your records are current. Members of the Biochemistry GSC, any person appointed to your dissertation committee, and the Graduate Program Administrator have access to your file. No other person has access without your written permission unless the Graduate Advisor authorizes him or her. Those authorized by the Graduate Advisor are staff members whose assistance is necessary to carry out administrative responsibilities.

Your student file may contain:

- Permanent Laboratory Form
- Qualifying Exam Form
- Safety Certificates and CITI RCR Training (Hazard Communication, Radiological Health, Laboratory Safety and Fire Extinguisher)
- Curriculum Vitae
- Admission Documents
- TA Evaluations

- Each time that you assist in a course, the supervising faculty member fills out an evaluation of your performance. One copy of the evaluation goes into your student file. You may request that copies of your student evaluations be placed in your file. If you choose, you may prepare a statement that will be appended to the evaluation and become part of the file.
- Annual Meeting of Dissertation Committee Forms
- It is imperative each Annual Meeting is documented with an Annual Meeting Form, which will be kept in your student file.
- Other items that provide a record of the student's activities and progress.
  Students are urged to place reprints of any published articles in their files. Information on awards, prizes, grants, etc., should also be given to the Graduate Program Administrator.

Disability Services

The University of Texas at Austin is committed to providing every necessary resource to students with disabilities. If you are a person with a disability and have special academic circumstances – whether permanent or temporary – please visit the Services for Students with Disabilities web site at http://diversity.utexas.edu/disability/.

Parental Accommodation Policy

In the cases of childbirth or adoption, graduate students in the College of Natural Sciences are allowed a 1-semester extension in the completion of academic responsibilities required for their degree. Academic responsibilities include course work, qualifying exams, committee meetings, presentations, or any other required academic milestones. These responsibilities may be postponed either during or immediately following the semester in which the student's child is born or adopted. The full policy and faculty contacts in each department can be found at https://cns.utexas.edu/graduate-education/college-policies/parental-accommodations.

Where to Go When Problems Arise

The University provides several support services for graduate students:

The **Office of the Student Ombuds** provides a neutral, impartial and confidential environment for students to express concerns related to life at the University of Texas at Austin. The office can assist graduate students with university related difficulties, and help identify pathways and options for conflict resolution. www.utexas.edu/student/ombuds/)

The **UT Counseling and Mental Health Center** provides services for graduate students, including a 24-hour telephone counseling service – 512-471-2255. (www.cmhc.utexas.edu/)

The **International Student & Scholar Services** (ISSS) Office provides advice, programs, information, and services to the international community, including incoming graduate students. (world.utexas.edu/isss/students/)

Campus Safety

The Office of Campus Safety & Security oversees Emergency Preparedness, Environmental Health and Safety, Fire Prevention Services, Parking and Transportation, and the University of Texas at Austin Police Department. Students should explore their web site to learn more about safety and security on campus. www.utexas.edu/safety/

For emergencies, the University also has a dedicated phone number, 512-232-9999, and web site www.utexas.edu/emergency/. You can also sign up for text message alerts for emergencies.

Other Contacts & Support

The Office of the Dean of Students (http://deanofstudents.utexas.edu/emergency/contact.php) provides a variety of student support services along with opportunities for leadership experience, diverse student work environments, engaging programming and specialized resources.

Below are quick links to some of these resources and services.

University Health Services: (512) 471-4955
Student Emergency Services: 512-471-5017
Behavioral Concern Advice Line (BCAL): 512-232-5050
24/7 (anonymous) crisis hotline: 512-471-2255
Title IX Office: https://titleix.utexas.edu

The CNS Office of Graduate Education (https://cns.utexas.edu/graduate-education) also provides a variety of support and resources for Graduate Students.