

## INFORMATION FOR GRADUATE STUDENTS IN BIOCHEMISTRY

Department of Chemistry and Biochemistry  
Utah State University

The Department of Chemistry and Biochemistry offers advanced study and research leading to the M.S. and Ph.D. degrees in Biochemistry. The Ph.D. is awarded primarily for independent research. The M.S. is awarded for successful completion of specific courses and research less comprehensive than a doctoral problem. The section on qualifying examinations does not apply to M.S. candidates.

**Notice of Non-discrimination:** In its programs and activities, including in admissions and employment, Utah State University does not discriminate or tolerate discrimination, including harassment, based on race, color, religion, sex, national origin, age, genetic information, sexual orientation, gender identity or expression, disability, status as a protected veteran, or any other status protected by University policy, Title IX, or any other federal, state, or local law. The following individuals have been designated to handle inquiries regarding the application of Title IX and its implementing regulations and/or USU's non-discrimination policies:

**Executive Director, Civil Rights and Title IX Office**

Matt Pinner, JD

[matthew.pinner@usu.edu](mailto:matthew.pinner@usu.edu)

Old Main, Room 161

435-797-1266

**Assistant Director and Title IX Coordinator**

Cody Carmichael, JD

[cody.carmichael@usu.edu](mailto:cody.carmichael@usu.edu)

Old Main, Room 161

435-797-1266

For further information regarding non-discrimination, please visit <https://equity.usu.edu/>, or contact:

U.S. Department of Education  
Office of Assistant Secretary for Civil Rights  
800-421-3481  
[OCR@ed.gov](mailto:OCR@ed.gov)

U.S. Department of Education  
Denver Regional Office  
303-844-5695  
[OCR.Denver@ed.gov](mailto:OCR.Denver@ed.gov)

**Entering Students:** Graduate students must demonstrate a satisfactory level of undergraduate knowledge in key areas to be eligible for the M.S. or Ph.D. programs. All graduate students must pass a General Chemistry ACS exam (pass score TBD). Students will have three chances to pass these exams: (1) during their first week in the program, (2) ~1 month after entering the program and (3) ~3 months after entering the program.

To serve as a TA with a standard assignment (i.e. overseeing one or more sections of a lab course), students must obtain the TA pass score (TBD) or better on the General Chemistry ACS exam. Students who do not meet this threshold on their first chance will either be assigned an RA position if funding is available or a special TA assignment (i.e. lab prep) during their first semester in the program.

Students must obtain the program pass score (TBD) or better on the General Chemistry ACS exam within three chances and by the end of their first semester. The program pass score is TBD but will be more rigorous than the TA pass score. Students who do not meet this requirement will be dismissed from the program even if they have RA funding.

During orientation week, new students who have not selected an advisor will be advised by the biochemistry faculty. New students are required to participate in a Workshop on Responsible Conduct in Research that is organized by the Graduate School during their first semester of residence. New students are required to develop and submit an initial curriculum vitae (CV) according to a provided template. This CV will be updated each year and kept in the student's file. All biochemistry graduate students will be invited to attend the Chem 5700 and Chem 5710 lectures to reinforce foundational biochemistry concepts. All biochemistry Ph.D. students will take the exams associated with the Chem5700/5710 courses and need to pass seven of the eight exams with a score of 80% or higher prior to taking the qualifying exam for promotion to Ph.D. candidacy. All MS biochemistry students will need to pass five of the six hourly exams with a score of 75% or higher (final exams are excluded) prior to scheduling a thesis defense. Additional details concerning this process are included in the "Chem 5700/5710 Examination Details" section below.

Also, during orientation week, students will be provided with a list of faculty who participate in the biochemistry graduate training program. Entering students will meet with each faculty member on the list to learn about their research programs. The students who have not already selected their faculty advisor will then select three laboratories in which to do laboratory rotation projects during the fall Semester (3 laboratory rotations beginning the 1st, 6th, & 11th weeks of the semester).

**Major Advisor:** Students who have not selected a major advisor at the time of matriculation, will do so after the first semester has been completed. After lab rotations have been completed, the students will submit a list of 1st, 2nd, & 3rd choices for major advisor to the Department Head no later than December 14. After some deliberation with the people involved, the Department Head will assign a major advisor to the student, normally within two weeks of the submission deadline.

**Supervisory Committee Composition and Responsibilities:** In consultation with the major advisor, the student will then select a supervisory committee for approval by the Department Head. For a Ph.D. student, a minimum of 5 faculty are required, with at least 3 members coming from the Department of Chemistry and Biochemistry, and one from outside the Department (but within USU); a minimum of 2 members must be chosen from the Division of Biochemistry. For M.S. Students, 3 faculty from the Department are required, including a minimum of 2 USU Biochemistry faculty. Selection of the committee should be accomplished by April 1.

If all members of the committee cannot be present for the entirety of *any* supervisory committee meeting with the student (annual, oral defense, final defense, etc.) then the meeting must be rescheduled. Electronic participation is permitted but for all such meetings, following the same

rules as those which the Graduate School prescribes for the final defense.<sup>1</sup> The committee letter to the department describing the outcome of *any* meeting of the supervisory committee with the student must also report attendance and certify that all committee members were present for the entire meeting, specifying if this was in-person or virtual.

Annual meetings with the supervisory committee must be held each academic year in the spring. The purpose of these meetings is to monitor and assess progress of the student in coursework and research. For the first meeting, students must submit a one-page research statement, updated CV, and completed self-evaluation form to the supervisory committee one week prior to the committee meeting. The one-page report should include a paragraph detailing methods learned to date and any other research progress. A second paragraph should outline expected research directions for the coming year.

In all subsequent years, the student will provide a progress report, updated CV, and completed self-evaluation form to the supervisory committee no later than 10 days prior to the committee meeting. This report should be 2-5 pages in length and should provide a progress report of results to date and a clear outline of future directions. Within two weeks following the meeting, the committee will forward a letter to the student, summarizing the conclusions from the meeting, which the student will sign acknowledging understanding of its contents. The signed letter will be sent to the student's file. The letter will detail the progress of the student, perceived deficiencies, steps to be taken to remedy them, and expectations for successful completion of the degree. The letter will also include a recommendation as to whether the student should be allowed to continue in the program.

**Curriculum:** Students should discuss course schedules with the biochemistry faculty during the first year and with the major advisor and supervisory committee in subsequent years. The Master's degree requires 30 credit hours. Ph.D. students entering with a BA/BS need 60 credits; students entering with a Master's degree need 30 credits. Students should check the graduate catalog for resident and other requirements. Students must meet with the Department Graduate Program Coordinator prior to registering for classes each semester.

Every graduate student in biochemistry must complete 1) the six-credit graduate biochemistry core curriculum, 2) one additional graduate class having a CHEM prefix, 3) at least one additional graduate class having any prefix (with committee approval), and 4) must register for seminar as described below. M.S. and Ph.D. candidates must complete a total of at least 10 credits in advanced courses as approved by the supervisory committee, exclusive of seminar and research.

---

<sup>1</sup> As of 2024-2025 Section H.1 of the Graduate School's General Catalog states the following: A faculty member should not be appointed to a supervisory committee if, for any reason, they will not be available for committee meetings. Ideally, all members should be present for the final defense, and the defense should be scheduled accordingly. While in-person defense is preferred and recommended, members of the committee may participate remotely with both audio and video interaction. Students should work with their committee members to arrange defense participation and details prior to submitting an Appointment for Examination.

**Seminar:** Students must register for the biochemistry seminar, CHEM 7800, each fall and spring semester during the first two years of their program. Annual participation in the Departmental section CHEM 7800-001 of the seminar program is mandatory regardless of the student's registration status. Seminars will expose new students to current graduate biochemistry research programs in the Department and will give advanced students the opportunity to describe progress in their research projects and to get experience in giving scientific presentations. First year and third year graduate students will provide a seminar presentation on a research paper of their choosing.

The paper must be unrelated to their graduate research project and must be approved by their graduate advisor and/or the faculty member in charge of Chem 7800. Students in years 2, 4, 5, and beyond will present their research. No more than 2 unexcused absences from biochemistry seminars per semester will be allowed. Students' attendance and a satisfactory annual seminar presentation are a requirement for continuation in the program and will be evaluated at the annual meeting with the supervisory committee. Occasionally outside speakers will be invited to present technical lectures. These lectures will be open to the entire Department. Seminars will be announced to the Department one week in advance.

**Research Proposal Workshop:** At some point during their first two years in the program, each biochemistry graduate student will participate in the proposal-writing workshop, "Getting Started as a Successful Proposal Writer and Academician," organized by the Office of Research and Graduate Studies. This will help prepare the student to write their research proposal that accompanies the oral exam, described below.

**Academic Status:** Students who make satisfactory progress are considered candidates for a degree, even though they may not have been formally advanced to candidacy by the Graduate School. Students must maintain a 3.0 average GPA in all courses taken at Utah State University as part of their graduate program and must not receive more than one C in any graduate course taken throughout the program. A student's progress will be evaluated at the yearly supervisory committee meeting. The supervisory committee will advise the Department Head of students who have failed to meet any of the requirements and recommend that the student either be dropped from the program or be given a probationary semester to make up the deficiency. If the deficiency has not been satisfied by the end of the probationary semester, further reinstatement will be a decision of the entire biochemistry faculty. Every student must meet with the supervisory committee at least once each year to present a written and oral research progress report.

**CHEM 5700/5710 Examination Details:** All biochemistry graduate students are required to demonstrate proficiency in foundational biochemistry by taking and passing exams administered in the upper division undergraduate courses CHEM 5700 and CHEM 5710. Students in the Ph.D. program must pass 7 of the 8 CHEM 5700 and CHEM 5710 exams, including final exams, with an 80% or better prior to scheduling their qualifying examination. Students in the M.S. program must pass 5 of the 6 hourly exams (final exams are excluded) with a 75% or better prior to scheduling their thesis defense. Each student will be encouraged to attend the CHEM 5700/5710 lectures and will be given access to all Canvas materials for the course, including examples of past exams. Ph.D. students who do not achieve 80% or higher on 7 of the 8 exams within the described two-

year window, will be advised on degree alternatives. M.S. students who do not score 75% or better on 5 of the 6 exams within the described two-year window, will not be allowed to remain in the graduate program.

If a biochemistry Ph.D. student chooses to change their degree plan to the biochemistry M.S. program, any exam attempts they have already made will count toward the M.S. requirements and their original timeline for completing the exams will remain in effect. A biochemistry Ph.D. or M.S. student who took CHEM 5700 and/or CHEM 5710 as an undergraduate at USU (within 7 years) will have the opportunity to count their exam attempts while an undergraduate toward the required 5/6 or 7/8 passes for their graduate program. If a student wishes to count their passed exams during the time they were an undergraduate, all exam attempts as an undergraduate (passed or not) and the time used to take the exams as an undergraduate will count toward the exam attempts and the two-year limit for completing the exams. In other words, if a USU undergraduate took Chem5700 and Chem5710 once each, passed five of the exams, and then was admitted to the biochemistry Ph.D. program, they can count the 5 passes toward the required 7 but will only have one additional year (the year they enter the graduate program) to pass the remaining two exams to reach the required 7/8. On the other hand, the student can choose not to count any of the passes during their time as an undergraduate and they then have two years to pass the necessary number of exams that a student who had not taken the CHEM 5700/5710 courses at USU has. The decision to count undergraduate exams or not must be made and communicated in writing to the Graduate Program Coordinator prior to the administration of the first exam following admission into the graduate program.

**Qualifying Examination:** In addition to passing the six (6) credits of graduate biochemistry core, Ph.D. students must pass a qualifying examination. This examination must be taken by the end of the seventh semester after entrance, including summer semesters. In the event that a student changes from the M.S. program to the Ph.D. program or changes major advisors within the Biochemistry Program, the student will be given four semesters (including summer semesters) after the change to pass and complete the qualifying examination, unless the Supervisory Committee recommends otherwise to the Graduate Studies Committee. If a student transfers from any other degree program to the Biochemistry Program, that student will be considered a new student in the program and will also have seven semesters (including summer semesters) from the semester of transfer in which to complete the qualifying exam.

The qualifying examination will include three parts: a written research proposal, two round-table discussions/justification of the proposal between the candidate and the supervisory committee, and a public research proposal presentation.

The formal, written research proposal is described in the section below "Guidelines for the Qualifying Examination in the Biochemistry Program" document. The proposal must contain original ideas, but it will be based on the student's own research project. Consequently, direct assistance from the major advisor will not be permitted in either the writing or the formulation of original avenues of investigation. A student is permitted to solicit information from others, including faculty. However, this must be done on a strictly limited basis and good judgment must be exercised on both sides. It is expected that originality and the bulk of the

preparation of the proposal represent the student's own work. If a student is in doubt about the propriety of requesting information in a specific case, the examination committee should be consulted. Any information in the written proposal obtained from others should be acknowledged.

Two weeks after submitting the written research proposal, the student will meet with the supervisory committee in a round-table question/answer session about the approach and significance of the proposed work. The purpose of this meeting is to provide guidance for any necessary modifications that should be included in the final version of the proposal submitted as a part of the comprehensive exam. While the first submission is not formally evaluated as a part of the exam, a final proposal submission that does not appropriately respond to feedback given during the first round-table from the committee will result in a cancellation of the 2<sup>nd</sup> round-table meeting without specific feedback from the Committee. In this case, the student will have one additional attempt to modify the proposal and submit it as a "final submission" to the committee. If it is again determined insufficient for evaluation, the Committee may recommend that the exam is considered a "fail" and the student counseled with options that may include transition to the Master's program or leaving the graduate program.

Following approval to submit the proposal for evaluation as a "final submission", the proposal will be presented at a formal, open seminar (see "Guidelines for the Qualifying Examination" below for timeline details). Following the seminar, the supervisory committee will meet with the student for a second round-table discussion/justification of the proposal with the expectation that any problems or lack of knowledge noted in the first round-table discussion has been rectified. The committee will decide if the student has passed or failed each of the components of the exam at this time. In the case of no more than a single negative vote, a recommendation of pass will be forwarded to the student. In the case of a failure of any portion of the exam, the conditions that must be fulfilled by the student to pass the exam upon a single retake opportunity and the time period within which these conditions must be met will be provided in a Committee letter to the student within one week following the conclusion of the meeting.

The student's supervisory committee will serve as the examination committee except that the major advisor will not participate as a voting member of the committee and is not permitted to participate, ask, or answer questions during the round-table discussions unless asked to do so by the committee. A biochemist member of the supervisory committee will serve as chair of the examination committee and the student will select the chair from among the biochemistry members. Upon petition, a student who fails the examination may be allowed to retake it once, upon approval of the examination committee. Consequently, the written document given to the student following the examination must be agreed upon by the Committee in detail before being transmitted to the student. The conditions for retaking the examination must be explicit enough so that someone who was not present at the meeting can judge exactly what is expected of the student. The time period within which the examination must be re-taken must be clearly stated (a date would be most appropriate). The conditions for the second examination, if approved, will be set by the examination Committee.

Students who do not pass the examination may request transfer to the Master's degree program. If, after completing the Master's degree, a student failing the oral exam wishes to reapply to the PhD program, the student must petition the Graduate Studies committee to that effect. This petition should explain why the student believes they can succeed in this program, and any extenuating circumstances concerning their previous failure. In addition, this petition must be supported by at least one faculty member in the Department who would be willing to accept the student into their research group if they are readmitted to the Ph.D. program.

**Guidance of Employing AI in Graduate Study and Research:** The purpose of these guidelines is to outline acceptable practices for using AI in study and research by graduate students. These guidelines are particularly important for students who need or plan to submit written work to meet the requirements of the graduate program, including coursework or reports, the progress update of the annual committee meeting, oral exam, required seminar presentation, master's thesis, and PhD dissertation. Please be aware that expectations for use of AI for coursework are subject to the discretion of the Instructor of each course, and may differ from the guidelines described here. Similarly, the use of AI for graded publications and reports conducted under the supervision of a Principal Investigator (PI) is at the discretion of the PI.

The most important thing is that using AI may result in lack of data security. Any content, such as comments, discussion or questions, uploaded to AI tools may be retained by the tool's parent company and utilized in their training models. It is therefore not possible at this time to guarantee data security or privacy protections for such content. As a consequence, AI tools must not be used to generate output that would be considered non-public, for example, proprietary or unpublished research. Uploading unpublished data to generative AI should be strictly prohibited.

Recommended principles for the use of AI (adopted from Blau, W. et. al. Protecting scientific integrity in an age of generative AI PNAS 2024 121, e2407886121):

1. Students and advisors should clearly disclose the use of generative AI in research, including the specific tools, algorithms, and settings employed; accurately attribute the human and AI sources of information or ideas, distinguishing between the two and acknowledging their respective contributions; and ensure that human expertise and prior literature are appropriately cited.
2. Students and advisors are accountable for the accuracy of data analysis even when using AI-generated content and analyses. In other words, analysis should be reproducible by other researchers with or without AI assistance. In addition, students and advisors need to be able to defend and explain whatever presentation or publication they generated with AI.
3. Students and advisors should mark AI-generated or synthetic data, inferences, and images, so that it is not mistaken for observations collected in the real world.
4. Students and advisors should take credible steps to ensure that their uses of AI produce scientifically sound and socially beneficial results while taking appropriate steps to mitigate the risk of harm.
5. Students and advisors should continuously monitor and evaluate the

impact of AI on their scientific work with transparency and adapt strategies as necessary to maintain integrity.

Examples of Acceptable Uses of AI Tools (adopted from Duke University Department of Chemistry Guidance of Acceptable Use of AI for Graduate Milestone Exams). *Be aware that anything you input into AI becomes public information.*

1. Stimulate thinking: Gather various angles as to the significance or relevance of your research and identify knowledge gaps suitable for your proposal.
2. Structuring: Draft outlines but avoid putting personal data or unpublished results.
3. Writing Refinement: Run abstracts, sentences, or paragraphs through the software to check for grammatical errors and improve writing style.
4. Feedback Incorporation & Revision: Direct the software to provide ideas for restructuring your document based on feedback.

Potential Problems with the use of AI:

1. Plagiarism: Copying and pasting text, images, media, etc. generated by AI software into your document without attribution counts as plagiarism. Repeating or slightly modifying phrases, sentences, or passages generated by AI tools without attribution is also plagiarism. Plagiarism is not tolerated and may result in disciplinary action.
2. Incorrect Information: AI models can generate inaccurate or misleading information, including citations and references to works that do not exist. Verify any information with credible sources, i.e., from multiple literature articles, and trustworthy literature bases (Scopus, Web of Science, etc).
3. Insecurity of the Intellectual Information: Anything input into AI becomes public information. Therefore, intellectual information or results should not be input into AI, for example grant proposal, unpublished manuscript, etc.
4. Superficial Understanding: AI is not a substitute for reading the literature on your own and applying critical thinking to the problems you face. An over-reliance on AI sources may result in a superficial understanding of your subject, which will become apparent in the oral component of the examination. Ask yourself, or have peers ask, questions to check whether you fully understand the topic.
5. Deficient in Research Development: Heavy reliance on AI could lead to students lacking proper training in developing independent research idea or project. In addition, research ideas or projects that utilize AI assistance could be accessible by general public and hence viewed as not novel.
6. Problem in Job Application: AI-generated self-assessment or essays could look generic, and make the applicants who use AI less competitive.

**Final Requirements:** After passing the qualifying examination, Ph.D. students will submit the approved candidacy form to the School of Graduate Studies. With the Graduate School's approval, students will then be advanced to candidacy for the Ph.D. degree. The candidacy form must be submitted to the Graduate School Office at least one semester (three months) prior to the final defense.

When the research project nears completion, students should check on final requirements and scheduling with the School of Graduate Studies. Prior to scheduling the defense seminar, students should meet with the supervisory Committee that will provide the student with guidelines and expectations concerning the written thesis/dissertation and its defense. When the research is complete, the results must be reported in a thesis/dissertation that conforms to Graduate School guidelines and that must be presented in a formal and public departmental seminar. It is the student's responsibility to ensure that the seminar is announced at least one week in advance. The purpose of this seminar is to demonstrate the ability to present material to chemists and biochemists outside of a specific research area. The seminar is an important degree requirement and must be presented to the satisfaction of the supervisory committee. The thesis/dissertation must be given to each member of the supervisory committee at least four weeks prior to the final seminar. After the seminar, the supervisory committee will conduct a final oral examination and determine whether the student has passed the defense and what, if any, modifications are required to the written thesis/dissertation.

### **Guidelines for the Qualifying Examination in the Biochemistry Program**

The qualifying examination in Biochemistry will be composed of three parts, (1) a written proposal based on the student's own research project, (2) a seminar (open to general attendance) and (3) two round-table discussions, administered by the student's advisory committee.

In order to pass the qualifying examination, the student should be able to:

- identify a significant and original scientific problem
- formulate a testable hypothesis
- formulate an experimental approach to directly test this hypothesis
- express this research problem clearly and concisely in writing
- present his/her ideas orally in an effective manner before a general audience and defend them before the examination committee

**The Written Proposal:** The written proposal must provide a concise review of the relevant literature (with citations), putting the proposed work into context. The literature review section may not exceed 3 pages of single-spaced text. The next section of the proposal presents the Aims of the Research; these are the studies that are proposed to complete the body of work that will constitute the core of the dissertation. The proposed research must describe questions/experiments that could lead to at least 2 independent research publications. This section should describe the work the student has completed to date on their project, including figures and describing key methods (this can be considered as preliminary data). This section may not exceed 7 pages. Key things that should be addressed are: 1) a clear hypothesis or aim statement, 2) a rationale for why the proposed work is important, 3) the

student's preliminary data to support the feasibility and direction of each aim and then 4) what the student will do to complete the aim. If data generated by another student are required to provide context or rationale for the aim, it would be best to include these in the introduction, not in the Aims section and ensure proper credit is given. The proposal will be submitted to the Committee at least 10 days before an initial meeting with the Committee. At this meeting, the Committee will ask clarifying questions and will provide feedback on any necessary changes to the proposal. Within 20 days after this meeting, the student will provide a revised version of the proposal to the Committee that will be evaluated as a part of the exam.

The proposal must be formatted according to the following guidelines:

- 1-inch margins on all sides, top and bottom
- Paginated
- Times Roman or Arial 11-point font on all text. Figure legends, scheme legends, tables, and table legends may be done in 8-11 point.
- Single space
- Entire proposal (not including references) must not be longer than 10 pages.
- All figures should be embedded and have a figure legend.
- The bibliography will include at least 35 references and all references will be annotated (include a few sentences stating the essential parts of the paper and how the reference relates to the proposed research).

**The Seminar:** The seminar must be announced in writing to the faculty, students and staff of the Department of Chemistry and Biochemistry at least one week beforehand. This seminar will consist of an oral presentation of the research proposal, directed toward a general audience. The seminar should be a clear and concise presentation of the research and proposed studies with sufficient background for the non-specialist. An important aspect of the presentation will be the effective use of visual aids. The presentation should be 40-45 minutes, with sufficient time following for questions from the audience. Members of the examination Committee may ask general questions, but the examination should be confined to the oral section.

**Round-table Discussions/Justification of the Proposal:** The proposal will be submitted to the Committee at least 10 days (but not more than 3 weeks) before the first roundtable meeting with the Committee. The second round-table discussion/justification of the revised proposal can take place as soon as immediately following the seminar, but no later than 5 working days following the seminar. The dates of the meetings are to be scheduled at least four weeks in advance of the examination. During these meetings, the Committee will ask clarifying questions about the proposal to help guide the student's upcoming research efforts and to ensure that they have provided a well-prepared proposal that effectively addresses a central hypothesis. The student's major advisor will be present for all parts of the examination but will be a non-voting member of the committee and must refrain from guiding the student or responding to committee queries to the student. The PI can provide clarifying comments at the request of the Committee. Immediately following the meeting, the Committee will decide if the student has passed or failed each section of the exam. In the case of a failure of any portion of the exam, the conditions that must be fulfilled by the student to pass the exam upon a single retake opportunity and the time

period within which these conditions must be met will be provided in a Committee letter to the student within one week following the conclusion of the meeting.

### **Guidelines for Annual Progress Report Meetings**

Annual meetings with the supervisory committee are an important part of the mentorship of graduate students. These provide a venue for feedback about the progress being made on the research project, to clarify expectations for the successful completion of the degree, and for constructive criticism to be given when necessary. Committees will particularly look for progress in the areas below, and comment on these in the letter following each annual meeting that is sent to the student and placed in the student's file.

#### **Committee meeting progress report checklist items.**

For the first meeting:

- Is satisfactory progress being made in completing coursework on the Program of Study, and are grades satisfactory?
- Is satisfactory progress being made in the research project; is progress toward research proficiency evident, and does the student show signs of taking intellectual ownership?
- Does the student meet the advisor's expectations with regard to time and effort, lab safety, notebook standards, and citizenship?
- Is there evidence that the student reads and understands the current literature in their research area?
- Did the student complete the self-evaluation form and provide it to the committee for their evaluation?
  - The committee will then, at the meeting, complete its own evaluation using the self-evaluation form (skills matrix). The form will then be attached to the Committee's letter to be sent to the student and included in the student's file.

For subsequent meetings:

- Has clear research progress been made since the previous year's meeting?
- Has the student produced work that has been presented at conferences, or in publications? If not, is there clear progress toward this goal; what are the Committee's expectations in this area, and are they being met?
- Did the student complete the self-evaluation form and provide it to the Committee for their evaluation?
  - The Committee will then, at the meeting, complete its own evaluation using the self-evaluation form (skills matrix). The form will then be attached to the Committee's letter to be sent to the student and included in the student's file.

Particularly important for fourth year and beyond:

- Does the level of measurable research progress, in terms of meeting abstracts or manuscripts, compare favorably with previous successful PhD students, in a comparable research area, at this point in their studies?
- Has the candidate taken intellectual ownership of their project? Can they make choices about the next steps in research, or just doing what they are told?
- If any these areas are not clearly satisfactorily, is there justification for continuation in the PhD program?

Any areas in need of improvement should be clearly identified in the letter, and the student given constructive criticisms during the meeting. Expectations to be met before the following year's meeting should be specified in the letter.

**Format of the meeting:** An essential part of the committee meeting is a discussion of the student's research progress. Students should come to the meeting with their notebooks, and any other materials needed to answer questions and discuss their results. The progress report must be given to committee members no later than 10 days before the meeting and may include any publications since the previous meeting. An oral PowerPoint presentation may be a part of the annual meeting but is not mandated. Students should consult with their committee in advance of the meeting to ascertain whether such a presentation is expected, and its length.

**Biochemistry Graduate Student Timeline**  
Summary of Important Dates and Deadlines

**First Year**

- Orientation week: Submit an initial CV
- Beginning of 14<sup>th</sup> week: Deadline to submit choice for major professor
- April 1<sup>st</sup>: Deadline to select supervisory committee
- Program of Study must be approved by the end of second semester
- Biochemistry Core Curriculum
- CHEM 7800 registration in fall and spring semesters
- The first supervisory committee meeting must be held during spring semester. The research statement, CV, and self-evaluation form must be provided to the Committee at least 1 week prior to the meeting.

## **Second Year**

- 10 days prior to committee meeting: Deadline to submit progress report, CV, and self-evaluation form to committee
- CHEM 7800 registration in fall and spring semesters
- Supervisory committee meeting must be held during spring semester.

## **Subsequent Years: Committee Meetings**

- 10 days prior to committee meeting: Deadline to submit progress report, CV, and self-evaluation form to committee.
- Supervisory committee meeting must be held during spring semester.

## **Third Year: Qualifying Examination**

- 5 weeks prior to exam: Schedule must be approved by committee
- 4 weeks prior to exam: Deadline to submit written proposal
- 1 week prior to exam: Seminar announcement
- Qualifying exam must be taken by the end of the seventh semester.
- Supervisory committee meeting must be held during spring semester.

## **Final Defense**

- 4 weeks prior to seminar: Deadline to submit thesis/dissertation to committee
- 1 week prior to seminar: Seminar announcement