1. Program description

The Department of Biochemistry and Molecular Biology (“Biochemistry Department”) was created in the mid 1970’s by joining together members of the agriculture biochemistry group with the new medical school biochemists. Current faculty member affiliations include appointments within the Nevada Agriculture Experiment Station (NAES) and the College of Agriculture, Biotechnology and Natural Resources (CABNR) with adjunct faculty members from throughout UNR and DRI. The mission of the Department of Biochemistry graduate program is to provide strong educational programs and laboratory-based research training to graduate and professional students for careers in medicine, biotechnology, and agriculture in academia, private industry, and governmental institutions. The program’s goal is to create new knowledge through high-quality research in biochemistry, molecular biology and biotechnology, and to effectively transmit scientific knowledge to the general public.

➢ Program/student learning outcomes (SLOs):

The performance indicators or student learning outcomes used to assess the effectiveness of the departmental BCH graduate program include the following:

I. Graduate students will demonstrate an advanced level of competency in the general fields of biochemistry and molecular biology and in the specialized subject area of their research.

II. Graduate students will demonstrate competence in oral and written communication skills including the ability to orally present independent research results in public forums, the ability to write and present independent research, write research grant proposals and journal articles suitable for publication, and the ability to read and critically evaluate relevant scientific literature in biochemistry and molecular biology.

III. The graduate students must demonstrate the ability to complete laboratory-based research in their field of study, including the mastery of common and specialized techniques and instrumentation used in performing biochemical and molecular biology experimentation, the testing of a hypothesis or answering scientific questions formulated independently or in conjunction with their advisor and committee members.

➢ Program degrees or tracks offered:
The Department of Biochemistry and Molecular Biology maintains a departmental Biochemistry Graduate Program (BCH) in which students can earn Master of Science (M.S.) or Doctor of Philosophy (Ph.D.) degrees. However, students working for faculty in the Department can also be enrolled in interdisciplinary graduate programs in Cell and Molecular Biology (CMB) and Cell and Molecular Pharmacology and Physiology (CMPP). A non-thesis MS degree is currently NOT offered.

➢ **Contact information for the program director:**
John C. Cushman, Ph.D.
Foundation Professor, Graduate Program Director
MS330/Department of Biochemistry & Molecular Biology
1664 N. Virginia Street
University of Nevada
Reno, NV 89557-0330
Tel: 775-784-1918
Fax: 775-784-1419
email: jcushman@unr.edu
Biochemistry Graduate Website

Note: This handbook lists graduate program academic policies and procedures. It includes information on graduate school policies, degree requirements, timeline for degree completion, committee selection guidelines and comprehensive exam/thesis requirements. Every effort has been made to make this handbook accurate as of the date of publication; however, this handbook does not constitute a contractual commitment. Graduate programs may not offer all of the courses as described, and policies are subject to yearly review and changes with program director and Graduate Council approval.

2. Degree requirements

➢ **Total number of credits needed:**
Student must take a total of 72 credits for the Ph.D. and 30 for the M.S. degree, with a minimum of 34 (Ph.D.) and 24 (M.S.) of the credits to be coursework. The exact required courses for each Ph.D. student must be determined in conjunction with the student’s advisor and graduate advisory committee and be approved by the Program Director.

➢ **List of recommended courses for the M.S. degree:**

<table>
<thead>
<tr>
<th>Course:</th>
<th>Credits:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCH 605 Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>BCH 613 Molecular Biophysics</td>
<td>3</td>
</tr>
<tr>
<td>BCH 617 Metabolic Regulation</td>
<td>3</td>
</tr>
<tr>
<td>BCH 701 Experimental Biochem. I (Rotation)</td>
<td>3</td>
</tr>
<tr>
<td>BCH 705 Molecular Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BCH 790 Seminar</td>
<td>2</td>
</tr>
<tr>
<td>Electives* (see below)</td>
<td>7-18</td>
</tr>
<tr>
<td>BCH 797 Thesis</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

➢ **List of recommended courses for the Ph.D. degree:**

<table>
<thead>
<tr>
<th>Course:</th>
<th>Credits:</th>
</tr>
</thead>
</table>

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1 https://www.unr.edu/bmb/all-degree-programs/biochemistry
BCH 605 Molecular Biology* 3
BCH 613 Molecular Biophysics* 3
BCH 617 Metabolic Regulation* 3
BCH 701 Exp. Biochem. I (Rotation) 3
BCH 702 Exp. Biochem. II (Rotation) 3
BCH 703 Grant Writing for Molec. Bioscience 2
BCH 705 Molecular Genetics 3
BCH 706 Functional Genomics 3
BCH 708 Protein Structure & Function 3
BCH 709 Introduction to Bioinformatics 3
CMB 710 Molecular Cell Biology 4
BCH 790 Seminar (1 credit x 3) 3
BCH 795 Comprehensive Exam 1
Electives 6
Total coursework credits 34
BCH 799 Dissertation credits 38
Grand Total 72

*The above three classes are only required for students who have not taken equivalent courses as an undergraduate.

➢ **Recommended Electives:**

<table>
<thead>
<tr>
<th>Elective Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCH 610 Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BCH 613 Molecular Biophysics</td>
<td>3</td>
</tr>
<tr>
<td>BCH 617 Metabolic Regulation</td>
<td>3</td>
</tr>
<tr>
<td>BCH 687 Systems-based Approaches in Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>BCH 704 Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>BCH 718 Plant Molecular Biology and Biotechnology</td>
<td>3</td>
</tr>
<tr>
<td>BCH 740 Enzymology</td>
<td>3</td>
</tr>
</tbody>
</table>
BCH 793 1-3  
Independent Study

BCH 794 1-8  
Colloquium (various topics)

CHS 780 3  
Biostatistics in Public Health

PHAR 725 3  
Ethics and Scientific Research

Courses not listed above might meet program requirements as determined by your committee. Additional elective courses are listed below. Please check at the beginning of each semester to determine which courses are actually offered as some courses are not offered every year. A minimum of 25 credits at the 700 level or above should be taken for the Ph.D. degree.

➢ List of other electives for either the M.S. or Ph.D. degree:

<table>
<thead>
<tr>
<th>Other Elective Courses</th>
<th>Credits:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 604 Population Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 610 Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 615 Evolution</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 653 Immunology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 654 Genomic Conflict, Epigenetics and Human Disease</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 650 Genomics and Bioinformatics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 666 Developmental Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 675 Neurobiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 705 Principles and Applications of Flow Cytometry</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 792 Next Generation Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 792 Computational Tools for Genomics/Biology</td>
<td>2</td>
</tr>
<tr>
<td>BME 601 Intro to Biomedical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>BME 626 Biomedical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>BME 725 Ethics and Scientific Research</td>
<td>3</td>
</tr>
<tr>
<td>BME 730 Introduction to Imaging &amp; Optics</td>
<td>3</td>
</tr>
<tr>
<td>CMPP 740 Neuroeffector Mechanisms</td>
<td>3</td>
</tr>
<tr>
<td>CMPP 750 Molec. Mech. of Excitability</td>
<td>3</td>
</tr>
<tr>
<td>MICR 670 Cellular Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>MICR 676 Cancer Immunobiology</td>
<td>3</td>
</tr>
<tr>
<td>MICR 700 Biotechnology Today &amp; Tomorrow</td>
<td>2</td>
</tr>
<tr>
<td>MICR 780 Intro Cellular Immunology</td>
<td>3</td>
</tr>
</tbody>
</table>
MICR 781 Advanced Molecular Genetics 3
MICR 784 Molecular Mech Virus 3
PCB 711 Systems Physiology 7
PCB 710 Medical Cell Biology 3
PHAR 600 Introduction to Human Pharmacology 3
PHAR 710 Molecular Pharmacology 3
PHAR 730 Introduction to Imaging & Optics 3
PHAR 750 Cellular & Molec. Mech. Excitability 3

➢ Internships and/or clinical experiences:
Usually not required, but students should check with their academic advisors to determine if internships are a required part of their research program.

➢ Research Assistantships:
Research Assistantships (RAs) are provided for 1st year students by the Molecular Biosciences umbrella program or from Graduate Dean’s Fellowships, which are limited to incoming domestic and international doctoral students. RA support for continuing students generally comes from individual faculty member grants or contracts. RA can also be garnered from extramural sources such as federal granting agencies.

➢ Teaching Assistantships:
Student are encouraged to participate for one (1) or more semesters as a Teaching Assistantship lecture or laboratory courses. TA assignments are handled at the departmental level, so if you have interest or preference for a course in which you would like to TA, please consult the instructor of that course directly or the departmental chair. If you are teaching for the first time at UNR, you must enroll in the GRAD 701 workshop offered through the Graduate School each August. A “full” time (0.5 FTE) teaching assistantship is supposed to take up 20 hours a week. In order to be eligible for a TA position you must be enrolled in a minimum of six (6) graduate-level units.

➢ Fellowships and Grants:
Student are encouraged to apply for extramural RA support from federal granting agencies such as the National Science Foundation’s Graduate Research Fellowship Program (GRFP, NSFGRFP Website) during their first two years in the program. Please be aware that this program is highly competitive with only a 15% award rate and that such support is limited to U.S. citizens or permanent residents only. If you fail to win fellowship support on your own, please discuss with your PI the plan for your continuing support from federal grants and contracts, which are normally submitted by your PI.

➢ Comprehensive Exam:
The comprehensive exam is an integral part of the degree requirements and must be completed successfully for the graduate student to be admitted to candidacy for the Ph.D. degree. M.S. Candidates: No written and oral preliminary or comprehensive examination is required for the M.S. degree. See the Comprehensive Exam section below for more details.

➢ Thesis and dissertation:

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2 http://www/nsfgrfp.org/
The graduate student’s advisory committee will approve the thesis in the case of M.S. candidates and dissertation in the case of Ph.D. candidates. The graduate student’s advisor has to complete a final review and approval of the thesis or dissertation. See the Thesis and dissertation section below for more details.

➢ Graduate School Academic Requirements:
All graduate students must maintain a cumulative graduate GPA of 3.0. If their GPA drops below 3.0, they are either placed on probation or dismissed. Undergraduate courses will not count towards graduate GPA.

Probation: students whose cumulative graduate GPA falls between 2.31 and 2.99 are automatically placed on academic probation for one semester. If they fail to raise their cumulative GPA to 3.0 by the end of one semester, they are dismissed from their graduate program. Thesis, dissertation, S/U graded credits, and transfer credits have no impact on a student’s GPA.

Dismissal: students whose cumulative graduate GPA is 2.30 or lower are dismissed. Dismissed students are no longer enrolled in their graduate program but may take graduate-level courses as a Grad Special. Dismissed students wishing to complete their degree must obtain approval to take graduate-level courses, raise their graduate GPA to at least 3.0, and then re-apply to their graduate program. Any courses taken in an effort to raise their GPA will be included in the graduate special/transfer credit limitation (9 credits for master’s degrees).

Please refer to Nevada System of Higher Education CODE on Student Program Dismissal Procedures (SPDP) and review conference policies: (NSHE CODE, Chapter 11, Sections 1-3). If program dismissal is based upon failure to maintain required grades or a required GPA as described above, SPDP does not apply and the student may be summarily dismissed from the graduate program.

Continuous enrollment: Graduate students without an assistantship must enroll for three (3) graduate credits each fall and spring semester until graduation (this includes enrolling in three graduate credits in your final semester). Graduate students with an assistantship must enroll for six (6) graduate credits each fall and spring semester. Graduate students may also enroll in at least 1 credit during the summer sessions. For non-resident aliens who are not taxed, it is important to enroll in at least 1 credit in two of the three summer sessions in order to maintain student status and hence non-taxable status. Students can take a leave of absence from the program for up to one year; however, they must file a Leave of Absence Form with the graduate school. If a lapse occurs in enrollment, then the student file a Notice of Reinstatement to Graduate Standing Form with departmental approval. A $60 fee will be assessed for such reinstatement and the form must be filed with the Graduate School no later than the last day of enrollment for the semester the reinstatement is to begin.

3. Transfer credits
These are credits transferred from another institution. Credits completed at UNR in another program or as a graduate special do not need to be transferred. Transfer credit can be requested on the Graduate Credit Transfer Evaluation Request Form available on Graduate School website, and must be signed

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4 https://www.unr.edu/Documents/graduate-school/Notice-of-Reinstatement-Graduate-Standing.pdf
5 http://www.unr.edu/Documents/graduate-school/GraduateCreditTransferEvaluationRequest.pdf
by the student, major advisor, and graduate director. Transfer credits applied to a master’s program must comply with the time limitation on master’s work (6 years). Thus, if a student took a course five years prior to admission, they would have to complete the degree within one year for the course to apply to the degree. Credits from a completed master’s degree will be exempt from the 8-year time limitation for those students pursuing a doctoral degree. See the FAQs section for details about how many course credits can be transferred because the graduate school does place limits on the number of credits that can be transferred.

4. Timeline for degree completion

The requirements for the Ph.D. can generally be completed in four or five years. The national average is approximately 6 years. For comparison, the time to completion of CMB and CMPP graduate students is 5.2 and 5.4 years, respectively. A standard schedule is included below for your information. To ensure timely completion of your degree, you will be expected to make adequate progress by following this recommended schedule. Please be aware that the graduate school imposes maximal time limits for degree completion. As sample timeline follows:

➢ **Year 1**

<table>
<thead>
<tr>
<th>First Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Arrange and conduct first laboratory rotations (BCH 701)</td>
</tr>
<tr>
<td>● Transfer your previous graduate credits through the Graduate School if applicable</td>
</tr>
<tr>
<td>● Recommended courses – Molecular Genetics (BCH 705), Grant Writing for Molecular Biosciences (BCH703), Colloquium (BCH 794)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Arrange and conduct second laboratory rotation (BCH702)</td>
</tr>
<tr>
<td>● Form your graduate advisory committee</td>
</tr>
<tr>
<td>● Submit your declaration of advisor through the Graduate School</td>
</tr>
<tr>
<td>● Submit your program of study through the Graduate School</td>
</tr>
<tr>
<td>● Recommended courses – Molecular Cell Biology (CMB 710), Functional Genomics (BCH 706), Colloquium (BCH 794)</td>
</tr>
</tbody>
</table>

➢ **Year 2**

- By the end of the second year, doctoral students should complete the comprehensive exam (BCH 790) and have their dissertation proposal approved by their committee.

<table>
<thead>
<tr>
<th>First Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Recommended Courses – Protein Structure &amp; Function (BCH 708), Biostatistics in Public Health (CHS 780), Colloquium (BCH 794), other courses recommended by committee</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Recommended Courses – Introduction to Bioinformatics (BCH 709), Ethics and Scientific Research (PHAR 725), Seminar (BCH 790), Colloquium (BCH 794), other courses recommended by committee</td>
</tr>
</tbody>
</table>

➢ **Year 3**

- Complete the comprehensive exam (BCH 790) and have their dissertation proposal approved by their committee if not already completed.
- Submit your comprehensive exam scores and information
- Obtain your dissertation proposal approval
- Advance to candidacy through the Graduate School
- Consult with your advisor and committee about your research on a regular basis

### Program Changes
- Change your program of study as needed
- Change your advisory committee if there is a change in committee membership
- Request a leave of absence if necessary or stay continuously matriculated

#### Year 4
- Students should be finished with their course work (i.e., signed up only for dissertation credits and possibly colloquium courses (BCH 794) as necessary) and be focused on completing your research, grants (such as NSF dissertation improvement grant) and publishing manuscripts. No forms are required.

#### Graduating (Year 4)
- Consult with your advisor and committee about your research in a regular basis
- Schedule a public defense presentation and a defense meeting with your committee, enroll in Seminar (BCH 790) for third and final time
- Complete your doctoral degree notice of completion through the Graduate School
- Review the dissertation filing guidelines for the Graduate School
- Submit your dissertation title to Graduate School
- Complete exit interview and questionnaire with graduate program director for assessment purposes
- Review important deadlines and milestones for graduation

### 5. Forms required for degree completion

Forms that are required to be submitted to the graduate school, along with deadlines for submission are detailed below.

- **Declaration of Advisor/Major Advisor/Committee Chair form**
  - For master’s students, the completed form must be submitted to Graduate School by the end of the student’s second semester
  - For doctoral and MFA students, the completed form must be submitted to Graduate School by the end of the student’s third semester

- **Program of Study form**
  - For master’s students, the completed form must be submitted to Graduate School by the end of the student’s third semester
  - For doctoral students, the completed form must be submitted to Graduate School by the end of the student’s fourth semester

- (Doctoral Programs only) **Doctoral degree admission to candidacy form**
  - For doctoral students who completed all requirements except for the dissertation

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7 [https://www.unr.edu/Documents/graduate-school/Declaration-of-Advisor.pdf](https://www.unr.edu/Documents/graduate-school/Declaration-of-Advisor.pdf)
8 [http://www.unr.edu/Documents/graduate-school/program-of-study.pdf](http://www.unr.edu/Documents/graduate-school/program-of-study.pdf)
9 [https://www.unr.edu/Documents/graduate-school/17doctoral-degree-admission-to-candidacy-updated.pdf](https://www.unr.edu/Documents/graduate-school/17doctoral-degree-admission-to-candidacy-updated.pdf)
• **Graduation Application** deadlines ¹⁰
  o Must be submitted to the graduate school several weeks in advance. Check website for exact dates
• Notice of completion – completed form should be submitted after all requirements have been met.
  o **Master’s form** ¹¹
  o **Doctoral form** ¹²
• **Exit Survey** ¹³

An updated list of forms and requirements can be found online ¹⁴.

**Master’s degrees:** All course work must be completed within six years preceding the awarding of the degree.

**Doctoral degrees:** All course work must be completed within eight years preceding the awarding of the degree. Credits transferred into doctoral degree from a completed master’s degree are exempt from this eight-year limit.

6. **Committee selection and structure guidelines**

Each M.S. graduate student candidate must form a graduate committee consisting of three (3) or more members of the graduate faculty. Each Ph.D. graduate student candidate must form a graduate committee consisting of five (5) or more members of the graduate faculty. The role of this committee is to advise and guide the student through the effective and timely completion of their thesis or dissertation research and to administer the oral and written comprehensive or qualifying examinations. Each M.S. or Ph.D. student will set up their graduate committee by the end of their 2nd semester (following completion of rotations) and no later than the end or their 3rd semester in the graduate program.

To ensure quality and competence of graduating and graduated students, students select the members of their graduate committee from among eligible graduate faculty members. Only graduate faculty members are permitted to serve on M.S. thesis or Ph.D. dissertation committees. Graduate faculty is selected from among tenure-track or tenured faculty the quality of which is ensured by the rigorous standards put in place at the time of their initial hiring. These standards include, but are not limited to a Ph.D. in Molecular Biology or Biochemistry or related disciplines, 2 or more years of postdoctoral research experience, and a demonstrated record of accomplishment in teaching at the undergraduate or graduate level and the potential to develop and lead a nationally or internationally recognized and competitive research program. On rare occasion, non-tenure track faculty will be permitted to serve on student committees, but these faculty will be expected to demonstrate at least 5 years of teaching experience at the undergraduate or graduate level along with a demonstrated record of accomplishment in a nationally or internationally recognized research program.

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¹⁰ https://www.unr.edu/grad/graduation-and-deadlines
¹² https://www.unr.edu/Documents/graduate-school/notice-of-completion-doctoral-degree.pdf
¹³ https://www.unr.edu/grad/forms-and-deadlines/exit-survey
¹⁴ http://www.unr.edu/grad/forms
This advisory committee will be formed and meet to 1) approve the student’s program of study (*Note: the Program of Study form should be filled out and brought to this initial meeting of the committee so that the committee members can sign off on the course program*); 2) oversee the student’s development of a short (<5 pages) dissertation proposal no later than the beginning of their 3rd semester (following completion of rotations if applicable) (*Note: a typical way this meeting is conducted is to have the student present a brief overview of the dissertation proposal using a Power Point presentation*); 3) assume responsibility for developing, scheduling and approving all aspects of the preliminary examination requirements as outlined below, and 4) approve the final Ph.D. dissertation. All committee members must approve of the results of the examination and sign the candidacy form.

The student will assume responsibility for selecting this committee and the timing of the formation of the committee must meet the Graduate School requirements of no later than end of 3rd semester for Master’s students and end of 4th semester for doctoral students).

The student's dissertation research director normally serves as the chair of the committee; however, for the purpose of administering the preliminary examination, the student’s major advisor is ineligible to serve as the chair of the examination committee and is a non-voting member of the committee, although he/she is encouraged to attend all committee meetings. A temporary chair of the examination committee will be elected from among the other committee members and will be responsible for administering the examination.

The student's dissertation research director should be a passive observer during the preliminary examination and is not permitted to influence the direction and outcome of the examination.

**Master’s Programs:** All master’s programs (with a few exceptions for course-only degrees) require at least three advisory committee members. All must be graduate faculty members. At least one (the graduate school representative or “outside” member) must be from a department or program different from the department or program from which the student is graduating.

**Doctoral Programs:** Consist of a minimum of five graduate faculty members; the chair, at least two faculty members from the student’s major department/program, at least one faculty member from a department in a field related to the student’s major, and at least one Graduate School representative.

In case of interdisciplinary graduate programs, the Graduate School Representative cannot have a primary appointment in the same department (or other appropriate major unit) as the student's committee chair.

Formal approval of all student advisory committees is made by the Graduate Dean.

### 7. Comprehensive Exams

M.S. candidates do not have to take comprehensive exams. The purpose of the preliminary or comprehensive examination is to assess the readiness of the Ph.D. candidate to continue to pursue the Ph.D. degree. The examination will consist of the development and defense of a written scientific hypothesis. The examination committee or student will prepare a list of at least three (3) acceptable topics for the written hypothesis; the committee or student may select one of these topics and advise the committee within three (3) days after receiving the list of topics. The student may
submit a list of three (3) acceptable topics subject of his/her own, which will be reviewed by the examining committee for its suitability. The student's own potential hypothesis may be disapproved if it is quite closely related to the student's thesis research. From these potential topics, the student is expected to develop an original hypothesis related to one topic based on the literature in this area. The committee will further advise the student as to acceptable style, length and form in which the hypothesis must be written. In general, it will be understood that the written hypothesis will be written in the style of an NIH, NSF or USDA research proposal with an Introduction to the Problem, a Statement of the Hypothesis to be tested, a Methods section, and a Discussion of the probable outcomes of the research to be conducted and how these outcomes will be interpreted. The references should use the (Author, year) style for simplicity. The proposal may be no longer than 10 single-spaced, or 20 double-spaced pages, with a minimum font size of 12 pt Times New Roman font, excluding figures, tables and references.

- The topics for the hypothesis developed by the committee must be in areas of biochemistry, molecular genetics, molecular biology or related topic areas, but should not be a direct correlate of the student's expected area of specialization in subsequent thesis or dissertation research. However, depending upon the discretion of the committee the topic might be more closely aligned with the student’s dissertation topic if the student displays a breadth of knowledge from previous graduate experiences.

- The student will have four (4) weeks from the date of the assignment of hypothesis topics to prepare a written document acceptable to the examination committee. If rewriting the proposal is deemed necessary prior to the oral defense, up to two (2) additional weeks will be allowed.

- Upon approval of the written hypothesis, and within two weeks of approval of the written hypothesis, the examination committee will schedule an oral defense of the document by the student. This examination, open to all faculty members in the Biochemistry Graduate Program, will focus on the written hypothesis, but will not be limited to this and may, at the discretion of committee members, include appropriate general questioning in the field of biochemistry. The examination committee will make the determination as to whether the student has completed the preliminary examination requirements in satisfactory fashion to continue work on the Ph.D. degree. Criteria to be considered by the committee will include the quality of the student's written hypothesis and performance in the oral examination.

- The defense will normally start with a 20-30 min presentation of the proposal, with examining members attempting to keep questions limited until this presentation is concluded.

- The procedures above must be completed by the end of the student's second year in the Graduate Program in Biochemistry. International students with initial language problems and exceptional cases in which students enter the program with significantly less than normal preparation in chemistry, biochemistry or molecular biology may be permitted to defer taking the preliminary examination subject to the following restrictions.
  1. Any deferment must be requested in writing by the student to the graduate program director.
  2. The request for deferment must include a firm date for completion of the examination.
3. The Director of the Biochemistry Graduate Program, in consultation with the student admissions committee, will make the decision regarding extending the deadline for the completion of the oral and written comprehensive exam.

- If the student fails the examination as described above, she/he may be allowed to retake the exam one time upon written appeal to the BCH graduate director within two weeks after written notification of the results of the exam. The examining committee in consultation with the director of the graduate program in Biochemistry will make the decision as to whether or not the student may repeat the exam, such as if there are extenuating circumstances that contribute to an unsatisfactory performance. Should the student be offered the chance to repeat, the full examination procedure, including the development of a written hypothesis and its oral defense, must be repeated. Students who fail the exam may continue in the M.S. degree program.

4. Thesis or dissertation requirements

Thesis or dissertation requirements are negotiated between the graduate student and advisory committee. According to the BCH Guidelines, at least one chapter must be submitted for publication. The graduate student’s advisory committee will approve the thesis in the case of M.S. candidates and dissertation in the case of Ph.D. candidates. The graduate student’s advisor has to complete a final review and approval of the thesis or dissertation. The Graduate Program in Biochemistry does not offer a non-thesis option given the experimental nature of biochemistry and molecular biology research. All forms must be filled out electronically and the Graduate School will not accept any handwritten forms. All Forms on the Graduate School website are interactive (i.e. Fill in on-line and print out for signatures). If handwritten forms or applications are submitted, they will be returned and will delay processing. ALWAYS be sure to download the most current version of the forms.

Graduate School forms and resources related to thesis and dissertations:

- Master’s Thesis Filing Guidelines 15
- Doctoral Dissertation Filing Guidelines 16
- (Doctoral students only) Dissertation Title Form 17

Once all requirements have been met, students need to submit a Final Review Approval and Notice of Completion form in order to graduate.

- Final Review Approval – Obtain sign-off from advisory committee chair
  - Master’s Final Review Approval 18
  - Doctoral Final Review Approval 19

- Notice of completion – completed form should be submitted after all requirements have been met.

15 http://www.unr.edu/grad/forms/thesis-filing-guidelines
16 http://www.unr.edu/grad/forms/dissertation-filing-guidelines
5. Graduate assistantships

All graduate students holding an assistantship (teaching GTA or GRA) are considered Nevada residents for tuition purposes. Non-resident tuition is only waived for the duration of the assistantship. To be eligible for an assistantship, students must be admitted to a degree-granting program and be in good academic standing.

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State-funded assistantships (GTA/GRA) may be held for a maximum of: three (3) years for master’s degree students and five (5) years for doctoral degree students.

Updated information on graduate assistantships is available from the Graduate School: General Information Website and the Graduate Assistantship Handbook.

6. Health insurance

All domestic degree seeking graduate students, who are enrolled in six or more credits (regardless of the course level) in a semester, will be automatically enrolled and billed for the University sponsored health insurance for each term they are eligible (fall & spring/summer). If a student has other comparable coverage and would like to waive out of the student health insurance, it is the student’s responsibility to complete the University Online Waiver Form prior to the deadline. If approved, a health insurance waiver is good for the current academic year only. A new waiver must be submitted each academic year. All international graduate students are required to carry student health insurance, and the cost will be automatically added to your student account. Any international graduate students with insurance questions must contact the Office of International Students and Scholars (OISS) Website directly.

Graduate Health Insurance Website.
7. Leave of absence and related policies

Continuous Enrollment: To maintain “good standing” all graduate students are required to enroll in a minimum of three (3) graduate credits each fall and spring semester until they graduate. International students may be required to enroll in nine graduate credits each fall and spring semester depending on the requirements of their visa. All students holding assistantships (whether teaching or research assistantships) are required to enroll in a minimum of six (6) graduate credits each semester they hold the assistantship.

Leave of Absence: Students in good standing may request a leave of absence by completing a Leave of Absence Form during which time they are not required to maintain continuous registration. Usually, a leave of absence is approved for one or two semesters. The leave of absence request may be extended by the student filing an additional leave of absence form. Students applying for a leave of absence should not have any “incomplete” grades which could be changed to “F” and have a detrimental impact on their cumulative GPA. Requests for leave of absences must be received by the Graduate School no later than the last day of enrollment for the semester the leave is to begin.

Reinstatement: When a student has been absent for one semester or more without an approved leave of absence, he or she may request reinstatement via the Reinstatement Form. This form allows the program the option to recommend the student be re-admitted to their graduate program based on their previous admission OR require the student to re-apply for admission which would require students to submit a new application for admission and pay the application fee. The Notice of Reinstatement to Graduate Standing must be received by the Graduate School no later than the last day of enrollment for the semester the reinstatement is to begin.

8. Graduate Student Association (GSA)

The Graduate Student Association (GSA Website) represents all graduate students and promotes the welfare and interests of the graduate students at the University of Nevada, Reno. The GSA works closely with appropriate university administrative offices, including the Graduate School and Student Services and reports to the President of the University. The GSA government functions through the Council of Representatives, Executive Council and established committees.

9. Graduate school forms

Please refer to Grad Forms Website for all forms available at The Graduate School.

List of URLs:
General Course Catalog

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33 https://www.unr.edu/Documents/graduate-school/Notice-of-Reinstatement-Graduate-Standing.pdf
36 https://www.unr.edu/gsa/
38 https://www.unr.edu/grad/forms-and-deadlines
39 https://catalog.unr.edu/
10. Graduate program assessment

As part of the Biochemistry Graduate Program assessment activities, the program director will request that an exit interview be conducted with each graduate student graduating from the Biochemistry M.S. and Ph.D. programs to gather feedback about the program and how it can be improved. In addition, the graduate faculty members of the program will evaluate the performance of the graduate program director.

11. Frequently asked questions (FAQs) and answers

The following is a list of questions that have been asked repeatedly of the Biochemistry Graduate Program.

➢ Transfer credits:

Q: If I am entering the Ph.D. program and I have completed a M.S. degree, can use transfer credits towards my degree?
A: Yes, you may transfer up to 24 credits of lecture class credits if you have completed your master’s degree with the exception of research dissertation and seminar credits, which must be performed in residence.

Q: If I am entering the Ph.D. program and I have taken graduate credits at another institution, can use transfer credits towards my degree?
A: Yes, you may transfer up to 9 credits of lecture class credits with the exception of research dissertation and seminar credits, which must be performed in residence.

Q: How do I go about transferring credits from my previous graduate or M.S. degree program?
A: Download the Graduate Credit Transfer Evaluation Request form from the UNR Graduate School website, fill it out, complete the required signatures, and submit it to the graduate school. Your request will be evaluated.

➢ Rotations:

Q: How do I go about arranging my research rotations?
A: You are responsible for deciding in which faculty member’s lab you wish to conduct your rotations. For the most up-to-date descriptions of faculty research interests, visit the Faculty Website and then set up an appointment to talk with those faculty members and see if they would like to have you rotate through their lab. At the beginning of each Fall semester, a formal orientation session will be held for you to meet with all faculty members interested in having new students rotate through their labs.

Q: Can I do my research rotation with a faculty member in another department?
A: Yes, new entering students will be able to conduct their rotations in the lab of any graduate faculty participating in the molecular biosciences first year umbrella program.

Q: How long should I spend in each lab during my research rotations?

42 https://www.unr.edu/bmb/people
A: You should plan on spending 8-15 weeks in the lab of each faculty member.

Q: Do I have to write a report about my research rotation results?
A: Yes, at the end of the Fall and Spring semesters, you must write a report in the form of a short scientific paper that summarizes your results. This document is required as part of our program assessment and is used as the basis of assigning a grade.

Q: How many research rotations do I need to complete?
A: You must complete a minimum of two rotations, but ideally, it is in your best interest if you complete three rotations.

Q: If I came into the program to work for a specific PI and I am being paid by that PI during my first year, do I still need to complete research rotations?
A: Yes, you should still register for and take BCH 701 and BCH 702. You simply will complete your “rotations” in a single lab – that of your primary advisor.

➢ Research Assistantships:

Q: How many hours per week of research in the lab am I expected to perform during my rotation under a (0.5 FTE) research assistantship?
A: You must work 20 hours per week during your rotations to maintain your research assistantship.

Q: As a foreign student can I be paid as a full-time (0.5 FTE) research assistantship and still be paid to be a teaching assistantship?
A: No, as a foreign student, you cannot work for more than 20 h per week while in graduate school. Domestic students can be paid for both because they are allowed to work up to 30 h per week.

Q: How many graduate level credits should I register for?
A: If you are supported by a full-time (0.5 FTE) research assistantship you must register for a minimum of 6 graduate level credits, otherwise the graduate school will terminate your assistantship!

Q: Should I enroll in dissertation credits during the summer?
A: Domestic graduate students are encouraged to enroll in at least 1 credit during either one of the three summer sessions. For resident or non-resident aliens, it is recommended by the graduate school that they NOT 1 credit during one of the three summer sessions in order as this would activate the foreign student fee during this time.

➢ Teaching Assistantships:

Q: If I accept a teaching assistantship, do I need to take the Grad 701 class?
A: Yes, Grad 701 is a requirement for ALL TEACHING assistantships. If you feel you already have some teaching experience, you can apply for an exception to policy memo.

Q: If I an international student from a country where English is not the country’s primary language and I have been awarded a teaching assistantship, do I need to take any sort of special test?
A: Yes, you must take a speech test at the IELC office (call: 784-6075).

➢ Forming your Graduate Committee:
Q: When should I form my committee and have my first committee meeting?
A: After you have completed two semesters in the program.

Q: How do I go about selecting my committee members?
A: Your committee members should be selected for their ability to mentor you during your M.S. or Ph.D. research. Select faculty members whom you think will be able to advise you on the various subject areas with which your research might overlap.

Q: How many committee members can be on my committee?
A: For a M.S. degree: 3-4 members. For the Ph.D. degree: 5-6.

Q: How many committee members have to be faculty members outside the Biochemistry and Molecular Biology department?
A: At least one and preferable two. One of these outside members must serve as the graduate school representative.

Q: How often should I hold a committee meeting?
A: You should hold a committee meeting at least once per year each year you are in graduate school, not only to inform your committee of your research progress, but also to solicit input and advise from your committee members on the best approaches to conduct your research. You should also get into the habit of talking to your committee members on an informal basis to solicit their input on your research project outside of your annual committee meetings.

➢ Qualifying Exams:

Q: When should I take my qualifying examination for the Ph.D. degree?
A: After you have completed four or five semesters in the program.

Q: When I take my qualifying examination for the Ph.D. degree can my research advisor be on the committee?
A: Yes, of course, and your advisor can attend the meeting at which your exam takes place. However, for the purpose of the examination process your advisor has no vote and should have no influence on the outcome of your exam.

Q: What will happen to me if I fail to take my qualifying examination for the Ph.D. degree after I have completed four semesters in the program?
A: You run the risk of having your assistantship revoked for not making suitable progress towards your degree.

➢ Other FAQs:

Q: How long am I expected to take to complete my Ph.D. degree?
A: The program recommends a four-year dwell time within the program. Additional time may be needed to complete your research. Please consult your graduate committee to develop a plan for rapid completion of your research program after four years.

Q: What will happen to me if I fail to maintain a 3.0 or better GPA?
A: You will no longer be eligible to receive a research or teaching assistantship.
Q: When should I register to take BCH 795 Comprehensive Exam?
A: During the semester closest to the time you will take your comprehensive exam, typically during your fourth or fifth semester in the program.

Q: If I have finished all my classes and am just writing my Ph.D. dissertation, do I need to take course credits?
A: Yes, the graduate school requires that you maintain continuous enrollment and take 3 credit hours each semester (except summer) until your degree is actually awarded. If you must take time off, it is best if you request a “leave of absence” from the Graduate School.

Q: Do I need to conduct an exit interview with the program director and provide a forwarding address after I graduate?
A: Yes, as part of UNR accreditation process, each graduate program at UNR is required to develop an assessment plan that includes exit interviews and professional placement of its graduates. You should be sure to conduct an exit interview with the graduate program director and also complete the Exit Survey.43

43 https://www.unr.edu/grad/forms-and-deadlines/exit-survey