Ph.D. Program in Biomedical Sciences

STUDENT HANDBOOK

COLLEGE OF MEDICINE
FLORIDA STATE UNIVERSITY
2021

Applicable for students entering the program after January 1, 2021

(Last revised 07/06/2021 for changes to the departmental seminar policy.)

Subject to change as determined by the Biomedical Sciences Graduate Program Committee
# TABLE OF CONTENTS

1. **Introduction**  
   1.1 Overview  
   1.2 BMS Graduate Program Support Staff  

2. **Degree Requirements**  
   2.1 Laboratory Rotations  
   2.2 Course Work and Summary of Degree Requirements  
      2.2.1 Core Requirements  
      2.2.2 Electives  
      2.2.3 Seminars  
      2.2.4 Course Registration  
      2.2.5 Transfer Credit  
      2.2.6 Minimum GPA  
      2.2.7 Dual Degree and Certificate Programs  
   2.3 Research Presentations  
   2.4 Journal Clubs  
   2.5 Admission to Candidacy  
      2.5.1 Part I: The Preliminary Exam  
      2.5.2 Part II: The Research Proposal  
      2.5.3 Dissertation Hours  
   2.6 Dissertation  
   2.7 Publications  
   2.8 English Proficiency  

3. **Advising**  
   3.1 AAMC Compact  
   3.2 Major Professor  
   3.3 Supervisory Committee  
   3.4 Conflict Resolution  
      3.4.1 Conflicts Not Involving Discrimination, Harassment or Sexual Harassment  
      3.4.2 Discrimination and Harassment  
   3.5 Conduct Codes  

4. **Evaluations**  
   4.1 Annual Supervisory Committee Meetings  
   4.2 Annual Evaluation by the GPC  
   4.3 Dismissal from the Program  

5. **Financial Information**  
   5.1 Assistantships and Fellowships  
   5.2 Fellowships and External Support  
   5.3 Employment and Activities Outside the Program  
      5.3.1 Outside Employment  
      5.3.2 Outside Activities  
   5.4 Registration Fees  
   5.5 Florida Residency Status  
      5.5.1 Program Residency Requirement
5.5.2 Current Florida Residents
5.5.3 Non-Florida Residents
5.6 Healthcare

6. Travel
   6.1 Policies
   6.2 Procedures

7. Academic Honor Policy

8. Forms

APPENDIX: COURSE DESCRIPTIONS
1. INTRODUCTION

1.1 Overview
The degree requirements and other expectations of graduate students are specified in the FSU Graduate Bulletin (http://registrar.fsu.edu/bulletin/grad/) and (http://gradschool.fsu.edu/newcurrent-students). The Handbook contains information concerning resources at FSU, degree requirements, Electronic Thesis, Dissertation Guidelines, and more. These documents are contracts; however, the Program and University reserve the right to change requirements. Thus, students will be expected to meet the requirements published for the year they enter the Program.

The specific recommendations listed below assume typical backgrounds. These requirements should be followed unless amended during academic advisement. Amendments may be made if you are exceptionally well prepared or need to remedy deficiencies indicated by your transcripts and interview.

Your first year should be devoted to orienting yourself to the biomedical sciences, learning about independent research, choosing your Major Professor and the area of concentration of your graduate training, and satisfying initial requirements of the graduate program. Specifically, you need to:

- complete the required course work with a minimum grade point average (GPA) of 3.0;
- participate actively in laboratory rotations (three required);
- regularly participate in at least one Journal or Data Club in your field of study; and
- attend seminars regularly offered by the College of Medicine (Grand Rounds) and the Department of Biomedical Sciences seminar series. You may also wish to attend specialty seminar series in this or other departments.

In addition, as you near the end of your first year, you will:

- select your Major Professor and Supervisory Committee;
- design your Program of Studies in consultation with your Supervisory Committee; and
- begin research and explore dissertation project opportunities in the laboratory of your Major Professor.

In the second year, you should become knowledgeable in your intended field of study, particularly the subspecialty of your Major Professor, become competent in laboratory techniques common to this field, and complete the majority of your formal requirements. Specifically, you will:

- complete required course work, including elective courses;
- regularly attend seminars;
- regularly participate in Journal/Data Clubs as in Year 1;
- make substantial progress in independent research and defining a dissertation project;
- schedule and complete the preliminary exam portion (Part I) of the Qualifying Examinations; and
- participate in collaborative research projects in the lab of the Major Professor.

- Present a departmental seminar

   The second-year seminar is a requirement for all BMS and Neuro-BMS students. The purpose of the second-year seminar is not to present research, but a review of the area of research and identification of the important questions moving forward. Thus, the goals of the second-year seminar are: i) to learn and practice good presentation skills early in graduate training, ii) to leverage the seminar preparation process to become intimately familiar with the chosen scientific field, and iii) prepare for the preliminary exam.

i) Students must present their second-year seminar by the end of Spring semester of their second year. Seminars should be scheduled in the preceding fall for spring presentation. The presentation is not permitted to roll over into the summer as this time should be used to complete and defend the preliminary exam.

ii) Presentations should be no more than 25 minutes, with 5 minutes for questions. This permits two student presentations per seminar slot. The time limit will be strictly enforced.
iii) Because the goal of this seminar is to ensure that students have a full understanding of their field, discussion of your preliminary data or other unpublished work is not permitted as the seminar should be a critical review of the published work in the field.

In the **third year**, you will complete the last formal Program requirements other than the dissertation, including achievement of **Admission to Ph.D. Candidacy**.

- Successful defense of your dissertation proposal (Part II of the Qualifying Examinations);
- Enroll in dissertation hours for credit;
- Attend seminars as in Years 1 & 2;
- Participate in Journal/Data Clubs as in Years 1 & 2;
- Make experimental progress to achieve the aims of your dissertation project; and

**Years 4 and 5** should be used to achieve the specific aims of your dissertation research project, to achieve expert knowledge and skills in your specialty area, to achieve broad knowledge in the biomedical sciences, and to publish and publicly present major findings of your dissertation research. These years are the opportunity for you to focus on developing research and communication skills expected of a Ph.D. scientist. The time required to complete this phase of your training cannot be predicted precisely. Important research projects in biomedical sciences require a high degree of sophistication in thought and experimental techniques. Nationally, the average time to the Ph.D. in the life sciences is approximately 5.5 years. While graduation within five years is encouraged, students are expected to complete their degree within six years unless there are extenuating circumstances, as financial support is not guaranteed beyond this point. Thus, in the spring of the fourth year students will present a detailed timeline for completion of their degree at their annual GPC review. At the end of the fifth-year student progress and financial support will be reviewed by the Senior Associate Dean for Research and Graduate Programs.

The major uncertainty in the time to achieve your degree is **you**. Simply put, the students that work hardest and smartest are generally the earliest to graduate. Specifically, you should:

- complete dissertation research;
- give a research presentation (talk or poster) at a national scientific meeting;
- publish your research - at least one first authored peer-reviewed, original research publication is required for graduation (review articles do not fulfill this requirement);
- publicly defend the dissertation;
- secure a position in your chosen area of interest (post-doctoral scientist, industry position, teaching position, etc.); and
- attend seminars as in Years 1-3.

**1.2 BMS Graduate Program Support Staff**

While students, in consultations with their Major Professor and Supervisory Committee, are responsible for ensuring that all requirements are satisfied to meet their planned graduation schedule, the College of Medicine and the Graduate Program in Biomedical Sciences is staffed with a Graduate Program Specialist to assist you with course selection and registration, financial information, travel, and other aspects of graduate training.
2. DEGREE REQUIREMENTS

2.1 Laboratory Rotations

- First year students meet with prospective rotation faculty during orientation week and then work with the Graduate Policy Committee (GPC) in consultation with the Senior Associate Dean for Research and Graduate Programs to choose three rotation laboratories. A fourth rotation is possible for students with wide interests.
- At the end of each rotation, students submit a brief (approx. 1 page) report of their research activities during the rotation period to the Graduate Program Specialist. Faculty supervisors will provide a brief evaluation of each student’s performance during the rotation period which will become part of the annual review of first year students.
- Subject to funding, space, and other program priorities, Major Professors will be assigned to students by agreement between the Major Professor and the student with the approval of the Senior Associate Dean of Research and Graduate Programs at the end of the spring semester of the first year.

2.2 Course Work and Summary of Degree Requirements

2.2.1 Core Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCB 5595</td>
<td>Advanced Molecular Biology</td>
<td>3 hrs</td>
</tr>
<tr>
<td>STA 5126</td>
<td>Biostatistics</td>
<td>3 hrs</td>
</tr>
<tr>
<td>BMS 5186C</td>
<td>Research Techniques in Biomedical Sciences</td>
<td>2 hrs</td>
</tr>
<tr>
<td>IHS 5935</td>
<td>Health Sciences Seminar</td>
<td>1 hr/semester</td>
</tr>
<tr>
<td>BMS 6936</td>
<td>Seminar in Biomedical Sciences</td>
<td>1 hr/semester</td>
</tr>
<tr>
<td>BMS 5185</td>
<td>Research Opportunities in Biomedical Sciences</td>
<td>(up to 2 hrs/semester in yr 1)</td>
</tr>
<tr>
<td>PCB 5137</td>
<td>Advanced Cell Biology</td>
<td>3 hrs</td>
</tr>
<tr>
<td>BMS 5525</td>
<td>Bioregulation</td>
<td>4 hrs</td>
</tr>
<tr>
<td>IHS 5515</td>
<td>Ethics and Professional Integrity in Research</td>
<td>1 hr</td>
</tr>
<tr>
<td>IHS 8960</td>
<td>Preliminary Doctoral Examination</td>
<td>0 hr</td>
</tr>
<tr>
<td>IHS 5503</td>
<td>Proposal Development</td>
<td>1 hr</td>
</tr>
<tr>
<td>IHS 6980</td>
<td>Dissertation Research</td>
<td>24 hrs total</td>
</tr>
<tr>
<td>IHS 8970</td>
<td>Dissertation Defense</td>
<td>0 hrs</td>
</tr>
</tbody>
</table>

2.2.2 Electives

Nine (9) credits hours of Elective credit are required. These courses must be chosen in consultation with your Supervisory Committee and approved by your Major Professor. The minimum number of elective course hours should be satisfied before Admission to Candidacy. Elective courses can be selected from offerings in the College of Medicine or from graduate or selected senior undergraduate (4000) level courses in FSU departments in the life or physical sciences. Suggested elective courses are listed below and are detailed in the Appendix:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GMS 6001</td>
<td>Special Topics in Biomedical Sciences</td>
</tr>
<tr>
<td>XXX XXXX</td>
<td>Scientific Presentations</td>
</tr>
<tr>
<td>XXX XXXX</td>
<td>Tools of the Trade</td>
</tr>
<tr>
<td>PSB 5347</td>
<td>Neuropharmacology</td>
</tr>
<tr>
<td>GMS 5098</td>
<td>Critical Review of the Literature</td>
</tr>
<tr>
<td>IHS 5945</td>
<td>Supervised Teaching</td>
</tr>
<tr>
<td>GMS 5095</td>
<td>Modeling Human Disease</td>
</tr>
<tr>
<td>GMS 5146</td>
<td>Immune Response to Infection &amp; Cancer</td>
</tr>
<tr>
<td>GMS 5700</td>
<td>Developmental Neuroscience</td>
</tr>
<tr>
<td>GMS 5303</td>
<td>Molecular Mechanisms of Human Disease</td>
</tr>
<tr>
<td>BMS 5122</td>
<td>Human Congenital &amp; Development Disorders</td>
</tr>
<tr>
<td>BMS 5935</td>
<td>Advanced Topics in Biomedical Sciences</td>
</tr>
</tbody>
</table>
Other appropriate elective courses may be chosen in consultation with the Supervisory Committee.

2.2.3 Seminars
Regular attendance at seminars of the Department of Biomedical Sciences and the College of Medicine (Grand Rounds) is required throughout the graduate training period. Students normally should enroll in the corresponding courses: BMS 6936 Seminar in Biomedical Sciences (1), and IHS 5935 Health Sciences Seminar (1). In cases where the current University limit of nine (9) credit hours per semester for a full academic load prevents registration for these seminar courses, regular seminar attendance is still expected as a matter of professionalism.

2.2.4 Course Registration
- The Program Director and Graduate Program Specialist assist students in registering for their first semester of classes after the advisement period.
- Students in consultation with mentors are responsible for selecting courses in subsequent semesters. Prior to the Registration Window, students should fill out a Graduate Course Registration Form (see Appendix), have the form signed by their academic advisor, take the completed form to the Graduate Program Specialist, and then register for classes online. Be sure to pay attention to registration dates to avoid being charged for late fees.
- Students will not be allowed to carry out Online Registration or register through the COM Enrollment Coordinator if they have outstanding fees of any sort (ordinary or penalty fees such as parking or library fines, late fees, etc.). Please be sure that you have paid all applicable fees before attempting to register.

2.2.5 Transfer Credit
Students may request transfer of up to one course (1-4 hrs.) from another institution. The request for transfer credit should be made to the Graduate Policy Committee via the Program Director by submission of a course syllabus and documentation of the grade received in the course.

2.2.6 Minimum Grade Point Average
The University requires that graduate students maintain a minimum grade point average (GPA) of 3.0 to remain in good academic standing. A student whose aggregate GPA falls below 3.0 in a given semester will be placed on academic probation for the following semester. Failure to improve the GPA to 3.0 or better in the subsequent semester is cause for automatic dismissal from The Graduate School and Program unless there are extenuating circumstances. Students who anticipate that their GPA may fall below a 3.0 should consult with the Program Director and Major Professor (if selected) prior to registering for the subsequent semester to determine the best course of studies to remedy the GPA deficiency.

2.2.7 Dual Degree and Certificate Programs
Students who plan to join a second degree or certificate program while enrolled in the PhD program in Biomedical Sciences must first receive written permission from their major professor and supervisory committee. This letter, along with a written rationale and detailed outline, including timeline for the completion of both programs, must be submitted to the GPC for final approval. The student is responsible for financial obligations related to the second degree or certificate program.

2.3 Research Presentations
Students are required to present their work in at least one departmental seminar and one national or international scientific meeting prior to graduation. Presentations at scientific meetings may be in poster or oral format.

2.4 Journal Clubs
All students must actively participate in at least one Journal Club in their field. Participation includes regular attendance and presentation.
2.5 Admission to Candidacy

Admission to Ph.D. Candidacy is an essential step in the progress towards the degree. The steps towards candidacy require successful completion of the Qualifying Exam. There are two parts to the Qualifying Exam: Part I: The Preliminary Exam and Part II: The Research Proposal as described below.

A student who has not completed the Qualifying Examinations (Part I and Part II) by the end of the summer semester of the third year will be subject to review by the Graduate Program Committee and Senior Associate Dean for Research and Graduate Programs. Students not in compliance with this timeline may be dismissed from the Ph.D. Program for failure to make adequate progress towards the degree.

2.5.1 Part I. The Preliminary Exam

- Students should begin to plan for their preliminary exams near the end of their coursework. To begin this process, we recommend that students schedule a full committee meeting in the spring of their second year for members of the Supervisory Committee to discuss with you and your Major Professor the topics and format of these comprehensive exams. The exact format of the examination is determined by the Supervisory Committee and may consist entirely of closed book questions or a mixture of closed book and open book questions. The Supervisory Committee determines the general content and format of the examination questions and provides the student with guidance on preparation for the examination questions.
  - During the summer of their second year, students should enroll in the 0-credit hr. course IHS 8960 Preliminary Doctoral Examination.
  - Written exams are followed by an oral defense of the exams with the full committee during the semester that students are registered for IHS 8960. If a student does not complete their exam defense the semester they have registered for it, major professors must contact the Program Specialist and the Assistant Dean for Research and Graduate Studies prior to the drop deadline requesting a modification of the schedule and providing an explanation for the request. The student should be copied on the email request/explanation.
  - Supervisory Committees must notify the Office of Research and Graduate Programs via the Graduate Program Specialist of the outcome of any preliminary exam attempt.
  - Upon successful completion, Major Professors must submit the signed Preliminary Exam form to the Graduate Program Specialist.
  - Possible outcomes of the preliminary examination are:

  **Pass:** The student is considered prepared to continue work towards completion of the Qualifying Examinations and will complete a dissertation proposal before the end of the spring semester of the third year. The student should move to Part II of the examination process to be admitted to candidacy.

  **Re-examine:**
  - If deficiencies were noted in content-specific areas that are deemed correctable by the committee, the Supervisory Committee will make recommendations to the Graduate Policy Committee for remedy of these deficiencies.
  - A doctoral student can take the preliminary exam for admission to candidacy only two times.
  - Remedies depend on the degree of deficiency and may consist of assignments such as retake of examination question(s) by oral or written examination, writing a paper, or presentation of a seminar.
• The second attempt at the preliminary exam shall occur no sooner than six full class weeks after the results of the first attempt are shared with the student. A “full class week” is defined as a week with five days during which classes are held at FSU. An exception request regarding the timing of the re-examination can be submitted for consideration to the Academic Dean’s Office by either the student or the supervisory committee.

• Remedies must be completed within the allotted time, or the student will not be permitted to continue towards the Ph.D. degree.

• Students must be registered separately for their first and second attempt, if necessary within the same semester, and must receive either a “pass” or a “fail” grade for each attempt.

Fail: The Supervisory Committee will review the full record of a student failing a majority of the examination and make a recommendation for subsequent action. Possible final actions are:
• approval to continue in the Graduate Program towards completion of a thesis;
• M.S. degree (may require laboratory work to complete thesis research);
• approval to continue in the Graduate Program towards completion of a course-work M.S. degree (may require additional course work or other assignment); or
• dismissal from the Graduate Program.

2.5.2 Part II. The Research Proposal
• The requirement for writing and presentation of the dissertation proposal is designed to assess the student's preparedness for and abilities to perform valid and meaningful scientific research. These abilities include, but are not limited to, the following: integration of concepts and knowledge in conceiving a scientifically viable and significant research proposition, selection and critical evaluation of the literature, application of knowledge of techniques appropriate to the proposed research and their limitations, and demonstration of communication skills, including basic writing skills and the practice of sound scientific style in written and oral communications.

• After completion of the Preliminary Exam, students enroll in IHS 5503 Proposal Development (1 hr.). During the enrolled semester, students will submit a written proposal for their dissertation research and orally defend it before their supervisory committee. The proposal should be written in close consultation with your Major Professor and in communication with your committee members and should be written using the format of a grant proposal to an outside funding agency (e.g. NIH - NRSA, American Heart Association).

• The defense of the proposal must occur no later than spring of the third year.

• It is important that students defend their proposal in the semester that they register for IHS 5503. If a student does not complete their proposal defense the semester they have registered for it, major professors must contact the Program Specialist and the Assistant Dean for Research and Graduate Studies prior to the drop deadline requesting a modification of the schedule and providing an explanation for the request. The student should be copied on the email request/explanation.

• The proposal document should be submitted to the committee two weeks prior to the examination date.

• The student is responsible for scheduling the time and date of the oral defense of the proposal with the Supervisory Committee. A two-hour period should be scheduled for the presentation and assessment. The examination period consists of two parts, a 30-40-minute oral PowerPoint presentation of the proposal by the student, followed by a questioning period.

• Should a student not successfully defend their proposal by the end of the semester in which they are enrolled in IHS 5503, they must reregister for this one credit hr. course in the subsequent semester and defend at that time.

• Possible results of assessment of the dissertation proposal presentation are Pass, Re-Examine, or Fail. The Supervisory Committee is responsible for setting re-examination conditions. The student may make two attempts to pass, but the Supervisory Committee is responsible for deciding between a Fail and a Partial Pass, which can be made up to a full Pass in a specified manner. The Supervisory Committee will review the
full record of a student failing the examination and make a recommendation for action to the Graduate Policy Committee. Recommendations may be for:

- approval to continue in the Graduate Program towards completion of a thesis M.S. degree (may require laboratory work to complete thesis research);
- approval to continue in the Graduate Program towards completion of a course-work M.S. degree (may require additional course work or other assignment); or
- dismissal from the Graduate Program.

2.5.3 Dissertation Hours

- After successful completion of each part (Part I Preliminary Exam and Part II oral defense of the written proposal as described above), the Major Professor must report the results of the Qualifying Examinations and the vote for Admission to Candidacy to the Graduate Program Specialist.
- The Graduate Program Office will notify the University Registrar and The Graduate School as required when a student is approved for Admission to Candidacy.
- During the semester following admission to candidacy, students must register for at least 2 hours of IHS 6980 Dissertation Research each semester. Twenty-four (24) Dissertation Research credit hours are required for graduation.
- Students must not enroll in IHS 6980 prior to completion of IHS 5503 Proposal Development and successful oral defense of the dissertation proposal.

2.6 Dissertation

Dissertation research is expected to be original and to make a significant contribution to the scientific discipline as judged by scientific peers.

- While the dissertation becomes a document that serves as a compendium of the background, aims, experimental strategies, results, and significance of the dissertation research, students are expected to submit their dissertation research for publication in peer-reviewed journals prior to defense of the dissertation.
- Standards for the detailed format of the dissertation are specified by the University. See The Graduate School website for details on dissertation preparation and review, and other requirements for graduation: [http://www.gradstudies.fsu.edu/](http://www.gradstudies.fsu.edu/).

- All students must enroll in IHS 8970 (0) credit hours Dissertation Defense in the semester in which they intend to defend their dissertation.

- The dissertation must be successfully defended and approved by The Graduate School at least four (4) weeks prior to the end of the semester in which a student intends to graduate.

- The graduate school requires that the committee receive a draft copy of the dissertation at least 4 weeks prior to the date of the defense, but the committee can decide to modify this deadline, and a final draft two weeks prior to defense has been common among Ph.D candidates.

- At least two (2) weeks prior to the date of the defense, the student must present an announcement of the dissertation title and the date and place of the examination to The Graduate School. [https://honors.fsu.edu/honors-major/defense-semester](https://honors.fsu.edu/honors-major/defense-semester). Consult the Registration Guide for the deadline dates: [https://registrar.fsu.edu/registration_guide/fall/](https://registrar.fsu.edu/registration_guide/fall/).

- All committee members and the student must attend the entire defense in real time, either by being physically present or participating via distance technology. If exceptional emergency circumstances (e.g. medical or other emergency situations) prevent the participation of a committee member, then it may be necessary to arrange for an additional appropriately qualified colleague to attend the defense. A minimum of four members with Graduate Faculty Status must participate in the oral defense.

- The Program Assistant will set up electronic invitations for remote defenses with major professors serving as the host of the defense. Recordings of these sessions will be archived in the department. Closed sessions with the supervisory committee that follow the public defense are not to be recorded in any format or on any device.

- The Supervisory Committee's judgment on the quality of a student's dissertation should be based solely on the academic merits of the work before them. Any other standard risks a breach of professional ethics.
or law and undermines the integrity of the process and those involved. Any conflicts of a personal or financial nature (e.g. involving the Major Professor, committee members, and/or student) that may create the perception of bias in that process must be avoided. This would not include the typical practice of hiring a student on a university assistantship in the home unit, but may include the student being hired by the Major Professor’s private company. If any such conflicts of interest do exist, they should be reported to the Department Chairperson. The Chair of the BMS Department and the Program Director will evaluate the situation and circumstances and take appropriate action.

2.7 Publications
Publication of research is a requirement for graduation. All students are expected to publish peer-reviewed research manuscripts during their graduate career. At minimum, one peer-reviewed, first-authored data manuscript (co-first authored manuscripts are acceptable) must be accepted for publication in a peer-reviewed journal prior to scheduling of the dissertation defense. However, most Supervisory Committees, Major Professors, future employers, and students themselves expect multiple manuscripts based on the dissertation research. Students are also encouraged to participate in meaningful collaborations that result in joint-authored publications and to write, in collaboration with their Major Professor and others, review articles in their field.

Evidence of acceptance of the manuscript by the Editor shall constitute ‘publication’ for the purposes of this requirement.

2.8 English Proficiency

- The ability to communicate in spoken English is a necessary component of training in the graduate program in Biomedical Sciences. A student who does not become competent in spoken English is unlikely to perform well in classes and will not be able to successfully complete program requirements such as seminar presentations, teaching, and the Qualifying Examinations.

- The Department understands that international students are not always fully fluent in English upon their arrival to FSU and values the enrichment provided by international students in the Program. Entering international students who are not sufficiently fluent in English to be effective learners will be required to take remedial actions.

- All international graduate students who are not native speakers of English should take the SPEAK (Speaking Proficiency English Assessment Kit) test upon arrival to campus. The SPEAK test is administered by the Center for Intensive English Studies to international students who have been appointed or will be appointed as teaching assistants in an academic department at Florida State University.

- Students who scored a 26 or higher on the speaking portion of the IBTOEFL are exempt from this requirement. Students must score a 50 or above on the SPEAK test in order participate in teaching. If this score is not attained it will be necessary for the student to enroll in English competency courses in order to improve their skills, and the SPEAK test will need to be retaken until the required score is achieved. For more information about the SPEAK test and remedial English courses, please visit: http://cies.fsu.edu/itap/speak_exam.php.

3. ADVISING

3.1 AAMC Compact
The department of Biomedical Sciences has voted to adopt the Association of American Medical Colleges (AAMC) Compact Between Biomedical Graduate Students and Their Research Advisors https://www.aamc.org/initiatives/research/gradcompact/.

The Compact was prepared in collaboration with the AAMC Group on Graduate Research, Education, and Training (GREAT) and the AAMC Council of Faculty and Academic Societies (CFAS) and was intended to support the development of a positive mentoring relationship between the pre-doctoral student and their...
Consistent with this, Graduate Program in Biomedical Sciences is committed to supporting the diversity of the graduate student body and promoting equal opportunity in higher education. Because our graduate students contribute to the global strength of future scholars and scientific leaders, we have a strong commitment to providing an environment that promotes a variety of ideas and perspectives essential to advancing a robust intellectual exchange that is essential to scientific training.

3.2 The Major Professor
- The Major Professor is the principal advisor and mentor of a graduate student and thus has a substantial influence on his or her graduate training, field of expertise, satisfaction with the training experience, and ultimate employment.

- Should a student and/or Major Professor determine that there is a need for the student to move to a different lab, the Director of the Graduate Program must be notified as soon as possible. Students are advised that the earlier such a decision is made, the better for all parties, and that a change of Major Professor may delay completion of the Ph.D. degree requirements. All lab changes must be approved by the Program Director and the Senior Associate Dean for Research and Graduate Programs.

3.3 Supervisory Committee
- The Supervisory Committee is made up of at least four faculty members with Graduate Faculty Status (GFS). Members must include at least three members of the Department of Biomedical Sciences and one tenured member from outside of the Department who serves as the University Representative. Additional members of the committee, beyond four, may be non-tenure track faculty holding Co-doctoral directive status.

- The Supervisory Committee is chosen by the student in consultation with the Major Professor. Choice of committee members should be made as soon as practical, but normally by the end of the summer semester of the first year. A formal notification form signed by the student and Committee members should be used to report the choice of committee membership and Program of Studies to the Graduate Program Specialist.

- Supervisory Committee meetings are not to be recorded in any format on any device.

3.4 Conflict Resolution
The Division of Research and Graduate Programs in the FSU College of Medicine is directly responsible for the administration of the Ph.D. Program in Biomedical Sciences (BMS). The Division realizes that conflicts occasionally arise between a student and another Florida State University employee (at any level) that cannot be addressed directly between the student and the other person. We have created guidelines for the chain of communication for managing different types of conflicts:

3.4.1 Conflicts Not Involving Discrimination, Harassment or Sexual Harassment
When a conflict arises with a fellow student or another party in the Department or University, the graduate program recommends that students first talk to their Major Professor. Conflicts with a Major Professor, or conflicts that cannot be resolved by the Major Professor should be taken to the Program Director who is responsible for addressing student concerns and grievances. Students in the Program in Neuroscience may also seek the advice from the Neuroscience Program Director.

If the Program Director has a conflict of interest or is unable to fully address the concerns, the next step in the chain of communication is the BMS Department Chairperson. In the case that a student cannot, or does not, want to speak with anyone in the Program or Department, the next resource is the Assistant Dean for Graduate Programs and Medical Student Research, and finally the Senior Associate Dean for Graduate Programs and Research.

The Program Director, Department Chairperson, and Deans will treat student concerns confidentially unless
the concerns involve sexual harassment, discrimination or a safety issue, in which case they are obligated to report the issue to the appropriate University office.

### 3.4.2 Discrimination and Harassment

Harassment, whether verbal, physical, or visual, based on race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, parental status, marital status, age, disability, citizenship or veteran status is a form of discrimination. Discrimination and harassment complaints should be referred to the Office of Equal Opportunity and Compliance (850-654-6519).

It is the policy of Florida State University that no member of the FSU community — students, faculty, administrators, staff, vendors, contractors or third parties — may sexually harass any other member of the community. For additional information, please see the University’s sexual harassment policy [http://www.hr.fsu.edu/?page=eoc/eoc_sexual_misconduct](http://www.hr.fsu.edu/?page=eoc/eoc_sexual_misconduct).

### 3.5 Conduct Codes

- Sexual harassment policies and reporting procedures: [http://policies.vpfa.fsu.edu/policies-and-procedures/faculty-staff/equal-opportunity-and-compliance-eoc#I4](http://policies.vpfa.fsu.edu/policies-and-procedures/faculty-staff/equal-opportunity-and-compliance-eoc#I4)
- Student Code of Conduct: [https://dos.fsu.edu/srr/conduct-codes/student-conduct-codes](https://dos.fsu.edu/srr/conduct-codes/student-conduct-codes)
- Alcohol Policy: [https://regulations.fsu.edu/sites/g/files/imported/storage/original/application/28a5fd5ff4a343f6892e274231df858c.pdf](https://regulations.fsu.edu/sites/g/files/imported/storage/original/application/28a5fd5ff4a343f6892e274231df858c.pdf)

### 4. EVALUATIONS

Graduate students are expected to perform at a high level. Poor performance, lack of continued productivity, or unprofessional behavior are grounds for dismissal from the Program. Evaluations of each student are performed annually according to University policy. Evaluations of student performance in the first year are the responsibility of the Program Director in consultation with the Graduate Policy Committee.

#### 4.1 Annual Supervisory Committee Meetings

- Once a student has selected a Major Professor, evaluations are performed by the student’s Major Professor with other members of the Supervisory Committee in conjunction with their annual committee meeting.
- Annual committee meetings are to be held no later than April 15 of each year to provide research updates and progress towards the degree to the Supervisory Committee.
- The annual committee meeting is also the opportunity for the Supervisory Committee to evaluate the student’s progress towards the degree. Outcomes from the meeting are reported to the Program Director by the Major Professor using the Annual Committee Report form.

#### 4.2 Annual Evaluation by the GPC

- At the end of the spring semester (typically May), all doctoral students in Biomedical Sciences or BMS-Neuroscience Programs will meet with the GPC to review their progress and set goals for the coming year.
- In advance of this meeting, Major Professors will submit the Annual Committee Report form to the Graduate Program Specialist.
- To facilitate this process students will prepare the following documents:
  - *Curriculum Vita:* [https://ocs.fas.harvard.edu/files/ocs/files/gsas-just-for-scientists-cvs-resumes.pdf](https://ocs.fas.harvard.edu/files/ocs/files/gsas-just-for-scientists-cvs-resumes.pdf) is a link to some excellent suggestions for building a CV and some sample CVs. Please consider this CV a “work in progress” that we can help you build as you move through the program.
o **Program Requirements**: Submit a 1-2 page document organized using the following subheadings. If you have not yet completed any of these elements, please include the subheading with N/A next to it.

- Completed Course Work - including grades and outside courses attended
- Proposed Courses - include semester/year you plan to take addition courses, if applicable
- Supervisory Committee - list names of committee members, date of last committee meeting, or anticipated semester of forming a committee
- Qualifying Exams - include dates of completion of oral exams and defense of proposal, or anticipated semester of completion of these two milestones
- Departmental Seminar - Include date given or anticipated semester
- Journal Clubs or other data clubs that you regularly attend
- Publications
- Presentations

o **Narrative**: A one page (maximum) narrative summary of activities not reflected in any of the information above. This may include items such as (but not limited to):

- Brief description of current research progress (or rotations completed if you are a first year student)
- Goals for the coming year (required)
- Manuscripts in progress
- Grant proposals submitted
- Meetings or workshops attended

- Participation of a graduate student in the Graduate Program is predicated on satisfactory progress towards the degree and consistent demonstration of professionalism.
- Students may be dismissed with ‘due cause’. ‘Due cause’ must be based on a record of unsatisfactory progress documented in the annual and any interim evaluation(s) of the student, including failure to complete clearly defined and achievable performance objectives.
- The Major Professor and Supervisory Committee participate in setting objectives, annual evaluations and final decision processes; and are expected to assure that acceptable standards of due process and fairness are met.
- If the Supervisory Committee concludes from the annual evaluation that a student is making unsatisfactory progress, then performance objectives for the next semester or year, as judged appropriate, should be established by the Supervisory Committee and communicated to the student and the Graduate Program Director in writing. The Program Director may participate in these proceedings as an ex officio member of the Supervisory Committee.
- Subsequent ‘Unsatisfactory’ evaluations may serve as a basis for withdrawal of student financial support and assignment to a different Major Professor, withdrawal of Doctoral Candidacy status with an option for an M.S. degree (see sections below) or dismissal from the Program.

### 4.3 Dismissal from the Program

In addition to the condition for satisfactory performance outlined in section 4.2, the process for dismissal, per the Graduate School, is as follows:

The University reserves the right to terminate enrollment in an academic program and dismiss a student whose academic performance is below the standards of the program, regardless of GPA, or whose conduct is deemed improper or prejudicial to the interests of the University community. Dismissed students will not be permitted to register for graduate study, including registering as a non-degree student.

Program terminations (dismissal for a reason other than GPA) are determined by the faculty at the academic program/departmental level and may occur for a number of different reasons, including but not limited to:

- Inability to conduct independent research in a fashion appropriate with the accepted norms of
discipline;
- Inability to function within a team environment to the degree that it negatively affects the learning, practice and/or research of fellow graduate students;
- Behavior that does not meet the professional standards of a discipline (typically clinical, social work or school settings, but also including Motion Picture Arts);
- Failure to meet one or more major milestone requirements;
- Inability to pass the diagnostic/preliminary examination/comprehensive examination (note that university policy limits preliminary examination attempts to two);
- Failure to complete the doctoral degree/make timely progress towards the dissertation; or
- Extensive petitions for candidacy extension.

Step 1: A graduate student is identified by his/her academic program/department as not making sufficient progress towards the degree, failing to complete the degree within the specified time period, displaying substandard academic performance, regardless of GPA, or exhibiting unacceptable behavior(s) that are relevant to professional standards.

Step 2: The graduate student meets with his/her Major Professor and/or Program Director to develop a remediation plan for improvement. At this time, the department will provide a written remediation plan or written academic “warning” to the student containing specific information about improvement(s) needed to avoid dismissal.

Step 3: If the graduate student fails to resolve/remediate the specified and documented deficiency within a reasonable timeframe, the department may initiate a program termination.

Step 4: A written letter will be sent to the graduate student being dismissed.

5. FINANCIAL INFORMATION

5.1 Assistantships and Fellowships

- Program-Based Assistance: All students receive financial support during their graduate training that includes coverage of tuition expenses and a stipend. Financial support for the program comes from two major sources – either the College of Medicine or a Major Professor’s grant. When grant support is available, it is the program’s expectation that graduate students be funded on grants. Regardless of the sources of the funds, financial support is contingent on satisfactory progress towards the degree. While graduation within five years is encouraged, students are expected to complete their degree within six years, as financial support from the Program may not be provided beyond this point. Thus, in the spring of the fourth-year students will present a detailed timeline for completion of their degree at their annual GPC review. Beginning at the end of the fifth-year student progress and financial support will be reviewed by the Senior Associate Dean for Research and Graduate Programs.

- External and University Fellowships: Fellowships supporting graduate education are available on a competitive basis from a number of government sources and private foundations. In addition, Florida State University annually makes available on a competitive basis several fellowships to graduate students of all disciplines: https://gradschool.fsu.edu/funding-awards/graduate-school-fellowships-and-grants. Students are encouraged to apply for all sources of graduate fellowships that they may reasonably qualify for, both before and after they enroll in the Program. All applications for external funding must be submitted in coordination with your Major Professor and the Office of Research Administration in the College of Medicine. Students submitting a fellowship application that involves completion of a substantial research proposal (e.g. NIH, NSF) are encouraged to use this research proposal as part of their Qualifying Examinations (Part II) requirement.

5.2 Fellowships and External Support

The program encourages students to apply for awards, honors, scholarships and fellowships during their tenure in the program. Applications for any awards, honors, scholarships or fellowships require review and written
approval by your mentor documented by the Student Research Proposal transmittal form. Any applications that involve monetary awards must also undergo review by the COM Office of Research Administration. **Thus, even when the sponsor does not require institutional approval, student’s applications must first be reviewed and approved by the mentor, as well as be submitted to the Med-RA office.** Students should notify Med-RA regarding their intent to apply as soon as students have identified the opportunity. Notification should occur via email and be directed to the following address: research@med.fsu.edu. Ten days prior to the application deadline, draft documents are due to the Med-RA office. Med-RA will then assign a Grants Compliance Analyst to the application. Students are then expected to work with the person assigned to ensure that the application meets all requirements.

### 5.3 Employment and Activities Outside the Program

#### 5.3.1 Outside Employment:

Graduate study is a full-time endeavor. Students are expected to be fully engaged in graduate study and are not permitted to hold employment outside of the Program.

The Graduate Policy Committee can, under rare circumstances, choose to approve exceptions. Requests for exceptions must be submitted in writing to the Graduate Policy Committee, and must include both a full justification for the request and a letter of support and approval provided by the student's Major Professor.

#### 5.3.2 Outside Activities (Paid or Unpaid):

Under rare circumstances, small non-recurrent tasks, including those for which compensation is received, are permitted. Typically, such activities will be an obvious extension of the student's academic activity, training, or scientific skillset. Examples include but are not limited to tutoring, classroom teaching, consulting, or experimentation.

Students must acquire prior approval for any and all outside activities (paid or unpaid). The process for approval is as follows: i) the student must obtain verbal consent from the Major Professor to seek approval; ii) the student must submit to the Graduate Policy Committee in writing a description of the proposed outside activity using the BMS Student Activities Form; iii) the form must be approved in writing by the student's Major Professor and the Graduate Policy Committee, and be filed with the Graduate Program Office.

For such activities to be considered, all of the following conditions must be met:

a) Under no circumstances can the activities interfere with the progress of the student toward their degree;
b) The activities cannot serve as informal, recurrent forms of employment or compensation;
c) The activities cannot utilize FSU or FSU-COM physical or intellectual property, facilities, or resources (including manpower) without express written permission from the appropriate University or COM representative;
d) There can be no relationship, explicit or implied, between the activities and FSU, FSU-COM, BMS, or the BMS Graduate Program.

Failure to adhere to the policy on outside employment and activities herein will result in referral to the Graduate Policy Committee and possible disciplinary action.

### 5.4 Registration Fees

Stipends, tuition and regular fees are paid through College of Medicine offices, regardless of funding source. The Program cannot reimburse you for any financial penalties incurred for late registration or non-tuition related fees.

Please note that all pending penalty or other fees **MUST** be paid before you can register for the upcoming semester.
5.5 Residency Status

5.5.1 Program Residency Requirement
Students are required to reside locally in the Tallahassee area while engaged in our program. Under rare circumstances, students may be permitted to reside at a distance for some phases of their training; this requires pre-approval of the student’s Thesis Advisor and the Senior Associate Dean for Research and Graduate Programs and is expected to be time-delimited and well justified. Violation of this policy can lead to academic suspension and/or termination from the program.

5.5.2 Current Florida Residents
If you are currently a Florida resident, you must submit to the Admission’s Office before the first day of classes the residency affidavit mentioned at the following link: http://admissions.fsu.edu/residency/ in order to be considered a Florida resident for tuition purposes during your first year of study.

5.5.3 Non-Florida Residents: Establishing Florida Residency
Because out-of-state tuition waivers are available only for the first year of graduate school (the only exception is for international students), it is imperative that you take the appropriate steps for establishing residency. To apply for residency status for tuition purposes follow the procedures outlined at http://admissions.fsu.edu/residency/.

Note that the process begins before the first day of classes of your first year of study and you must be a Florida resident prior to the beginning of your second year of study. You must be a U.S. citizen, a permanent resident alien, or a legal alien granted indefinite stay by the U.S. Immigration and Naturalization Service to qualify as a Florida resident. Before the first day of classes you must switch all legal ties to the State of Florida, including your driver’s license, voter registration, and vehicle registration.

Declaring domicile
Before the first day of fall classes, go to the Leon County Court House, Clerk of Court Office located in the Bank of America Annex, 313 South Calhoun Street, Suite 101, with a valid driver’s license (any state) or state-issued ID and $15 to declare domicile in Florida. You will also need to know the date of your move to Florida. If you have any question, call 850-577-4030. The Declaration of Domicile form is located at: https://cvweb.clerk.leon.fl.us/public/clerk_services/online_forms/official_records/declaration_of_domicile.pdf

Voter registration
You can register online to vote in Leon County at http://www.leonvotes.org/. You must register to vote before the first day of classes.

Driver’s license or State of Florida Identification Card
You must get a Florida’s driver’s license before the first day of classes. The cost is $48.00. The Department of Motor Vehicles will no longer accept driver licenses or identification cards issued by other states as primary identification. See https://www.fhsmv.gov/ driver-licenses-id-cards/what-to-bring/ to find out the documents (e.g., passport, social security card) that you need to bring with you to get your license.

Vehicle registration
See http://www.hsmv.state.fl.us/dmv/faqmotor.html for information concerning vehicle registration. If you have a vehicle, you must register it in Florida before the first day of classes.

5.6 Healthcare

Student Health and Wellness Center – The mission of the Student Health and Wellness Center is to keep students healthy so that they can engage productively in the academic affairs at Florida State University, improving academic performance and increasing retention. The Health Center is an auxiliary service under the
Division of Student Affairs. The Health Center staff includes board certified physicians, consulting medical specialists, nurse practitioners, registered nurses, licensed practical nurses, health technologists, pharmacists, health educators and other health professionals. [https://uhs.fsu.edu/](https://uhs.fsu.edu/)

**Insurance** – Health insurance is required for all students. If you do not have private insurance, then affordable student health insurance is available through the Health Center. The staff of the Health Center understands that health insurance can be a complex and confusing issue. To simplify things, they have put together answers to some of the most common health insurance questions. If a question is not answered on their website, contact the insurance office at (850) 644-3608 or visit [https://studentinsurance.fsu.edu/](https://studentinsurance.fsu.edu/).

**Health Insurance Subsidy for Graduate Assistants and Fellows** – Select graduate assistants and fellows will be provided a health insurance subsidy towards the purchase of the university sponsored health insurance plan. The subsidy will be disbursed by semester (fall/spring). The summer semester is covered by the spring plan. For more information on the health subsidy and a summary of the health insurance plans, please visit: [https://gradschool.fsu.edu/Funding-Awards/Health-Insurance](https://gradschool.fsu.edu/Funding-Awards/Health-Insurance).

For more information on cost, coverage, how and when to enroll for the university sponsored health insurance, visit the Student Health and Wellness Center's insurance website. **Note: All students must provide proof of immunization to the Student Health and Wellness Center Immunization Department before they will be allowed to register.** [https://studentinsurance.fsu.edu/sites/g/files/upcbnu1676/files/docs/New-Compliance-Form.pdf](https://studentinsurance.fsu.edu/sites/g/files/upcbnu1676/files/docs/New-Compliance-Form.pdf)

## 6. TRAVEL
The Program will assist graduate students in attending meetings, conferences or workshops to present a paper or poster. The policies and procedures for this support are as follows:

### 6.1 Policies
When resources are available, every registered full-time graduate student is awarded a $500 travel allowance each fiscal year (July 1 – June 30) to be used toward travel expenses to present their work or attend meetings, conferences or workshops. The presentation may be in poster or oral format. Certain costs such as flight and conference registration will be covered, when possible, on an FSU travel card. Out of pocket expenses will be reimbursed up to the amount which can legally be reimbursed under the [State of Florida's travel policies and procedures](https://studentinsurance.fsu.edu/sites/g/files/upcbnu1676/files/docs/New-Compliance-Form.pdf).

Please note that travel expenses will only be covered/reimbursed up to the $500 maximum provided by the Program. Additional funding from grants, etc. can be requested from the student’s Major Professor directly, but approval is at the discretion of the Major Professor. The Congress of Graduate Students (COGS) provides funding (between $100 and $500) for graduate students to present at conferences or to attend conferences (up to $100). Students need to apply for the funds at least two weeks prior to their departure. Funds are available on a first come, first serve basis. For information on funds from COGS, please visit the [COGS website](https://studentinsurance.fsu.edu/sites/g/files/upcbnu1676/files/docs/New-Compliance-Form.pdf).

### 6.2 Procedures
When anticipated travel, whether for professional or personal reasons, will result in missed classes or other duties associated with graduate school, students must get the permission of their major professor and discuss options for meeting all course expectations with course instructors prior to making travel arrangements or other commitments. Failure to complete all pre-travel requirements may result in denial of permission to travel and release of travel funds.

At least two weeks prior to departure, submit a completed Pre-Travel Form to the Graduate Program Specialist. The form must be fully completed before any travel arrangements can be made. This includes providing full funding information, an estimate of charges, and a benefit justification. Students are responsible for obtaining approval signatures from their Major Professor and the Assistant Dean for Research and Graduate Programs before submitting the form to the Graduate Program Specialist.
Please note that, even if a student is not requesting funding from FSU or the College of Medicine for travel, a Pre-
Travel Form must be filled out and turned in for insurance purposes.

7. ACADEMIC HONOR POLICY

Appendix IV: The Florida State University Academic Honor Policy

THE FLORIDA STATE UNIVERSITY ACADEMIC HONOR POLICY

Introduction
The statement on Values and Moral Standards says: “The moral norm which guides conduct and informs policy at The Florida State University is responsible freedom. Freedom is an important experience which the University, one of the freest of institutions, provides for all of its citizens - faculty, students, administrators, and staff. Freedom is responsibly exercised when it is directed by ethical standards.” (Values and moral standards at FSU retrieved from the current General Bulletin located at http://registrar.fsu.edu/)

The statement also addresses academic integrity: “The University aspires to excellence in its core activities of teaching, research, creative expression, and public service and is committed to the integrity of the academic process. The [Academic Honor Policy] is a specific manifestation of this commitment. Truthfulness in one’s claims and representations and honesty in one’s activities are essential in life and vocation, and the realization of truthfulness and honesty is an intrinsic part of the educational process.” (Values and moral standards at FSU retrieved from the current General Bulletin located at http://registrar.fsu.edu/)

Guided by these principles, this Academic Honor Policy outlines the University’s expectations for students’ academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty throughout the process. The Academic Honor Policy Committee may take direct jurisdiction of any case under extraordinary circumstances when it is determined by a majority vote of the committee that taking direct jurisdiction is appropriate.

Students in the College of Law and the College of Medicine are governed by the academic integrity policies and procedures of their respective colleges, which are subject to approval by the Academic Honor Policy Committee.

FSU Academic Honor Pledge
I affirm my commitment to the concept of responsible freedom. I will be honest and truthful and will strive for personal and institutional integrity at The Florida State University. I will abide by the Academic Honor Policy at all times.

Academic Honor Violations
Note: Instructors are responsible for reinforcing the importance of the Academic Honor Policy in their courses and for clarifying their expectations regarding collaboration and multiple submission of academic work. Examples have been provided for the purpose of illustration and are not intended to be all-inclusive.

1. PLAGIARISM. Presenting the work of another as one's own (i.e., without proper acknowledgement of the source). Typical examples include:
   - Using another’s work from print, web, or other sources without acknowledging the source;
   - quoting from a source without citation;
   - using facts, figures, graphs, charts or information without acknowledgement of the source.

2. CHEATING. Improper access to or use of any information or material that is not specifically condoned by the
instructor for use in the academic exercise. Typical examples include:
- Copying from another student's paper or receiving unauthorized assistance during a quiz, test or examination;
- using books, notes or other devices (e.g., calculators, cell phones, or computers) when these are not authorized;
- procuring without authorization a copy of or information about an examination before the scheduled exercise; unauthorized collaboration on exams.

3. UNAUTHORIZED GROUP WORK. Unauthorized collaborating with others. Typical examples include:
- Working with another person or persons on any activity that is intended to be individual work, where such collaboration has not been specifically authorized by the instructor.

4. FABRICATION, FALSIFICATION, AND MISREPRESENTATION. Unauthorized altering or inventing of any information or citation that is used in assessing academic work. Typical examples include:
- Inventing or counterfeiting data or information;
- falsely citing the source of information;
- altering the record of or reporting false information about practicum or clinical experiences;
- altering grade reports or other academic records;
- submitting a false excuse for absence or tardiness in a scheduled academic exercise;
- lying to an instructor to increase a grade.

5. MULTIPLE SUBMISSION. Submitting the same academic work (including oral presentations) for credit more than once without instructor permission. It is each instructor’s responsibility to make expectations regarding incorporation of existing academic work into new assignments clear to the student in writing by the time assignments are given. Typical examples include:
- Submitting the same paper for credit in two courses without instructor permission;
- making minor revisions in a credited paper or report (including oral presentations) and submitting it again as if it were new work.

6. ABUSE OF ACADEMIC MATERIALS. Intentionally damaging, destroying, stealing, or making inaccessible library or other academic resource material. Typical examples include:
- Stealing or destroying library or reference materials needed for common academic purposes;
- hiding resource materials so others may not use them;
- destroying computer programs or files needed in academic work;
- stealing, altering, or intentionally damaging another student's notes or laboratory experiments. (This refers only to abuse as related to an academic issue.)

7. COMPLICITY IN ACADEMIC DISHONESTY. Intentionally helping another to commit an act of academic dishonesty. Typical examples include:
- Knowingly allowing another to copy from one's paper during an examination or test;
- distributing test questions or substantive information about the material to be tested before a scheduled exercise;
- deliberately furnishing false information.

8. ATTEMPTING to commit any offense as outlined above.

**Student Rights**

Students have the following important due process rights, which may have an impact on the appellate process:

1. to be informed of all alleged violation(s), receive the complaint in writing (except in a Step 1 agreement, described in the Procedures Section, where the signed agreement serves as notice) and be given access to all relevant materials pertaining to the case.
2. to receive an impartial hearing in a timely manner where they will be given a full opportunity to present information pertaining to the case.

Students are also accorded the following prerogatives:

1. when possible, to discuss the allegations with the instructor.
2. privacy, confidentiality, and personal security.
3. to be assisted by an advisor who may accompany the student throughout the process but may not speak on the student’s behalf.
4. to choose not to answer any question that might be incriminating.
5. to contest the sanctions of a first-level agreement and to appeal both the decision and sanctions of an Academic Honor Hearing.

The student has the right to continue in the course in question during the entire process. Once a student has received notice that he/she is being charged with an alleged violation of the Academic Honor Policy, the student is not permitted to withdraw or drop the course unless the final outcome of the process dictates that no academic penalty will be imposed. Should no final determination be made before the end of the term, the grade of “Incomplete” will be assigned until a decision is made. Students should contact the Dean of Students Department for further information regarding their rights.

**Procedures for Resolving Cases**

**Step 1.** Throughout the Step 1 process, the instructor has the responsibility to address academic honor allegations in a timely manner, and the student has the responsibility to respond to those allegations in a timely manner. For assistance students and faculty should consult contacts listed on the University Academic Honor Policy web site [https://fda.fsu.edu/academic-resources/academic-integrity-and-grievances/academic-honor-policy](https://fda.fsu.edu/academic-resources/academic-integrity-and-grievances/academic-honor-policy)

If a student observes a violation of the Academic Honor Policy, he or she should report the incident to the instructor of the course. When an instructor believes that a student has violated the Academic Honor Policy in one of the instructor’s classes, the instructor must first contact the Academic Affairs Administrator ([https://fda.fsu.edu/academic-resources/academic-integrity-and-grievances/academic-honor-policy](https://fda.fsu.edu/academic-resources/academic-integrity-and-grievances/academic-honor-policy)) to discover whether the student has a prior record of academic dishonesty in order to determine whether to proceed with a Step 1 agreement. The instructor must also inform the department chair or dean. (Teaching assistants must seek guidance from their supervising faculty member and adjunct instructors must seek guidance from their department chair.) However, faculty members or others who do not have administrative authority for enforcing the Academic Honor Policy should not be informed of the allegation, unless they have established a legitimate need to know. If pursuing a Step 1 agreement is determined to be possible, the instructor shall discuss the evidence of academic dishonesty with the student and explore the possibility of a Step 1 agreement. Four possible outcomes of this discussion may occur:

1. If the charge appears unsubstantiated, the instructor will drop the charge, and no record of academic dishonesty will be created. The instructor should make this decision using the “preponderance of the evidence” standard.
2. The student may accept responsibility for the violation and accept the academic sanction proposed by the instructor. In this case, any agreement involving an academic penalty must be put in writing and signed by both parties on the “Academic Honor Policy Step 1 Agreement” form, which must then be sent to the Dean of Students Department. This agreement becomes a confidential student record of academic dishonesty and will be removed from the student’s file five years from the date of the final decision in the case. Any grade imposed as the result of an academic sanction will remain on the student’s transcript indefinitely and will not be subject to course drop or withdrawal.
3. The student may accept the responsibility for the violation, but contest the proposed academic sanction. In this circumstance, the student must submit the “Academic Honor Policy Referral to Contest Sanction” form along with supporting documentation to the Office of the Dean of the Faculties. The Dean of the Faculties (or designee) will review the submitted documentation to determine whether the instructor has imposed a sanction that is disproportionate to the offense. The Dean of the Faculties may affirm or modify the sanction as appropriate. The decision that results from this review is final.

The student may deny responsibility. In this circumstance, the instructor submits the “Academic Honor Policy Hearing Referral” form along with supporting documentation to the Dean of the Faculties Office for an Academic Honor Policy Hearing. The student is issued a letter detailing the charges within ten class days of the receipt of the referral, and the schedule for the hearing will be set as soon as possible and within 90 days from the date of the letter. These timelines may be modified in unusual circumstances. Unless all parties agree, the
hearing will not be held any sooner than 7 class days from the student’s receipt of the charge letter. The process then proceeds to Step 2.

If the student is found to have a prior record of academic dishonesty or the serious nature of the allegations merits a formal hearing, the instructor must refer the matter to Step 2 for an Academic Honor Policy Hearing by submitting the “Academic Honor Policy Hearing Referral” form and appropriate documentation to the Office of the Dean of the Faculties.

Allegations of academic dishonesty involving a graduate student engaged in any phase of the preliminary examination, thesis, or dissertation will be treated as egregious and will be resolved through the Step 2 process, in which the Major Professor will serve as the “instructor” under the hearing procedures. The Dean of the Faculties and the student’s academic dean, (as well as the Vice President for Research in cases involving grant-funded research), should be informed as soon as possible of all such allegations. The decision regarding whether to submit a hearing referral will be made by a committee consisting of the department chair and two faculty members appointed by the academic dean, one of whom should be the student’s committee member serving as the University representative (if one has been identified), excluding the Major Professor. In rendering its decision, this committee should review all available information and consult with the Major Professor and the academic dean.

Step 2. Academic Honor Policy Hearing. A panel consisting of five members shall hear the case. The panel shall include: one faculty member appointed by the dean from the unit in which the academic work is conducted; one faculty member appointed by the Dean of the Faculties who is not from that unit; and two students appointed through procedures established by the Dean of Students Department. The panel shall be chaired by the Dean of the Faculties (or designee), who votes only in case of a tie.

The hearing will be conducted in a non-adversarial manner with a clear focus on finding the facts within the academic context of the academic work. The student is presumed innocent going into the proceeding. After hearing all available and relevant information from the student and the instructor, the panel determines whether or not to find the student responsible for the alleged violation using the “preponderance of the evidence” standard. If the student is found responsible for the violation, the panel is informed about any prior record of academic honor policy violations and determines an academic sanction (and disciplinary sanction, if appropriate). In some cases, a Step 1 sanction may have been appropriately proposed prior to the convening of an Academic Honor Hearing. If the student is found responsible in these cases, the panel typically will impose a sanction no more severe than that which was proposed by the faculty member. The panel is required to provide a clear written justification for imposing a sanction more severe than the sanction proposed in Step 1.

The chair of the Academic Honor Policy hearing panel will report the decision to the student, the instructor, the academic unit, the Dean of Students Department, and the Registrar, if appropriate.

If the student is found “responsible”, this outcome will be recorded with the Dean of Students Department and becomes a confidential student record of an Academic Honor Policy violation. Records in which suspension or a less severe sanction (including all academic sanctions) is imposed will be removed five years from the date of the final decision in the case. Any grade imposed as the result of an academic sanction will remain on the student’s transcript indefinitely and will not be subject to course drop or withdrawal. Records involving dismissal and expulsion will be retained permanently, except in cases where a dismissed student is readmitted. Those records will be removed five years from the date of the student’s readmission.

Sanctions

Step 1
This Step 1 procedure is implemented with first-offense allegations that do not involve egregious violations. The decision regarding whether an allegation is egregious is made by the Dean of the Faculties (or designee) and the
instructor. The criteria used by the instructor to determine the proposed academic penalty should include the seriousness and the frequency of the alleged violation. The following sanctions are available in the Step 1 procedure.

1. additional academic work
2. a reduced grade (including “0” or “F”) for the assignment
3. a reduced grade (including “F”) for the course

**Step 2**
An Academic Honor Policy Hearing is held for all second offenses, for all first offenses that involve egregious violations of the Academic Honor Policy, for all offenses that involve simultaneous violations of the Student Conduct Code, and in all cases where the student denies responsibility for the alleged violation. The decision regarding whether an allegation is egregious is made by the Dean of the Faculties (or designee) and the instructor. In some cases, a Step 1 sanction may have been appropriately proposed prior to the convening of an Academic Honor Policy Hearing. If the student is found responsible in these cases, the panel typically will impose a sanction no more severe than that which was proposed by the faculty member. The panel is required to provide a clear written justification for imposing a sanction more severe than the sanction proposed in Step 1.

Students will not be penalized solely for exercising their right to request a Step 2 hearing. The following sanctions are available in Step 2 (see the Procedures section) and may be imposed singly or in combination:

1. additional academic work
2. a reduced grade (including “0” or “F”) for the assignment
3. a reduced grade (including “F”) for the course
4. Reprimand (written or verbal)
   Educational Activities - attendance at educational programs, interviews with appropriate officials, planning and implementing educational programs, or other educational activities. Fees may be charged to cover the cost of educational activities.
5. Restitution
6. Conduct Probation - a period of time during which any further violation of the Academic Honor Policy may result in more serious sanctions being imposed. Some of the restrictions that may be placed on the student during the probationary period include, but are not limited to: participation in student activities or representation of the University on athletic teams or in other leadership positions.
7. Disciplinary Probation - a period of time during which any further violation of the Academic Honor Policy puts the student’s status with the University in jeopardy. If the student is found “responsible” for another violation during the period of Disciplinary Probation, serious consideration will be given to imposing a sanction of Suspension, Dismissal, or Expulsion. The restrictions that may be placed on the student during this time period are the same as those under Conduct Probation.
8. Suspension - Separation from the University for a specified period, not to exceed two years.
9. Dismissal - Separation from the University for an indefinite period of time. Dismissal is considered a final sanction, but readmission is possible in some cases under documented exceptional circumstances. No consideration will be given to readmitting a dismissed student within the first three years after a dismissal is imposed.
10. Expulsion - Separation from the University without the possibility of readmission.
11. Withholding of diplomas, transcripts, or other records for a specified period of time.
12. Suspension of degree, in cases where an offense is discovered after the degree is posted.
13. Revocation of degree, in cases where an offense is discovered after the degree is posted.

**Appeals**
Decisions of the Academic Honor Policy Hearing Panel may be appealed to the Academic Honor Policy Appeal Committee, a standing four-member committee composed of two faculty appointed by the President and two students appointed by the Vice President for Student Affairs. The chair will be appointed annually by the President, and members will serve two-year renewable terms. In case of a tie vote regarding a case, the
committee will submit a written report to the Provost, who will then make the final determination. On appeal, the burden of proof shifts to the student to prove that an error has occurred. The only recognized grounds for appeal are:

1. Due process errors involving violations of a student’s rights that substantially affected the outcome of the initial hearing.
2. Demonstrated prejudice against the charged student by any panel member. Such prejudice must be evidenced by a conflict of interest, bias, pressure, or influence that precluded a fair and impartial hearing.
3. New information that was not available at the time of the original hearing.
4. A sanction that is extraordinarily disproportionate to the offense committed.
5. The preponderance of the evidence presented at the hearing does not support a finding of responsible.

Appeals based on this consideration will be limited to a review of the record of the initial hearing.

The procedures followed during the appeals process are:

1. The student should file a written letter of appeal to the Office of the Dean of the Faculties within 10 class days after being notified of the Academic Honor Policy Hearing Panel decision. This letter should outline the grounds for the appeal (see 1-5 above) and should provide supporting facts and relevant documentation.
2. The Academic Honor Policy Appeal Committee will review this letter of appeal and will hear the student and any witnesses called by the student, except in appeals based on consideration #5 above. The committee may also gather any additional information it deems necessary to make a determination in the case.
3. The Appeals Committee may affirm, modify, or reverse the initial panel decision, or it may order a new hearing to be held. This decision becomes final agency action when it is approved by the Provost. In cases where the student is found responsible, the decision becomes a confidential student record of academic dishonesty.
4. Appellate decisions are communicated in writing to the student, the instructor, the Office of the Dean of the Faculties, and the Dean of Students Department within 30 class days of the appellate hearing.

**Academic Honor Policy Committee**

An Academic Honor Policy Committee shall be appointed by the University President. The Committee will include: three faculty members, selected from a list of six names provided by the Faculty Senate Steering Committee and three students, selected from a list of six names provided by the Student Senate. The Dean of the Faculties or designee and the Dean of Students or designee shall serve ex officio. Faculty members will serve three-year staggered terms, and students will serve one-year terms. The committee will meet at least once a semester. It will monitor the operation and effectiveness of the Academic Honor Policy, work with the Faculty Senate and the Student Senate to educate all members of the community regarding academic integrity, and make recommendations for changes to the policy.

**Amendment Procedures**

Amendments to the Academic Honor Policy may be initiated by the Academic Honor Policy Committee, the Faculty Senate, the Student Senate, and/or the Vice President for Academic Affairs. Amendments to the policy must be approved by both the Faculty Senate and the Student Senate.
8. LIST OF FORMS:

I. BMS Program of Study
This form is used to report the composition of your Program of Studies. The Program of Studies is intended to indicate the formal coursework that the student and Supervisory Committee agree are necessary for achieving a level of expertise in the Biomedical Sciences and the chosen subject area of the dissertation research expected of a Ph.D. graduate. Changes in the Program of Studies are permitted with approval of the Supervisory Committee.

II. BMS Program Graduation Checklist
This checklist is intended to be a way of tracking your progress during each year of study to ensure you have met all the minimum graduation requirements. Please review the checklist at the beginning of each year of study.

III. Course Registration Form – Fillable
This form is used in each semester of study. The form is to be filled out and signed off on by your Major Professor then turned in the Graduate Program Specialist prior to registering for classes. The Graduate Program Specialist will provide a deadline for the form each semester via email. Students are responsible for registering themselves.

IV. BMS Grad Student Rotation Evaluation – Student
This form is completed by a student’s faculty after each rotation and provided to the student. This form informs students about how they performed on the rotation, both those that were done well and skills that need further improvement.

V. BMS Grad Student Rotation Evaluation – Faculty
This form is completed by a student’s rotation faculty at the end of each rotation. This form documents a student’s progress while on a specific rotation and is passed along to the faculty member for the student’s next rotation. This form is not shared with the student, but does make students aware of the criteria on which they are being evaluated.

VI. Committee Selection Form
This form documents the formation of the student’s Supervisory Committee. Information from this document will be used to enter a student’s Supervisory Committee into the FSU Graduate Student Tracking database.

VII. Annual Supervisory Committee Meeting Report
This form is to be completed annually by the Supervisory Committee and documents the student’s progress towards scientific and programmatic goals. Committee meetings can take place at any point in the year, but should be held in advance of the Spring annual evaluations by the GPC.

VIII. Qualifying Exams – Part I: Preliminary Exam Results
This form documents the outcome of Part I of the qualifying exams.

IX. Qualifying Exams – Part II: Proposal Defense Results
This form documents the outcome of Part II of the qualifying exams.

X. Annual Activities Report
This report is to be completed at the end of every Spring semester. All doctoral students in Biomedical Sciences or BMS-Neuroscience Programs will meet with the Graduate Policy Committee to review the materials and the student’s progress. Goals will also be set for the coming year.
XI. **Outside Activities Approval Form**  
This form is used to request permission to participate in any activity outside your graduate program duties. This form must be filled out and fully approved prior to taking part in any outside activity.

XII. **Pre-Travel Form**  
This form is used in advance of any travel graduate students may have, regardless of the cost or length of the trip.
Appendix: Course Descriptions

College of Medicine Graduate Courses

Biomedical Sciences (BMS, GMS prefix)

BMS 5935. Advanced Topics in Biomedical Sciences (1-2). (S/U grade only.) A seminar-based course in which students in the Ph.D. Program in Biomedical Sciences present seminars on current research from the literature on topics developed under the guidance of faculty members. Students will critically read, analyze, and present current research. May be repeated a total of eight (8) semester hours.

BMS 5525. Bioregulation (4). Prerequisite: PCB5595. Letter Grade (A-F). An advanced, lecture-based course emphasizing the molecular basis of regulation in biological systems. An important component is study of the design and interpretation of experiments leading to current understanding of regulation of gene expression. The course relies on the contemporary research literature, and focuses on specific model organisms and current problems that illustrate experimental approaches used to investigate different aspects of the control of gene expression.

BMS 5905. Directed Independent Study in Biomedical Sciences (1-12). (S/U grade only.) An individualized research course intended for students in the Ph.D. Program in Biomedical Sciences prior to passing the Qualifying Examinations. May be repeated a maximum of fifty-four (54) semester hours.

BMS 5185. Research Opportunities in Biomedical Sciences (1-6). (S/U grade only.) Provides entering students in the Ph.D. Program in Biomedical Sciences opportunities to be informed of and receive training in research by rotating through laboratories in the Department of Biomedical Sciences. Students must complete at least three (3) laboratory rotations. Currently students should register for two (2) semester hours of credit for the spring semester in the first year of the Program.

BMS 5186C. Research Techniques in Biomedical Sciences (2-4). Prerequisites: PCB5595, PCB5137, BMS5525 (Bioregulation). An advanced laboratory course for students in the Ph.D. Program in Biomedical Science providing training in laboratory techniques and experimental approaches essential to contemporary molecular biology and biochemistry research.

BMS 5931. Graduate Tutorial in Biomedical Sciences (1). This course involves selected topics in contemporary Biomedical Sciences along with reading and analysis of primary literature. Topics to be covered will address questions of developmental, cell and molecular biology related to human health.

BMS 6936. Seminar in Biomedical Sciences (1-2). (S/U grade only.) A seminar series in current topics in biomedical sciences. May be repeated a total of sixteen (16) semester hours for credit.

BMS 5122. (1-2). Insights into Human Congenital and Developmental Disorders (3). Letter Grade (A-F). This course is an advanced biomedical sciences course for graduate students to introduce the molecular basis of human congenital and developmental disorders. This course consists of three topics which cover genomic instability and cancer development, stem cells and their application in disease treatment, and neurodevelopmental disorders.

GMS 5095. Modeling Human Disease. (3). Letter Grade (A-F). Advanced biomedical sciences course for Ph.D. students or for upper level undergraduate students. This course will involve lectures and student-driven presentation and discussion. Students will learn how to critically evaluate the scientific literature, and how to use model systems for experimental research.
GMS 5098. Critical Review of the Scientific Literature, (1-2). (S/U grade only). This course is an advanced biomedical sciences course for PhD students. This course revolves around student-driven presentations and discussions of the primary research literature. Students learn how to evaluate the scientific literature in their own field. Issues such as authorship, funding sources, citation index, journal quality, etc. are introduced as criteria for judgment.

GMS 5222. Chromatin Structure, Epigenetics and Human Health (3). Letter Grade (A-F). This course is an advanced biomedical sciences course for graduate students to introduce the recent developments in chromatin and epigenetics research in the context of human health. The course involves lectures and student-driven presentation and discussion.

GMS 5303. Molecular Mechanism of Common Human Diseases (3). Letter Grade (A-F). This course will introduce modern biomedical research. The students will gain knowledge of the most common human diseases and their molecular pathology. In addition, the attempts to find the cure and the challenges that lay ahead will be discussed.

GMS 5304. RNA Silencing and Disease (3). Letter Grade (A-F). This course explores mechanisms of RNA silencing by the different classes of small RNAs. Topics discussed include how small RNAs are generated, the proteins involved, how small RNAs regulate chromatin formation, gene expression and how they are involved in cancer and disease.

GMS 5905. Directed Individual Study (1-3). (S/U grade only). Prerequisite: Instructor permission. Study on a selected topic as designated by the student or directing professor. May be repeated to a maximum of nine (9) semester hours.

GMS 6001. Special Topics in Biomedical Sciences (1-3). (S/U grade only.) An expert, lecture-based course focusing on recent advances and outlooks in biomedical science research. Course offerings include but are not limited to such topics as aging, biotechnology, bioinformatics, developmental biology, genomics and proteomics, molecular signaling, neuroscience and physiology. The general emphasis is on the molecular, genetic and cell biology aspects of these topics. May be repeated a total of sixteen (16) semester hours.

GMS 6097C. Biomedical Sciences Research (3). Laboratory course designed to provide students with individualized instruction in specific experimental strategies and methods important in their chosen specialty area of biomedical research training. May be repeated a total of twelve (12) semester hours.

Integrated Health Sciences (IHS)

IHS 5905. Directed Individual Study in Health Sciences (1-12). (S/U grade only). A course for graduate students who wish an individualized research experience in Biomedical Sciences, Medical Humanities and Social Sciences, Public Health or other fields represented in the College of Medicine. Students receive laboratory or other training in research methods and improve their readiness for and appreciation of research in health-related science. May be repeated a maximum of thirty-six (36) semester hours.

IHS 5515. Ethics and Professional Integrity in Research (1). (S/U grade only). A required course for students in the Ph.D. Program in Biomedical Sciences. This course provides a survey of three broad areas of research ethics: issues raised by using animals in research, using people in research, and by the scientific method itself. The course presents examples of ethical decisions faced in medical research, including (but not limited to) ascribing credit for contributions in publications, consequences of plagiarism and fraudulent data, access to genetic data, confidentiality, institutional review boards and considerations in research involving animal or human subjects.

IHS 5935. Health Sciences Seminar (1). (S/U grade only) Seminar program for graduate students in the Ph.D. Program in Biomedical Sciences and other health-related programs. Biomedical Sciences students
are required to enroll each Fall and Spring semester. May be repeated a total of twelve (12) semester hours for credit.

**IHS 5503. Proposal Development. (1).** (S/U grade only.) Individualized instruction on development of a dissertation proposal and other proposals for research projects in biomedical sciences according to standards of external granting agencies such as NIH and NSF. Components of proposal writing addressed include strategies of successful proposals; designing hypothesis-driven research; review processes and expectations; setting reasonable goals; definitions and importance of specific research aims; necessary and sufficient background documentation; describing experiment design and methods. May be repeated a total of two (2) semester hours for credit.

**IHS 5933. Seminar on Medical Science Education (1).** (S/U grade only.) Prerequisite: Limited to graduate students in the College of Medicine. Preparation for supervised teaching and education outreach experiences. Topics include approaches to conduct of classes and laboratories, exam construction, ethics in teaching, legal and safety issues for instructors, and effective written and oral communication.

**IHS 5945. Supervised Teaching (1-5).** (S/U grade only.) Students in the Ph.D. Program in Biomedical Sciences are required to register for a minimum of two (2) semester hours before graduation. May be repeated for a total of (5) semester hours.

**IHS 6980. Dissertation Research (1-12).** (S/U grade only.) Ph.D. candidates in Biomedical Sciences should register for this course after passing the Qualifying Examinations. A minimum of twenty-four (24) Dissertation hours is required for graduation.

**IHS 8960. Preliminary Doctoral Examination (0).** (S/U grade only.) Oral examination and defense of the doctoral proposal; successful completion allows advancement of the student to Ph.D. candidacy.

**IHS 8970. Dissertation Defense (0).** (S/U grade only.) Oral defense of dissertation research. One-time registration during the term in which student expects to defend their Ph.D. dissertation.

**Graduate Elective Courses Offered in Other Colleges**

The following graduate courses are approved choices to satisfy the Program requirement for nine (9) credit hours of elective courses. Additional courses may be eligible for electives at the discretion of the Supervisory Committee. See the Graduate Bulletin of the Florida State University at [http://registrar.fsu.edu/bulletin/grad/](http://registrar.fsu.edu/bulletin/grad/) for a complete listing of graduate courses. Students are advised that many departments offer special topics courses at irregular intervals. These courses may not be well advertised, but can be discovered by checking directly with the graduate offices of other departments in the life sciences.

**Chemistry & Biochemistry**

**BCH 5505. Structure and Function of Enzymes (3).** Pre- or co-requisite: BCH 4053 or equivalent. Course addresses elements of protein structure and structural motifs, structure determination methods; protein folding and stability; enzyme kinetics and mechanisms; structure-function relationships.

**BCH 5745. Chemical and Physical Characterization of Biopolymers (3).** Pre- or co-requisite: BCH 4053 or equivalent. Course covers biopolymer types and conformations; solution properties of biopolymers; macromolecular equilibria; hydrodynamic behavior; determination of size and shape; biopolymer separations; introduction to biological spectroscopy.

**BCH 5886r-5887r. Special Topics in Biochemistry and Cell Biology (one to three [1-3] hours each).** Each course may be repeated to a maximum of twelve (12) semester hours or a total of four times.
CHM 5506. Physical Chemistry of Macromolecules I (3). Prerequisite: Two semesters of physical chemistry or consent of instructor. Course covers conformational statistics of random coil polymer chains; ordered polymer structures and order-disorder transitions; thermodynamics of polymer solutions; structure-property relationships of polymers. Cross listed under physical chemistry.

CHM 5507. Physical Chemistry of Macromolecules II (3). Prerequisite: Two semesters of physical chemistry or consent of instructor. Course addresses principles and applications of spectroscopic methods to polymers and biological macromolecules including electronic, vibrational electron spin and nuclear magnetic resonance spectroscopy; and spectroscopic studies of dynamic systems. Cross listed under physical chemistry.

Biological Science


PCB 5137. Advanced Cell Biology (3). Principles of cell organization; membrane structure and transport; cyto skeleton; signaling; organelle structure and function; energy metabolism; cellular aspects of cancer and immunity.

PCB 5595. Advanced Molecular Biology (3). Prerequisites: PCB 4024 or PCB 5525 (molecular biology) or instructor permission. Gene regulation and its relationship to differentiation and development.

PCB 5936. Selected Topics in Genetics and Cell Biology (1-4). May be repeated to a maximum of sixteen (16) semester hours.

Neuroscience

PSB 5057. Neuroscience Methods: Molecules to Behavior (2). (S/U grade only.) This course exposes graduate students to a broad array of current techniques and methodologies in the neurosciences from a molecular to behavioral level of analysis.

PSB 5077. Responsible Conduct of Research (2). (S/U grade only.) This course is an introduction to survival skills and ethics in scientific research. The focus is on basic principles of scientific conduct and practice for graduate students pursuing careers in biomedical research.

PSB 5341. Systems and Behavioral Neuroscience (4). This course covers integrated neural systems that ultimately lead to the behavior of organisms. Topics include fluid and energy balance, reproduction, sleep, emotions, cognition and neurological disorders.

PSB 6070r. Current Problems in Neuroscience (2). (S/U grade only.) Detailed examination of a current area of neuroscience research. May be repeated to a maximum of eight (8) semester hours.

Statistics

STA 5126. Biostatistics (3). This course introduces students to the statistical methods used in studying the prevention of disease in human populations.