

**PHARMACOLOGY GRADUATE PROGRAM**

**GRADUATE STUDENT INFORMATION HANDBOOK**

**July 2022**

This handbook includes guidelines and general information on the graduate student program and departmental policies. The handbook is meant to assist students by providing general information, and a basic framework and timeline for their studies according to present procedures. However, it is not intended as a formal commitment or binding agreement. Policies, requirements and suggested timeframes can vary in any given year from those outlined here, in response to altered circumstances, and may be changed without notice. Specific policies are set by the Director of Graduate Studies and the faculty and must be approved by the Chair and be consistent with the broader regulations of the Graduate School.

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1. **Introduction**

Welcome to New Graduate Students!

The Department of Pharmacology and Nutritional Sciences (home of the Pharmacology Graduate Program) hopes to help you make your graduate student years cheerful ones, but also challenging and successful. This information is intended to make your transition as smooth as possible. This handbook is intended both to provide practical information useful to pharmacology graduate students, and more importantly, to guide students through the important milestones of their graduate career.

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1. **Integrated Biomedical Sciences (IBS) Program (First Year of Graduate School)**

Typically, first year graduate students enroll in the IBS program. The IBS program integrates most biomedical graduate students in the University Of Kentucky College Of Medicine. The seven participating graduate programs include Anatomy & Neurobiology, Microbiology, Molecular & Cellular Biochemistry, Nutritional Sciences, Pharmacology, Physiology, and Toxicology. The IBS program consists of both coursework and laboratory rotations. The curriculum is described below. Detailed information about these courses can be obtained at <http://graduate.med.uky.edu/ibs-curriculum-overview>

**FALL Semester**

IBS 601 Biomolecules and Metabolism (3 cr. hrs.)

IBS 602 Molecular Biology & Genetics (3 cr. hrs.)

IBS 607 Seminar in Integrated Biomedical Sciences (0 cr. hrs.)

IBS 609 Research in Integrated Biomedical Sciences (1 cr. hrs.)

IBS 610 Critical Scientific Readings (2 cr. hrs.)

IBS 611 Practical Statistical Applications (1 cr. hrs.)

**SPRING Semester**

IBS 603 Cell Biology & Cell Signaling (3 cr. hrs.)

IBS 606 Physiological Communications (3 cr. hrs.)

IBS 607 Seminar in Integrated Biomedical Sciences (0 cr. hrs.)

IBS 608 Special Topics in Integrated Biomedical Sciences (2 cr. hrs.)

IBS 609 Research in Integrated Biomedical Sciences (1 cr. hrs.)

TOX 600 Ethics in Scientific Research (1 cr. hrs.)

All IBS students take four laboratory rotations (two per semester) among any of the participating programs. The purpose of the rotations is for the student to both gain experience in a working scientific lab, and to find a faculty member who will serve as a research advisor. Selection of a research advisor is a mutual decision of the student and faculty member and is made at the end of the spring semester.

Additional information about the IBS program can be obtained at the IBS web page:

(<http://graduate.med.uky.edu/integrated-biomedical-sciences>), or by directly contacting the IBS program by web form (<http://graduate.med.uky.edu/contact-ibs>) or by contacting the Director of Graduate Study for the IBS Program, Dr. Hollie Swanson [(hswan@uky.edu](mailto:(hswan@uky.edu) or 859-323-1463)

1. **Pharmacology Graduate Program (Second and Later Years of Graduate School)**
   1. **The Pharmacology Curriculum**

Most Pharmacology students follow the curriculum described below. Note that graduate students must register for a total of 9 hours per semester until the semester they take their qualifying exam. The semester that you take your qualifying exam you sign up for 2 cr. hr. of PHA 767

All Pharmacology students are expected to earn either an "A" or "B" grade in the required PHA courses. In order to ensure that all Pharmacology graduates have demonstrated competency in the discipline of pharmacology, students who receive a grade of "C" in PHA 621 or average less than a "B" in the four sections of PHA 622 may be asked to take an additional written exam as part of their qualifying examination. This exam will be administered by the Graduate Committee and the Director of Graduate Studies (DGS), and will provide the student with an additional opportunity to demonstrate that they possess the requisite knowledge of pharmacology to be allowed to proceed with the remainder of the qualifying exam. Alternatively, the Graduate Committee, after consulting with the student's major professor, may ask the student to repeat PHA 621 or appropriate sections of PHA 622.

**The Core Curriculum**

Fall, 2nd year

PHA 621 PRINCIPLES OF DRUG ACTION (3 cr. hrs.) Drs. Swanson/Hadley

This course covers the interaction of drugs with pharmacologic receptors, the coupling of these receptors to intracellular signaling cascades, and the techniques used to identify and differentiate receptor subtypes. The factors governing drug absorption, distribution, metabolism and excretion will also be discussed in detail.

PHA 750 RESEARCH IN PHARMACOLOGY (1-5 cr. hrs.) Dr. Craven

Students register for this course every semester until they have passed their qualifying examination, and should register for just enough credit hours to meet the required minimum number of hours per semester.

PHA 770 SEMINAR IN PHARMACOLOGY (1 cr. hrs.) Dr. Guo/Glauert

Students register for this course every semester until they are ready to take their qualifying exam.

Spring 2nd year

PHA 622 MOLECULAR DRUG TARGETS AND THERAPEUTICS (4 cr. hrs.) Dr. Hadley

This advanced course provides state of the art information regarding drugs, drug action and targets for drug action. Four course sections are designed to function as independent one hour courses, emphasizing Cardiovascular Pharmacology (Section 001), Neuropharmacology (Section 002), Chemotherapeutic Agents and Toxicology (Section 003), as well as Immunomodulation and Endocrine Pharmacology, (Section 004).

PHA 750 RESEARCH IN PHARMACOLOGY (1-5 cr. hrs.) Dr. Craven

PHA 770 SEMINAR IN PHARMACOLOGY (1 cr. hrs.) Dr. Guo/Glauert

Fall, 3rd year (and all following Fall & Spring terms)\*

PHA 767 DISSERTATION RESEARCH\* (2 cr. hrs.) Mentor

\* *PHA 767 should be taken fall and spring semester, beginning with the term the qualifying exam*

*is taken (usually Fall, 3rd year). The section registered for corresponds to the specific mentor.*

PHA 770 SEMINAR IN PHARMACOLOGY (0 cr. hrs.) Dr. Police

Attendance at seminar is required, and more than two absences will result in an incomplete.

**Registration for Courses**

Registration is the student's responsibility, and must be done each semester after consultation with the major advisor. Graduate students are expected to register during PRIORITY Registration by using the myUK portal (<https://myuk.uky.edu/irj/portal>). Initial registration typically occurs in March or April for the summer session and fall semester, and in November for the spring semester. Check the Registrar's web page for the exact dates. The department does not pay late fees for student registration. Any problems that appear while registering for classes using the myUK portal should be reported so that they can be corrected promptly for all students. Once the student has passed qualifying exams, the student only needs to register for PHA 767 for 2 cr. hr. during Spring and Fall semesters and PHA770 for zero credit. Any tuition for additional coursework must be covered by the student or their Advisor.

1. **Student Presentation of Research** – Each student will give a 25-minute research seminar annually beginning in Year 2 of their training (~20 minute presentation, ~5 minutes for questions). At some point before graduation, the student should give one 60 minute seminar. Students do not have to give a seminar in the same semester as defending their thesis.
   1. **Formation and Responsibilities of the Advisory Committee**

Graduate students select their major professor or research advisor at the end of their first year. The student's major professor will chair or co-chair the student's advisory committee. The committee is typically formed during the student's second year, before the qualifying examination.

The advisory committee must have four or more members. ***Three members must be Pharmacology graduate faculty***, and one member must be from outside the program. The four "core" faculty on the committee must be members of the UK Graduate Faculty, and three must be full (not associate) members. If the student's major professor is an Associate Graduate Faculty member, a full member must chair the advisory committee with the major professor as co-chair. A list of Pharmacology Graduate Faculty (as of July, 2017) is available in Appendix B. The Graduate School must approve the formation of the advisory committee. The portal for creating a committee is here: <https://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm>. Note: all of the links in this document may be browser-sensitive. They worked by cut-and-paste in Google Chrome.

The advisory committee oversees the progress of the student towards a doctoral degree. The committee must meet at least once a year to review student progress and give the student a written evaluation. This includes guiding the student's coursework and dissertation research, as well as administrating and judging the qualifying and final examinations. Advisory committee decisions are made by majority vote. The written evaluation should then be forwarded to the DGS.

The student and the research advisor are also expected to review and discuss the annual update of the student's Individual Development Plan (IDP) by APRIL 1st each year. The IDP is a process where the student carries out a self-assessment of their skill set and career goals. A copy of the IDP form is included in Appendix A.

**C. Responsibilities of the Graduate Advisory Committee**

The members of the Graduate Advisory Committee set program policies and oversee student assessment. The Graduate School requires each program to annually review whether a student is making good progress towards their degree. The Provost's office also has specific requirements for student assessment. The Pharmacology Graduate Program Assessment forms are included in Appendix A. Students will receive copies of all assessments.

During graduate study, if a student or primary advisor encounters an issue that cannot be resolved, he/she should meet with the Dissertation Advisory Committee. If the issue remains unresolved, the student and/or Major Advisor should contact the Director of Graduate Studies, who will consult with the Graduate Advisory Committee. The Department of Pharmacology and Nutritional Sciences has a standing Graduate Advisory Committee to address student issues and concerns on an as-needed basis. Members of the committee are appointed by the Department Chair, and typically include the Directors of Graduate Studies, the Nutritional Sciences Division Director, the Director of Education for DPNS, and a few faculty members at large. The purpose of this committee is to assess the situation and make recommendations to the department Chair and/or Dean of the Graduate School as appropriate. The student will always have the opportunity to represent themselves.

**Transfer to a different laboratory**

It is by mutual consent that a graduate student carries out dissertation research in the major professor’s laboratory. Dissertation research can be terminated if desired by either the advisor or student. If during the course of a graduate student’s program, the student wishes to change to a different Major Advisor but continue in the degree program, or the Major Advisor wants to resign being the Major Advisor, the Director of Graduate Studies must be notified. If the student is in good academic standing, the Graduate Advisory Committee will advise the Department Chair, who will decide regarding continuation of support. *Students may not receive support if they do not identify mentors within the faculty of the Department of Pharmacology and Nutritional Sciences.* The department cannot guarantee placement or continued support for an indefinite period of time. If the student is unable to identify a new Major Advisor within the stipulated period, the student may be considered for dismissal due to a failure to progress toward degree.

1. **Overview of the Qualifying Examination**

The objective of the qualifying examination is to evaluate the student's general scientific knowledge, ability to think critically, and competence in their research field, in order to determine whether the student is qualified to be a candidate for a doctoral degree. Student evaluation is the main purpose of the qualifying exam, so the exam should not be regarded as a formal dissertation proposal. A student's dissertation research is allowed to differ from the experiments described in the qualifying exam.

The qualifying examination consists of two components: 1) a written research proposal, which follows the same format as an American Heart Association pre-doctoral fellowship application, and 2) an oral examination in which the research proposal is evaluated by the advisory committee. The qualifying exam is usually completed in the fall semester of the student's third year. The actual exam can be taken at any point during the term, as long as classes are in session. However, the date must be submitted to, and approved by, the Graduate School at least two weeks prior to the exam date. A checklist is provided in Appendix C.

If students do their qualifying exam in the summer after their second year, they do not have to be enrolled for the summer session.

1. **The Written Qualifying Examination**

Students should first submit an abstract of up to 500 words to the advisory committee. This abstract should summarize the research proposal that the student wishes to write up for the written examination. The proposal is usually related to ongoing research in the major professor's laboratory, but can be on a different topic. The abstract should briefly describe: 1) the scientific background of the proposal, 2) the main hypothesis, and 3) the specific aims and methods that would be used to test that hypothesis. The members of the advisory committee should either approve or recommend revision of the abstract within one week.

The student has four weeks to submit a research proposal after approval of the abstract. In order to be fair to all students, it is essential that all creative work on the proposal (literature review, development of the hypothesis and research design, and all writing) be done by the student alone. The proposal may be related to ongoing laboratory work, but no part of the proposal should be adapted from a grant or manuscript written by someone else.

The student is encouraged to discuss drafts of the proposal with the major professor. The major professor should not edit the proposal, but instead advise the student on language and formatting, or point out elements of the proposal that the student should reconsider (e.g. "Do the specific aims really test your hypothesis?" "Have you considered the limitations of, or alternative approaches to this experiment?").

The research proposal must be given to the advisory committee two weeks before the oral examination.

Required Format

The research proposal should follow the format of an American Heart Association pre-doctoral fellowship application. The following description has been modified from the instructions found at

<https://professional.heart.org/idc/groups/ahamah-public/@wcm/@sop/@rsch/documents/downloadable/ucm_495100.pdf>. The links change often, so search for “American Heart Association Pre-doctoral fellowship” for the latest version. If the student plans to submit a proposal to a different funding organization, use of their format is possible if the student consults with their thesis advisor and the DGS.

Use either an Arial or Helvetica 12 point font size for the main text. A smaller font size may be used for figures, graph and tables. Use standard paper size (8.5*''* x 11”) with at least ¾ inch margins (top, bottom, left, and right). The text should be single-spaced. The total page limit (excluding the Bibliography & References Cited) is eight pages.

Divide the research proposal into the following sections.

* 1. *Specific Aims (1page is suggested)*

Provide a clear concise summary of the aims of the proposed research and summarize the expected outcome. State the hypothesis to be tested.

* 1. *Background and Significance (1page is suggested)*

Sketch the scientific background leading to this research proposal. Summarize and critically evaluate existing knowledge in the field. Explain how the project will improve scientific knowledge in the field.

* 1. *Preliminary Studies (1 page is suggested)*

Describe concisely any pertinent previous work or experience of the investigator, showing the work is feasible.

* 1. *Research Design and Methods (4 pages is suggested)*

Describe the overall design of the study, including strategy, methodology, and analyses to be used to accomplish the specific aims of the project. Include how the data will be collected, analyzed, and interpreted.

Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.

* 1. *References Cited (no page limitation, but be concise)*

Each reference must include the names of all authors, the article and journal title, book title, volume number, page numbers, and year of publication. When citing articles that fall under the Public Access Policy, provide the PubMed Central (PMC) reference number (e.g., PMCID234567). Citations that are not covered by the Public Access Policy, but are publicly available in a free, online format may include URLs or PMCID numbers along with the full reference.

1. **The Oral Qualifying Examination**

Students are expected to present the outline of their research proposal at the beginning of their oral exam, which should include a discussion of the hypothesis and aims, background, preliminary data, methods, experimental design, and data analysis and interpretation. The advisory committee will ask questions aimed at evaluating the student's general scientific knowledge, familiarity with the relevant literature, and ability to critically think about the rationale and design of the research proposal. As of July 2022, the Graduate School will allow committee members to participate remotely via a live interface (such as Zoom). The student and advisor should review the Graduate School’s policies and notify the Graduate School if they plan to do this.

If the student fails the qualifying examination, Graduate School regulations allow the student to take a second qualifying examination within 4-12 months, with the permission of the advisory committee.

1. **Doctoral Candidacy**

Students become doctoral candidates after passing the qualifying exam. Students have five years to earn their doctoral degree after the exam, unless the Graduate School is petitioned to allow additional time.

Doctoral candidates register for PHA 767 (Dissertation Research, 2 cr. hrs.) each Fall and Spring semesters, even after all other class work is completed.

It is anticipated that every student will be able to fulfill the requirements for a PhD within a reasonable timeframe. It is each student’s responsibility to arrange a meeting with his/her Major Professor and Advisory Committee at least once per year to formally evaluate academic and research progress. Minutes from Advisory Committee meetings should be submitted to the DGS (template form for meeting minutes is in the Appendix). Student progress is also assessed based on the IDP (Individual Development Plan) form, to be completed annually by doctoral students. This section provides guidelines to be used in the unusual circumstance that the department must consider dismissal of a graduate student for academic or professional reasons. From [University of Kentucky Administrative Regulations 5:2](https://www.uky.edu/regs/sites/www.uky.edu.regs/files/files/ar/priors/ar_5-2_2018_final.pdf), “Teaching, research and graduate assistants will maintain satisfactory academic records and progress toward degrees. If their academic progress is unsatisfactory, their assistantships may not be renewed”.

**Reasons for dismissing a student from the Pharmacology graduate program include the following:**

* Scholastic probation: When students have completed 12 or more semester hours of graduate course work with a cumulative GPA of less than 3.0, they will be placed on scholastic probation. Students will have one full-time semester or the equivalent (nine hours) to remove the scholastic probation by attaining a 3.0 cumulative GPA.
* Failure to identify a primary advisor (following rotations or lab transfer)
* Failure to pass the qualifying exam on the second attempt.
* Student misconduct:
  + Plagiarism on class assignments or exams, or on the qualifying exam or dissertation.
  + Academic cheating, falsification of research data, or misuse of University equipment or grant funds.
  + Excessive and unexcused absenteeism.
  + Harassment of departmental personnel.
  + Violation of the Code of Student Conduct (<http://www.uky.edu/StudentAffairs/Code).>
* Failure to make adequate progress towards a doctoral degree as determined and documented by an unsatisfactory grade “U” for 767 (Dissertation Residency Credit)

**The process for addressing inadequate progress towards degree:**

* + The Major Advisor should notify the DGS in writing about the student’s unsatisfactory performance, with documentation from a committee meeting, written comments on an IDP, or written correspondence with the student.
  + Students, in collaboration with their Major Advisor and advisory committee, will devise an action plan to improve productivity, address shortcomings and include a timeline to meet outlined goals. The action plan will be agreed upon and signed by the student, the major advisor, and the DGS.
  + The advisory committee will reconvene at an agreed upon date and time (within 6 months of the action plan being filed) to receive an update on student progress, at which point, if issues are not resolved, a recommendation for dismissal may be submitted in writing to the DGS.

**The process for student dismissal:**

* A student’s Advisory Committee and/or Major Advisor may recommend termination at any time prior to the Qualifying Examination, after the student has failed to pass one Qualifying Examination, or after the Qualifying Examination has been passed. The recommendation must be in writing to the DGS with a copy to the student. The letter should clearly document the reasons for the recommendation.
* At the recommendation of a student’s Advisory Committee and/or Major Advisor, the DGS will convene a meeting of the DPNS Graduate Advisory Committee to discuss the student’s situation. The purpose of this committee is to assess the situation and make recommendations to the department Chair and/or Dean of the Graduate School as appropriate. The student has the option to present his/her case at this time.
* A student may be dismissed from the Graduate School via a recommendation of the Dean of the Graduate School to the Provost.

**The process for student appeals:**

[From Administrative Regulations 5:2] If the student believes that the department’s decision to terminate the teaching or research assistantship is in error, they may appeal the ruling to the Graduate Council within 15 days of the notice of non-reappointment. A delegated subcommittee of at least five (5) members of the Graduate council will consider the appeal, request further information from the student or the education unit if necessary, and issue a written response to the student within 45 days of the appeal being filed. If the student believes that the termination is the result of a violation of established procedure or academic freedom, the student may file a complaint with the Senate Advisory Committee on Privilege and Tenure, in accordance with the procedures outlined in Section 1.4.4.2 of the University Senate Rules (AR 5:2.C,D). Under Governing Rules GR XI, the University Appeals Board (UAB) can take appeals if the student alleges a violation of student rights, and the UAB has jurisdiction over “final decisions of University hearing agencies in which a student alleges a violation of student rights.”

**H. The Research Dissertation**

* 1. *Introduction*

The research dissertation is a written description of the student's original research project, which the student will defend to the advisory committee at the final examination. The dissertation must be submitted to the advisory committee three weeks before the final examination. The advisory committee will expect the dissertation to be proofread and corrected before submission.

Students should review the dissertation guidelines Graduate School's at their website. It may be here: <http://gradschool.uky.edu/thesis-dissertation-preparation>

But the site changes frequently. There are forms that need to be complete, and they can be accessed at the same site.

* 1. *Organization of the Dissertation (Graduate School Requirements)*

The Graduate School requires dissertations to be organized into the following sections.

* + 1. Title Page for Dissertation

1. Abstract. The abstract must not exceed 350 words.
2. Approval Page.
3. Dedication Page (Optional).
4. Acknowledgments (Optional).
5. Table of Contents.
6. List of Tables (required only if tables are presented in the text).
7. List of Figures (required only if figures are presented in the text).
8. List of Files (required only if files are presented in the text).
9. Text. This section must be divided into chapters or sections. This is the section covered by the program requirements described in the next section.
10. Appendices. Materials that are independent of but relevant to the dissertation, for example additional data, symbols, abbreviations, definitions, etc.
11. References. References are works cited in the text, and may be listed either alphabetically or numerically (in order of citation).
12. Vita.
    1. *Organization of the Dissertation (Program Requirements)*

The program permits the main body of the dissertation [See (Section 10) Text] on the Graduate School's list copied above) to be written in one of two formats. The classical format must include the following separate chapters: Introduction, Hypothesis, Materials & Methods, Results, and Discussion.

The alternative format allows the incorporation of manuscripts into the dissertation. The main body must include the following chapters: Introduction, Results (a separate chapter for each manuscript), and Discussion. The alternative format must include at least two manuscripts where the student is the first author. The manuscripts must already be published, in press, or submitted for publication. Note that journal reprints may not be directly included in the dissertation, and that the manuscripts must be retyped in a format that is acceptable to the Graduate School. Each manuscript included as a chapter in Results must include its own Introduction, Materials and Methods, Results and Discussion sub-sections. The overall Introduction and Discussion sections (the first and last chapters of the main body) should be written specifically for the dissertation (not adapted from another manuscript), and should integrate the material covered in all of the other chapters. References must be uniform in style throughout the dissertation, and conform to Graduate School requirements.

The Graduate School expects students to be first authors on publications included as chapters in their dissertation. If the student is not the first author of a manuscript, a letter from the DGS approving of the inclusion of the manuscript must be included with the Electronic Thesis and Dissertation Form (described below in section I).

You should also note the Graduate School states, in regard to previously published manuscripts, "It is the student's responsibility to contact journal editors regarding an individual journal's copyright regulations prior to publication with that journal. The journal may hold the copyright to the material, and a request for release should be made prior to reproducing that material in the dissertation."

* 1. *Formatting of the Dissertation*

The Graduate School has very specific requirements for the formatting of the dissertation. The most important general issues are listed below, along with links to the Graduate School's detailed instructions.

|  |  |
| --- | --- |
| Copyright Notices | <http://www.research.uky.edu/gs/CurrentStudents/electronic_dissertation_instructions.html#copyright> |
| Figure & Tables | <http://www.research.uky.edu/gs/CurrentStudents/electronic_dissertation_instructions.html#figures> |
| Document formatting:  Fonts  File Naming,  PDF creation  Bookmarks  Line Spacing | <http://www.research.uky.edu/gs/CurrentStudents/electronic_dissertation_instructions.html#document> |
| Page Formats, Margins,  & Numbering | <http://www.research.uky.edu/gs/CurrentStudents/electronic_dissertation_instructions.html#formatting> |
| Copyright Information | <http://www.research.uky.edu/gs/CurrentStudents/electronic_dissertation_instructions.html#copyright> |
| Frequent Errors | <http://www.research.uky.edu/gs/CurrentStudents/Documents/Checklist_Common_Errors_ETDs.pdf> |

Note that formatting of electronic dissertations differs in some ways from that of printed dissertations (no longer accepted). This means that the printed dissertations of previous students may not be a reliable guide to formatting issues.

**I. The Final Examination**

The final examination is conducted by the advisory committee, including an outside examiner appointed by the Graduate School. The purpose of the examination is to evaluate the student's dissertation research, familiarity with relevant scientific literature, and general scientific background. The examination can be as comprehensive as the committee desires. The dissertation research is expected to be an original and valuable contribution to the student's field of research, and the dissertation itself should be suitable for publication.

The student must schedule a dissertation research seminar with Veronique Thibault to be presented before the final examination. The student is also responsible for scheduling their final examination. This is a multi-step process and the student is urged to look carefully at the Registrar's current academic calendar (<http://www.uky.edu/registrar/content/academic-calendar>) Students must first file an application for a degree with the Graduate School by thirty days after the beginning of the graduating semester, or fifteen days in the summer session. Second, students must also file a Notification of Intent to Schedule a Final Examination at least eight weeks prior to when the examination will occur. The final examination must occur at least eight days prior to the last day of classes in the semester or summer session. Finally, the student must request the Graduate School's approval of the examination date through the online Request for Final Doctoral Dissertation form at least two weeks beforehand. All three of these online forms are available at: http://gradschool.uky.edu/studentforms. A checklist is available in Appendix C. As of July 2022, the Graduate School will allow committee members to participate remotely via a live interface (such as Zoom). The student and advisor should review the Graduate School’s policies and notify the Graduate School if they plan to do this.

Students have 60 days after their final examination to submit the final copy of the dissertation and a completed Electronic Thesis and Dissertation Form to the Graduate School. (http://gradschool.uky.edu/studentforms [)](http://www.research.uky.edu/gs/Forms/ETDApprovalForm.pdf)). Note: all of the links in this document may be browser-sensitive. They worked by cut-and-paste in Google Chrome.

**J. Additional Responsibilities**

Seminars

The program considers research seminars to be an essential feature of graduate education.

Students are expected to attend all official seminars for the Department of Pharmacology and Nutritional Sciences, and should plan their day accordingly. Students may be asked to assist seminar speakers in setting up their presentations, or in guiding visitors around campus. Graduate students will be asked to present an annual seminar, so that the department can be informed of the student's research progress.

Assisting Pharmacology Faculty in Teaching or Grading Exams

Students may be asked to proctor exams in Pharmacology or Nutritional Science courses in either the Fall or Spring semesters. Proctoring assignments are very important to the department, and should only be missed for emergencies. During the course of the year, graduate students may be asked to perform other duties as the need arises. An effort will be made to distribute duties fairly among graduate students.

Integrated Biomedical Sciences Program

Students are expected to assist the department in introducing new students to the IBS program. This may include attending lunches and question/answer sessions, or giving tours or demonstrations.

1. M.D./Ph.D. Students
2. **Transition from M.D. Training to Ph.D. Training**

This usually takes place following the second year of medical school, after selecting a graduate program and major advisor. In order to make the transition as smooth as possible, students should be aware of the following points.

Formal leave from medical school should be obtained from the COM Division of Student Affairs. Students must be admitted to the Graduate School.

=> See [www.research.uky.edu/gs/ProspectiveStudents/Admission.html.](http://www.research.uky.edu/gs/ProspectiveStudents/Admission.html)   
Students should apply early, in order to allow time for receipt of transcripts, etc. Check with your advisor and the DGS about whether to apply for summer or fall admission.

Have your major advisor contact the department before May to set up employment as a research assistant. Health insurance coverage usually begins in August.

1. The Modified Graduate Curriculum

Entering M.D./Ph.D. students are regarded as second-year graduate students. They are expected to follow the second-year curriculum (page 3), but are excused from taking PHA 622. A typical timeline for the M.D./Ph.D. curriculum is as follows.

|  |  |  |
| --- | --- | --- |
|  | **Fall, 1st Year** |  |
| PHA 621 PRINCIPLES OF DRUG ACTION | (3 cr. hrs.) | Dr. Hadley |
| PHA 750 RESEARCH IN PHARMACOLOGY | (5 cr. hrs.) | Dr. Craven |
| PHA 770 SEMINAR IN PHARMACOLOGY | (1 cr. hrs.) | Dr. Loria |
|  |  |  |
|  | **Spring, 1st Year** |  |
| STA 580 BIOSTATISTICS I | (3 cr. hrs.) |  |
| PHA 750 RESEARCH IN PHARMACOLOGY | (5 cr. hrs.) | Dr. Craven |
| PHA 770 SEMINAR IN PHARMACOLOGY | (1 cr. hrs.) | Dr. Loria |
| TOX 600 ETHICS IN SCIENTIFIC RESEARCH | (1 cr. hrs.) |  |

Fall, 2nd year (and following terms)\*

PHA 767 DISSERTATION RESEARCH\* (2 cr. hrs.) Mentor

\* *PHA 767 should be taken fall and spring semesters, beginning with the term the qualifying exam*

*is taken (usually Fall, 2nd year). The section registered for corresponds to the specific mentor.*

1. General Information
2. **Financial Topics**

Stipends

Graduate students in good standing receive a competitive stipend jointly set by the departments participating in the IBS program. Note that the University treats the stipends as wages paid to part time employees, and thus they are tax-liable. The stipends may be derived from a variety of sources, including departmental funds, research grants, scholarships or fellowships, and training grants.

In return for the stipend, students are expected to follow the course of study, conduct research, assist in teaching, and assist the department in other assorted duties. Some funding sources (e.g. training grants) may have additional requirements. Graduate school is regarded as a full-time endeavor, so the department discourages outside employment. The Graduate Education Committee, in concurrence with the Advisor, may permit a student to have outside employment due to unique circumstances.

Tuition

Students awarded a research assistantship or fellowship receive payment of tuition, both in-state and out-of-state. Students should be aware that tuition fees paid for the student may be viewed as taxable income by federal and state governments.

Students are guaranteed payment of tuition related to their doctoral programs subject to the following conditions. (1) The coursework for which the student has registered has been approved by the IBS director during the IBS year, or by the chair of their advisory committee and the DGS of their program, once they have entered a doctoral program. Note: Tuition will only be paid for courses *required and essential* to their doctoral program (2) The student is in good academic standing. Students who have been notified by the Graduate School that they are officially on scholastic probation will be responsible for payment of in-state tuition charges while they remain on probation. During this time, out-of-state tuition will be paid by the PI/program for out-of-state students. Once they have raised their GPA to the required 3.0 to regain good academic standing, payment of any future tuition charges will be covered by their PI and/or program, subject to condition # 1.

Student Health Insurance

The Graduate School provides student health insurance, and pays a fee allowing access to the Student Health Center for minor illnesses. Health insurance for dependents is offered through the University. Insurance coverage usually begins in August. Further information is available at the Graduate School homepage http://gradschool.uky.edu/health-plan. Additional information can be obtained by calling the Graduate School at 257-6608, or by e-mailing the health insurance coordinator at [GSFH@uky.edu.](mailto:GSFH@uky.edu)

Health Insurance while traveling Internationally for University business

# **You need to Register, at the bottom of the page, of this link** <http://ihss.uky.edu/index.cfm?FuseAction=Abroad.ViewLink&Parent_ID=0&Link_ID=93BB9077-5056-BA1F-72DB4928AFFBD177> **and then you should receive information regarding the Insurance.**

**This is why**: “If you are traveling outside the U.S. pursuing an activity within the course and scope of your status as a UK student, you are eligible for coverage under UK's international travel medical insurance plan. Such activities may include, but are not limited to, research projects, conference attendances, conference presentations, etc.

….. The travel registry helps UK to quickly locate and assist you in the event of an emergency in your host country, and facilitates insurance coverage under the University's blanket [travel medical insurance and evacuation plan](https://ihss.uky.edu/index.cfm?FuseAction=Abroad.ViewLink&Parent_ID=0&Link_ID=4BA39C3C-5056-BA1F-72A17037802529BE). All students covered by this required insurance will be charged ~ $10.50 per week (rounded up to the nearest full week) for the coverage. That charge will be posted to your student account statement as one lump sum during the term in which you are abroad, and will only be charged for your international program dates- not for the entire term.”

1. Vacations and Holidays

New students should be aware that graduate school differs from undergraduate study in that graduate work is a full-time endeavor throughout the 12 months of the year. In general, students are expected to be in lab during the workweek when not in class or studying. The department has no specific guidelines governing holidays and vacations, so the research advisor should be consulted before planning time off. Students should also be aware that time-sensitive scientific research can often require work on holidays, weekends, and nights.

1. **Personal and Lab Safety**

Students should always consult with a faculty member before using new equipment, toxins, chemicals or infectious agents. Students should also be aware that the University requires specific safety training before using various methods and equipment. The following is a partial list of University web pages where you can register for specific training classes or review appropriate safety manuals.

* **Review Checklist for required safety training:** <http://ehs.uky.edu/classes/safe_checklist_lab_0001.php>
* Blood Borne Pathogens: <http://ehs.uky.edu/classes/classes_biosafety_0001.php#bloodborne_pathogens_for_researchers>
* Lab Animals: <https://www.research.uky.edu/division-laboratory-animal-resources/training>

1. **Disciplinary Issues**

Reasons for dismissing a student from the Pharmacology graduate program include the following.

* Failure to make adequate progress towards a doctoral degree, as judged by the student's Advisory Committee.
* Failure to pass the qualifying exam.
* Plagiarism on class assignments or exams, or else on the qualifying exam or dissertation.
* Academic cheating, falsification of research data, or misuse of University equipment or grant funds.
* Violation of the Code of Student Conduct (<http://www.uky.edu/StudentAffairs/Code).>
* Scholastic probation. When students have completed 12 or more semester hours of graduate course work with a cumulative GPA of less than 3.0, they will be placed on scholastic probation. Students will have one full-time semester or the equivalent (nine hours) to remove the scholastic probation by attaining a 3.0 cumulative GPA.
* If any of these issues are not resolved, students will be dismissed from the Graduate School, usually via a recommendation of the Dean of the Graduate School to the Provost.

It is by mutual consent that a graduate student carries out dissertation research in the major professor's laboratory. The dissertation research can be terminated if desired by either the advisor or student. If requested, the department will work with the student to identify a new research advisor, but cannot guarantee placement.

1. **Miscellaneous**

Keys - Requests for lab or equipment room keys must be approved by your research advisor and departmental chair. Key forms are obtained from the departmental administrator.

Photocopier Privileges - Students may use the departmental photocopier for either research or academic use, but not personal use.

Mailbox - Students have mailboxes in Room MS-323B.

**Appendix A. Student Evaluations and Career Planning**

**Appendix A1 - Advisory Committee Meeting Evaluation Form**

Text, letter

Description automatically generated

**Appendix A2 – Student Seminar Evaluation Form**

Table

Description automatically generated

**Appendix A3 - Qualifying Examination and Dissertation Evaluation Form**

Student’s name: Faculty Evaluator:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:

EXAM: **QUALS**



**Appendix A4 - Individual Development Plan (IDP)**

The Individual Development Plan (IDP) provides a planning tool that identifies academic and scientific progress, professional development needs, and career objectives for graduate students and post docs. The IDP serves as a communication tool between the student and his or her mentor (PI). This process will help students clarify expectations and recognize milestones. Each new graduate student along with the PI must complete and submit an IDP within three months of the initial appointment. Subsequently, a revised IDP must be submitted annually.

**Goals of the IDP:**

Help the graduate student identify:

Short-term needs for improving current performance.

Long-term career options and necessary tools to meet these objectives.

**Benefits of the IDP:**

Identifying short-term goals will give graduate students a clearer sense of expectations and help identify milestones along the way to achieving specific objectives. Graduate students will have a process that assists in developing and achieving long-term career goals. The IDP provides a tool for communication between the graduate student and the PI.

**Outline of the IDP process:**

The development, implementation, and revision of the IDP requires a series of steps to be followed by the graduate student and the mentor. These steps are an interactive effort. Thus, both the graduate student and the PI must participate fully in the process.

**How to complete the IDP:**

|  |  |  |
| --- | --- | --- |
| **Basic Steps** | **For Graduate Student** | **For Mentor** |
| Step 1 | Perform self-assessment Write an IDP  Share IDP and assessment | Assess student's research/professional skills Review IDP and assessments |
| Step 2 | Implement the plan Revise IDP as needed | Establish yearly progress review |
| Step 3 | Survey opportunities with mentor | Discuss opportunities with graduate student |

**Additional Information:**

<http://acd.od.nih.gov/bmw>\_report.pdf

<http://myidp.sciencecareers.org/>

<http://www.nationalpostdoc.org/careers/career-planning-resomces> <http://www.faseb.org/portals/2/pdfs/opa/idp.pdf>

Individual Development Plan (IDP) Form – YEAR  
Pharmacology and Nutritional Sciences

Graduate Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
  
Ph.D. Program in: Pharmacology Nutritional Sciences (Please ✓ either box)  
  
 Pre-quals Post-quals (Please ✓ either box)

Advisor’s Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parts I, II and III – to be completed by the student

Part IV and V– to be completed by the Advisor and Student

**I. Annual Progress Report (March 1, 2021 – March 1, 2022)**

1. **List academic achievements (e.g., courses, workshops, journal clubs) completed in this time frame:**
2. **List or briefly describe new research/ laboratory techniques learned, or new areas of expertise achieved, and/or new research results obtained, in this time frame:**
3. **List references for publications between 3/1/21 and 3/1/22. (Use PubMed to search, and then paste).**

**Example:**

1. [Heterozygous loss of TSC2 alters p53 signaling and human stem cell reprogramming.](https://www.ncbi.nlm.nih.gov/pubmed/28973543)

Armstrong LC, Westlake G, Snow JP, Cawthon B, Armour E, Bowman AB, Ess KC.

Hum Mol Genet. 2017 Dec 1;26(23):4629-4641. doi: 10.1093/hmg/ddx345.

PMID: 28973543

1. **List references for abstracts that were presented at conferences or meetings:**
   1. **Example: - Title of abstract, Authors, name of conference, date of conference (mm/yy). City, State, Country**
2. **List funding/grants applied for and/or received this year.**
3. **List honors and awards received this year (Name of the award, Date received):**
4. **Within the last year, have you established new research collaborations (intellectual or technical)? If so, please briefly describe. If you have continued collaborations from last year, please briefly describe.**
5. **List the efforts you have made this year to improve understanding of responsible conduct of research (i.e. conflicts of interest, data ownership/sharing, responsible authorship, etc.):**
6. **Describe any professional development activities and/or accomplishments over the past year. (e.g., teaching, clinical work, university and departmental service, etc.). Please indicate if there is anything the department could provide that would enhance your professional development:**
7. **Are you satisfied with your progress (academic and/or research) in the past year? Did you reach the goals set for yourself last year? If not, why not?**

**II. Plans for the Upcoming Year (March 1, 2022 – March 1, 2023)**

1. **List your academic plans for the upcoming year (e.g., courses you will take, journal clubs you will participate in, qualifying exam completion, thesis defense)**
2. **List your research project goals for the upcoming year, including anticipated completion dates (be brief):**
3. **Do you plan to learn new research techniques in the upcoming year? If so, please list.**
4. **Do you plan to submit publications in the upcoming year? If so, please list, with prospective titles and anticipated submission dates.**
5. **Do you plan to submit grant or funding applications within the upcoming year? If so, please list.**
6. **Do you plan to establish research and/or intellectual collaborations in the upcoming year? If so, please describe.**
7. **What are your plans for other professional training in the upcoming year (e.g., teaching, workshops, etc.)? Please list here.**

**III. Career Goals**

1. **What are your short- and long-term career goals? What is your plan and/or timeline for achieving them? Are you participating in activities to help you meet these goals?**
2. **Have you identified and fostered relationships (networking) with mentors other than your PI in similar careers?**
3. **When do you anticipate beginning a job search? If you are unsure, please estimate.**

**IV. Mentorship Plan**

1. **What are the plans for you and your PI to meet and review data, progress, plan future steps? (frequency, duration, and location of meetings)**
2. **Are there other mentors or advisors who can help you achieve your academic, research or career goals?**

**V. Skills Assessment (to be completed by the advisor/mentor with the student)**

Evaluate skills and abilities: 1 = Needs improvement

2 = Making progress

3 = Satisfactory

4 = Highly proficient

|  |  |  |  |
| --- | --- | --- | --- |
| **SKILLS** | **ABILITIES** | **EVALUATION:  (Select 1, 2,**  **3, or 4)** | **COMMENTS/**  **JUSTIFICATION**  **(optional)** |
| **Research Skills** | Knowledge of the literature |  |  |
| Technical abilities / bench skills |  |  |
| Experimental design |  |  |
| Lab records / data management |  |  |
| Problem solving / troubleshooting |  |  |
| Data analysis |  |  |
| Computer skills / software |  |  |
| **TOTAL** | 0 |  |
| **Professional Skills** | Oral presentation |  |  |
| Writing |  |  |
| Teaching/ Training others |  |  |
| Mentoring |  |  |
| Being mentored |  |  |
| Self-motivation / work ethic / perseverance |  |  |
| **TOTAL** | 0 |  |
| **Leadership /Management Skills** | Leading / motivating others |  |  |
| Budgeting |  |  |
| Managing projects and time |  |  |
| Organizational skills |  |  |
| **TOTAL** | 0 |  |
| **Interpersonal Skills** | Getting along with others |  |  |
| Conflict resolution |  |  |
| Networking / meeting new colleagues |  |  |
| Collaboration / teamwork |  |  |
| Reliability |  |  |
| **TOTAL** | 0 |  |

**Comments:**

**Signature of Advisor:**

**Appendix B - Pharmacology Graduate Faculty**[Graduate Faculty Information](https://ris.uky.edu/cfdocs/gs/dgsgradfac/)  
 **Appendix C - Checklists for the Qualifying Exam and Dissertation Defense**

**CHECKLIST FOR QUALIFYING EXAM**

* Register for PHA 767 in the term you intend to schedule your Qualifying Exam.
* Graduate School approval of the date for the Qualifying Exam.
  + Submit date online at: <https://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm>
  + This must be done at least two weeks before the exam.
* Reserve a room with Veronique Thibault.
* Submit an abstract of the written proposal (1-2 pages, at most) to the advisory committee.
* Submit the proposal to the advisory committee within four weeks of committee approval of the abstract.
  + This must be done at least two weeks before the exam date.

**CHECKLIST FOR DISSERTATION DEFENSE**

* Two semesters of post-qualifying residency are required before you schedule your dissertation defense.
* Any incomplete grades ("I") on your transcript must be corrected.
* Register for PHA 767 the term you intend to schedule your Defense.
* File an Application for a Degree online with the Graduate School by thirty days after the beginning of the graduating semester, or fifteen days after the beginning of the summer session.
* File a Notification of Intent to Schedule a Final Examination at least eight weeks prior to the defense.
* Set defense date with committee and outside examiner (assigned by Grad School following the

Notification). The defense must occur at least eight days prior to the last day of classes in the semester or summer session.

* Reserve seminar and defense rooms with Veronique Thibault.
* Schedule the final date for the defense with the Graduate School at least two weeks beforehand.