

GRADUATE PROGRAM IN PHARMACEUTICAL SCIENCES
UNIVERSITY OF KENTUCKY

GRADUATE STUDENT HANDBOOK

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University of Kentucky Graduate School Bulletin

This handbook is meant to assist students by offering a general framework. While it is consistent with the Graduate School requirements and the doctoral programs it serves, it is not comprehensive. Students should consult the University of Kentucky Graduate School Bulletin for the formal regulations governing all doctoral programs at UK.

<http://gradschool.uky.edu/graduate-school-bulletin>

Important Resources

University of Kentucky Graduate School

<https://gradschool.uky.edu/>

Office for Institutional Diversity

<https://www.uky.edu/inclusiveexcellence/>

Disability Resource Center

<https://www.uky.edu/DisabilityResourceCenter/>

University of Kentucky Academic Calendar

<https://www.uky.edu/registrar/content/academic-calendar>

FERPA & Privacy

<https://www.uky.edu/registrar/FERPA-privacy>

Enrollment Verifications & Letters of Good Standing

<https://www.uky.edu/registrar/content/verifications-letters-good-standing>

Academic Ombud Services

<https://www.uky.edu/ombud/>

Center for Support and Intervention

<https://www.uky.edu/concern/>

Program Description

The Graduate Program in Pharmaceutical Sciences is a multidisciplinary program designed to prepare motivated individuals for academic, industrial, or government careers in pharmaceutical and biomedical research. It is a graduate training program that encompasses research in areas of pharmaceutical sciences that range from identifying fundamental mechanisms of human disease, to the design, development and formulation of new medicines, to understanding the impact of

drug policies on health care systems. Within this broad scientific framework, students develop individually tailored programs of study to meet their particular research interests and career objectives.

Intense, laboratory-based and data and analysis driven research, using state-of-the-art techniques and instruments, forms the basis of a student's PhD dissertation or Master's thesis. Each student develops the skills and judgment to make a unique, scholarly contribution to our understanding of drugs and how these compounds impact human health and disease. These breakthroughs are published in top pharmaceutical journals and presented at national and international meetings. Students receive the training that will enable them to become independent scientists who can conduct front-line research in pharmaceutical sciences in industrial, academic or governmental settings.

The overall goal of the graduate program is to provide the graduate student with a comprehensive, structured, yet flexible educational experience comprised of both coursework and independent, highly creative, research. This goal is supported by additional components, such as research rotations for first-year students and a program-wide seminar series. The intent is to provide both depth and breadth of expertise in the Pharmaceutical Sciences along with developing the creative and critical approach to research that characterizes a PhD-level or Master's level scientist.

All students in the program will carry out hypothesis-driven laboratory investigations as the basis of a written dissertation or thesis for PharmD/MS students. The quality of the dissertation will be judged by the student's advisory committee, in accord with the requirements and regulations set forth by the Graduate School. It is expected that the dissertation or thesis work will be recognized as high quality by also being published in national and international scientific journals and presented in forums at national and international scientific meetings.

Our faculty have established a set of Guiding Principles that direct the evolution of our program to meet these criteria. These can be found at <https://pharmacy.uky.edu/admission-aid/phd-program>.

A Brief History of the Program

The Pharmaceutical Sciences Graduate Program continues the tradition of graduate education established by the University of Kentucky College of Pharmacy in 1967. The proposal for a graduate program in Pharmaceutical Sciences, with areas of concentration in Pharmaceutics and Pharmaceutical Chemistry, was approved by the Graduate Faculty on November 18, 1968 and by the Board of Trustees of the University of Kentucky on February 18, 1969. Dean Joseph Swintosky and Dr. Harry Kostenbauder were instrumental in establishing the program and guiding the program for the first 20 years. The first class of graduate students consisted of 7 students and the first candidate (Dr. William Crouthamel) graduated in 1970.

As the graduate faculty grew, so did the size and the breadth of the graduate program. In the '70s and early '80s, Drs. George Digenis, Anwar Hussain, Patrick DeLuca and Louis Diamond played key

roles in expanding the areas of research to include drug delivery, medicinal chemistry and pharmacology. In the mid to late '80s, an increased emphasis on the biological aspects of pharmaceutical sciences including molecular biology and biotechnology was established under the leadership of Drs. Mark Gillespie and Myron Jacobson. The Clinical Pharmaceutical Science program also came into being at this time with Dr. Robert Blouin guiding the early formation of this training track.

The first student was admitted into the Pharmaceutical Outcomes and Policy track in 2009. The first graduate was in 2012.

The PharmD/MS dual degree program was approved by the University Senate on May 5, 2014. This dual degree combination is highly desirable for persons seeking careers in state and local health departments, the pharmaceutical industry, managed care organizations, and academic healthcare systems and colleges. The first group of 6 students graduated with both a PharmD and MS on May 6, 2016.

Training Options

Doctoral degrees in Pharmaceutical Sciences at the College of Pharmacy are obtained through one of five Tracks. The Traditional Pharmaceutical Science Tracks provide training that is based on advanced coursework in contemporary basic pharmaceutical sciences plus independent laboratory or computational research under the direction of a faculty mentor. In the Traditional Pharmaceutical Science Tracks the many research opportunities available are organized into three broad disciplinary areas: Medicinal, Bioorganic and Computational Chemistry, Pharmaceutical Chemistry and Engineering, and Pharmacology and Experimental Therapeutics. The Clinical and Experimental Therapeutics Track requires a prior degree in an area of professional healthcare, and focuses on training in translational research at the interface between basic and clinical studies. The Pharmaceutical Outcomes and Policy Track trains scientists to conduct research on the safe, efficient, and effective use of pharmaceuticals to improve the health of individuals and populations.

Traditional Pharmaceutical Science Tracks

The goal of the Pharmaceutical Science Tracks is to develop scientists who possess a blend of contemporary basic science skills and an understanding of their role in the development of new drugs. Training begins with advanced coursework that is tailored to give each student a solid foundation across the breadth of pharmaceutical sciences, yet is individualized based on the student's academic background, and the research project that will be the basis for their dissertation. The many research opportunities available are organized into three broad disciplinary areas to form the following tracks:

Medicinal, Bioorganic and Computational Chemistry Track

The Division of Medicinal, Bioorganic and Computational Chemistry is focused on small molecules as well as new protein and nucleic acid based therapies, and natural product drug discovery

platforms and seeks to expand its expertise with interests in synthetic/biosynthetic approaches for drug discovery, development of novel computational tools for drug design, and evolution of biologics for specific therapies or drug delivery.

Pharmaceutical Chemistry and Engineering Track

The Division of Pharmaceutical Chemistry and Engineering focuses on drug formulation, development and delivery. Areas of emphasis include the application of physical, physical organic, and analytical chemistry to solve pharmaceutical problems; the design, development, and optimization of dosage forms for small and large molecules; and fundamental research into materials science and nanotechnology to advance drug delivery systems design. Collaborations with faculty in the UK College of Engineering provide additional opportunities for a combined pharmaceutical and engineering research program. In addition, faculty participate in preclinical and/or clinical projects through collaborative relationships within the College of Pharmacy and with investigators across the UK Medical Center Complex.

Pharmacology and Experimental Therapeutics Track

The Division of Pharmacology and Experimental Therapeutics draws upon campus-wide strengths in neurobiology, cardiovascular disease, oncology and infectious diseases. Strong collaborations exist with the Sanders-Brown Center on Aging, addiction/abuse consortia, and the Markey Cancer Center, which recently received NCI Cancer Center designation. Division faculty are skilled in pharmacokinetic and pharmacodynamics, systems biology, neurochemistry and neurophysiology. Translational research programs bridging preclinical and/or clinical projects through collaborative relationships within the College of Pharmacy and with investigators across the UK Medical Center Complex also exist.

Clinical and Experimental Therapeutics Track (CET)

The completion of a Pharm.D., D.D.S., D.V.M. or other professional health degree is required for admission into this training Track. The focus of the CET Track is translational research, and involves training in how to conduct studies that occur at the interface of basic and clinical research. Since all students admitted to the program will already have a clinical/health profession degree, the emphasis of the program will be training in the basic sciences. This breadth and balance of skills will improve the graduate's ability to successfully compete for extramural funding and job opportunities. There are required clinical components to assure competency in the foundations, principle and processes of clinical research. The keystone of the training is the conduct of an integrated, combined laboratory-based and clinical dissertation.

Pharmaceutical Outcomes and Policy Track (POP)

The goal of the Pharmaceutical Outcomes and Policy Track is to train scientists to conduct research on the safe, efficient, and effective use of pharmaceuticals to improve the health of individuals and populations. The emphasis of the program will be on building a core set of analytical skills and tools to evaluate the impact of clinical interventions and clinical outcomes. Students complete core classes in five areas: pharmacoepidemiology, pharmacoeconomics, statistics, biomedical informatics, and pharmaceutical policy. This breadth and balance of skills will improve the graduate's ability to successfully compete for extramural funding and contribute to the scholarly literature on pharmaceutical outcomes. Most students within the Pharmaceutical Outcomes & Policy Track have a prior professional health related degree (Pharm.D., B.S. Pharm.) Exceptional students without a pharmacy related degree may be admitted with the consent of the admissions committee. Students without appropriate prerequisite training may be required to complete additional course work.

Doctoral Program Requirements

General Requirements

Although requirements vary from track to track, the general requirements for graduation are as follows:

1. The graduate student will participate in the educational activities of the Graduate Program as a whole and of the specific Track of which s/he is a member during the entire period the student is in residence in the program.
2. Students are expected to take the recommended core courses of the Track in which they participate. The recommended core courses cover material that is deemed essential to the scientific discipline represented by the Division. In addition, the Dissertation Advisory Committee of each student will establish a specific set of courses pertinent to the educational and career goals of the student within the discipline, the scientific goals of the dissertation work and the requirements of the Graduate Program.
3. Students are expected to attend and present seminars as outlined below. Failure to attend seminars will result in denial of funding awards. Students will receive emails regarding the seminar attendance guidelines to be eligible for travel and potentially additional funding awards.
4. A major goal for a student during the first year in the program is to identify a laboratory or project and mentor for his/her dissertation research. This is accomplished by participation in at least 2 (3 recommended) rotations (see below for more details). By the end of June of the first year, *failure of the student to identify a mentor with whom to conduct their dissertation research will result in dismissal of the student from the program.* Extensions of this deadline may be granted at the discretion of the DGS.
5. Students must take and pass a Qualifying Examination, consisting of 3 parts, which are detailed below. There are specific requirements for each Track.
6. Students must prepare and orally defend a PhD dissertation. The student's Dissertation Advisory Committee will monitor and help guide the development of the dissertation, and administer the final examination (defense).

Doctoral Program Core Coursework

Each Track has a distinct set of courses. These courses may be offered in the Graduate Program of Pharmaceutical Sciences, or available outside of the Program. The mentor and the Dissertation Advisory Committee are empowered to select those courses that fit best into the educational and career goals of the student and the scientific goals of the dissertation. The Track Coordinator (for first-year students) or mentor and the Dissertation Advisory Committee are empowered to petition the DGS, in writing, to waive courses of the Graduate Program Core if the student has demonstrated sufficient academic mastery of material in courses taken in other programs. The DGS will monitor the coursework of students and keep the Advisory Committee members apprised as to the student's grades and completion of courses. Coursework and grades are reviewed by the Advisory committee at each yearly meeting.

The student's Dissertation Advisory Committee is responsible for coursework recommendations that are in addition to the common coursework of the program and courses recommended by the Track faculty. Full descriptions of available graduate courses are described in the Bulletin of the University of Kentucky Graduate School (<http://www.uky.edu/Registrar/Bulletin.htm>).

Medicinal, Bioorganic, and Computational Chemistry Track

Core Courses: (Students should complete these courses over 4-6 semesters)

Course Prefix	Course Number	Credits	Course Title
PHS	601	3	Cells and Molecules
PHS	602	3	Metabolic Pathways
PHS	556	3	Principles of Drug Design
PHS	760 00x	1	Introduction to Pharmaceutical Sciences
PHS	701	3	Translational Research in Pharmaceutical Sciences
PHS	711	2	Responsible Conduct of Research
PHS	760 00x	Varies	Research Rotations
PHS	778	1	Seminar (attendance required each semester until defense; officially register only until passing the qualifying exam)

Additional courses to be taken by an individual student depend on:

- The research group and dissertation project the student selects
- The academic preparation of the student (areas that need strengthening)

Elective courses:

Course Prefix	Course Number	Credits	Course Title
PHS	750 00x	1	Pharm Sci Journal Club: Natural Products
PHS	760 00x	3	Innovations in Pharmaceutical Sciences
PHS	760 00x	1	Application of NMR and Other Spectroscopic Methods in Molecular Structure Determination
PHS	510	5	Modern Methods in Pharmaceutical Analysis
PHS	662	3	Bioorganic Mechanisms
PHS	660	3	Biosynthesis of Natural Products
PHS	663	3	Molecular Neurobiology of Abused Drugs
BCH	401G	3	Fundamentals of Biochemistry
CHE	440G	4	Introductory Physical Chemistry
CHE	538	3	Principals of Organic Chemistry
IBS	606	3	Physiological Communication
MA	213	4	Calculus III
PGY	502	5	Principles of Systems, Cellular and Molecular Physiology
STA	570	3	Basic Statistical Analysis

Pharmaceutical Chemistry and Engineering Track**Core Courses:** (Students should complete these courses over 4-6 semesters)

Course Prefix	Course Number	Credits	Course Title
CME	505	3	Analysis of Chemical Engineering Problems
CME	630	3	Transport I
PHS	630	3	Pharmaceutical Rate Process
PHS	631	3	Equilibrium Phenomena in Pharmaceutical Systems
PHS	701	3	Translational Research in Pharmaceutical Sciences
PHS	760 xxx	1	Introduction to Pharmaceutical Sciences
PHS	760 xxx	1	PET Track Course: Pharmacodynamics Module
PHS	760 xxx	2	PET Track Course: Pharmacokinetics Module
PHS	760 00x	Varies	Research Rotations
PHS	711	2	Responsible Conduct of Research
PHS	778	1	Seminar (attendance required each semester until defense; officially register only until passing the qualifying exam)

Additional courses to be taken by an individual student depend on:

- The research group and dissertation project the student selects
- The academic preparation of the student (areas that need strengthening)

Highly Recommended Courses:

Course Prefix	Course Number	Credits	Course Title
CHE	538	3	Principles of Organic Chemistry
CHE	548	3	Principles of Physical Chemistry II
IBS	601	3	Biomolecules and Metabolism (or CHE 550)
IBS	611	2	Practical Statistics
PGY	206 or 502	3 5	Elementary Physiology (no graduate credit) or Principles of Systems, Cellular and Molecular Physiology
PHS	573	3	Drug Delivery: Advanced Pharmaceutics
PHS	634	3	Pharmaceutical Engineering
STA	570	3	Basic Statistical Analysis
STA	602	4	Introduction to Statistical Methods

Elective Courses (These courses may require additional prerequisites):

Course Prefix	Course Number	Credits	Course Title
PHS	601	3	Cells and Molecules
PHS	602	3	Metabolic Pathways
PHS	760 00x	3	Innovations in Pharmaceutical Sciences
CHE	532	2	Spectroscopic Identification of Organic Molecules
CHE or IBS	552 602	3 3	Biological Chemistry II or Molecular Biology and Genetics
CHE or ABT	553 495	3 4	Chemistry and Molecular Biotechnology or Experimental Methods in Biotechnology
MED	616	3	Biology and Therapy of Cancer
STA	677	3	Applied Multivariate Methods

Pharmacology and Experimental Therapeutics**Core Courses:** (Students should complete these courses over 4-6 semesters)

Course Prefix	Course Number	Credits	Course Title
PHS	601	3	Cells and Molecules
PHS	602	3	Metabolic Pathways
PHS	760 00x	4	Pharmacology and Experimental Therapeutics (PET Track Course)
STA or IBS	570 or 611	2-3	Basic Statistical Analysis (3 credits) Practical Statistics (2 credit)
PHS	760 00x	1	Introduction to Pharmaceutical Sciences
PHS	701	3	Translational Research in Pharmaceutical Sciences
PHS	711	2	Responsible Conduct of Research
PHS	760 00x	Varies	Research Rotations
PHS	778	1	Seminar (required each semester until defense; officially register until passing the qualifying exam)

Electives:

Course Prefix	Course Number	Credits	Course Title
PHS	750 00x	1	Pharm Sci Journal Clubs: Neuro
PHS	750 00x	1	Pharm Sci Journal Clubs: Cardio
PHS	750 00x	1	Pharm Sci Journal Clubs: Neurovasculature
PHS	760 00x	3	Innovations in Pharmaceutical Sciences
PHS	663	3	Molecular Neurobiology of Abused Drugs

Clinical and Experimental Therapeutics**Core Courses:** (Students should complete these courses over 4-6 semesters)

Course Prefix	Course Number	Credits	Course Title
PHS	601	3	Cells and Molecules
PHS	602	3	Metabolic Pathways
PHS	612	3	Quantitative Pharmacodynamics: Pharmacokinetics
PHS	711	2	Responsible Conduct of Research
PHS	750	1	Journal Club (choice of journal club topic)
PHS	760 00x	1	Introduction to Pharmaceutical Sciences
PHS	701	3	Translational Research in Pharmaceutical Sciences
PHS	760 xxx	1	PET Track Course: Pharmacokinetics Module*
PHS	760 xxx	2	PET Track Course: Pharmacogenetics Module*
PHS	760 00x	Varies	Research Rotations
PHS	778	1	Seminar (attendance required each semester until defense; officially register only until passing the qualifying exam)
PPS	764	3	Drug Development Regulation & Clinical Research
STA	570	3	Basic Statistical Analysis
STA	674	3	Regression Analysis and Design of Experiments

All students must become IRB and HIPPA certified

pending consultation with instructor regarding previous academic training*Electives**

Course Prefix	Course Number	Credits	Course Title
PHS	760 00x	3	Innovations in Pharmaceutical Sciences
PHS	760 00x	3	Techniques in Pharmaceutical Analysis
BIO	520	3	Bioinformatics
BIO	615	3	Molecular Biology
IBS	603	3	Cell Biology and Signaling
PGY	502	5	Principles of Systems, Cellular and Molecular Physiology
PGY	617	2	Physiological Genomics

PHA	621	3	Principles of Drug Action
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Pharmaceutical Outcomes and Policy

The Doctor of Philosophy track focusing on Pharmaceutical Outcomes & Policy requires a minimum of 50 credit hours: including a 29 credit hour core curriculum, 12 hours in a specialization area designed by the Advisory Committee, and 9 hours of dissertation work. Students without appropriate pre-requisite training may be required to complete additional course work. Generally, students without a Master level degree will be required to complete appropriate level courses designed to meet pre-requisite requirements to begin doctoral coursework. The student Advisory Committee may also require additional coursework to satisfy appropriate depth and breadth of training.

Core Courses:

Course Prefix	Course Number	Credits	Course Title
PPS	700	3	Introduction to Pharmaceutical Outcomes and Policy
PPS	701	3	Pharmacoepidemiology
PPS	704	3	Pharmacy Informatics
PPS	706	3	Intermediate Pharmacoeconomics and Decision Analysis
PPS	710	3	Techniques in Secondary Data Research
PPS	750	1	Pharmaceutical Outcomes and Policy Journal Club (attendance is required each semester until defense)
PPS	760	3	Special Topics in Pharmacy Practice & Science: Behavioral Economics in Pharmaceutical Outcomes & Policy
PPS	778	1	Seminars in Pharmacy Practice & Science (attendance is required each semester until defense)
PHS	760	1	Topics in Pharmaceutical Sciences: Introduction to Pharmaceutical Sciences
PHS	701	3	Translational Research in Pharmaceutical Sciences
PHS	711	2	Responsible Conduct of Research
BST	600*	3	Introduction to Biostatistical Methods
CPH	605*	3	Epidemiology
ECO	603*	3	Research Methods and Procedures in Economics OR (Alt. Statistics)
ECO	703*	3	Introduction to Econometrics I OR (Alt. Statistics)

All students must complete IRB and HIPAA training

* Prerequisites are required, including 6 hours of statistics or biostatistics, and introductory epidemiology and health economics. May be waived if comparable previously completed graduate-level courses have been completed.

In addition to the core courses, the student's Advisory Committee may recommend additional elective courses. A student's completion of these course requirements must be assured by the student's Mentor(s), Advisory Committee and PPS Track Coordinator. In addition, some students may need to complete prerequisite courses before beginning core class course work. Note at least 75%

of the courses must be 600 level or higher and prerequisites for core courses cannot count as specialty electives.

Partial List of Elective Courses (these courses may require additional prerequisites)

Course Prefix	Course Number	Credits	Course Title
PPS	605	2	Pharmacoeconomics and Decision Analysis
PPS	620	3	Substance Use Disorders: Health Implication, Policies, & Prevention Strategies
PPS	702	2-3	Pharmaceutical Health Policy
PPS	764	3	Drug Development Regulation and Clinical Research
BMI	633	3	Introduction to Bioinformatics
BMI	730	3	Principles of Clinical Informatics
BMI	732	3	Biomedical Ontologies and Semantic Web Techniques
BMI	734	3	Introduction to Biomedical Image Analysis
BMI	738	3	Big Data for Healthcare
BST	682	3	Generalized Linear Models
BST	761	3	Time to Event Analysis
BST	762	3	Longitudinal Data Analysis
CPH	664	3	Design and Analysis of Clinical Trials
CPH	711	3	Chronic Disease Epidemiology
CPH	712	3	Advanced Epidemiology
CS	405G	3	Introduction to Database Systems
CS	460G	3	Machine Learning
CS	515	3	Algorithm Design
ECO	751	3	Public Economics
EPI	717	3	Introduction to Casual Inference
PA	751	3	Public Policy Formulation & Implementation
PA	752	3	The Economics of Policy Analysis
PPA	784		Next Generation Sequencing and Bioinformatics
STA	671	2	Regression and Correlation
STA	672	2	Design and Analysis of Experiments
STA	673	2	Distribution-Free Statistical Inference and Analysis of Categorical Data
STA	677	3	Applied Multivariate Methods

Seminars

Students are required to make scientific presentations at set times throughout the graduate training as outlined below. The purpose of these seminars is to allow the student to develop their ability to orally present research within their area of expertise and their own findings to their scientific peers.

First year of graduate study - Each student will present at least one 15-minute seminar organized by Division/Track Faculty (in lieu of a seminar, some Divisions may use journal clubs or other

meaningful speaking opportunities as a replacement). A Seminar Performance Evaluation Form is completed by faculty in attendance.

Second year of graduate study – Each student will present at least one 30 minute seminar organized by Division/Track Faculty (in lieu of a seminar, some Divisions may use journal clubs or other meaningful speaking opportunities as a replacement). A Seminar Performance Evaluation Form is completed by faculty in attendance.

All students will present one 50 minute seminar to the entire Graduate Faculty within one year of passing the qualifying exam. These seminars are held on Tuesdays. A Seminar Performance Evaluation Form is completed by faculty in attendance.

The only other programmatic seminar requirement would be for the public seminar prior to the dissertation defense. Division/Track Faculty could add additional requirements for post-qual students as they see necessary. Each student is required to attend seminar each semester until s/he defends the dissertation; however, students officially register only until they pass the Qual exam and move into 2-credit status (PHS/PPS 767- Dissertation Residency credit). Attendance sheets will be available in the seminar room for students to sign in.

Literature Discussion Groups (Journal Clubs)

Throughout their graduate studies, all students are encouraged to participate actively in one or more literature discussion groups (journal clubs) for their area. Literature discussion groups may include students and faculty from other Colleges at UK in addition to those Pharmaceutical Sciences. Literature Discussion Groups provide opportunities to discuss classical, ground-breaking, and front-line research as well as give students practice in presenting their research findings. Each Track has its own journal club requirements—please refer to the Required Coursework section above for details.

Research Rotations

Incoming students are generally not assigned to a laboratory, project or mentor. The decision for a student to pursue their dissertation research under the guidance of a particular faculty member is a joint one, between the student and mentor, with oversight by the DGS. Because students rotate with more than one faculty member, and mentors may accommodate several rotation students, there will inevitably be rotations that do not end up being a successful match. Finding a good match requires the student to be proactive in seeking a mentor, and in performing the rotation project with sufficient interest and skill to encourage the mentor to accept the student. Students will complete a summary of their Rotation Project (see below) and each mentor with whom a student rotates will also complete an evaluation of the student's performance (Research Rotation Evaluation Form) in that rotation project and submit to the Student Affairs Coordinator for inclusion in the student's file. The student needs to have a direct conversation with a possible mentor about opportunities for doing a dissertation project with the mentor. The student will communicate this decision to the DGS as soon as it is made. **A student may be dismissed from the program if s/he fails to identify a mentor to pay their stipend by the end of June of the first year of study.**

Traditional Track Rotations

The purpose of rotations is to allow the student to gain an appreciation of the research areas and techniques used by faculty and laboratories, and to enable the student to select a project and mentor. The rotation program and both formal and informal seminars are designed to foster this important decision. The student will spend time in the laboratory of, or working with, 2 or 3 faculty members, participating in hands-on research activities. First-year students will participate in at least two rotations and generally three. Students that find a mentor after the 2nd rotation may opt out of the rotation process at that time. The first rotation should begin on Sept. 1st and the third rotation should be completed by the middle of the Spring semester. Typically, the duration of each rotation will be ~6 weeks and the number of total hours on the project per rotation should be at least 60 hours, with the specifics to be negotiated between student and the rotation advisor. Students can register for a variable number of (but should be at least 2) credits of PHS 760 (section varies) to bring their total number of course hours up to 9 credits/semester. A written summary (one typed page) of what was done, learned and accomplished should be submitted to the DGS following each rotation. Faculty will also provide a written summary of the student's performance (Research Rotation Performance Evaluation Form).

Clinical and Experimental Therapeutics Track Rotations

The purpose of laboratory rotations is to provide opportunities for students to experience different research environments and to participate in the research programs of CET faculty members. First-year students are required to participate in three laboratory rotations beginning about Sept. 1 of the first year, to assist their selection of a major advisor for their dissertation research. To begin identifying appropriate laboratories for rotations, students are encouraged to interview at least 5 CET faculty members prior to the start of the first rotation in the fall semester. Please see the COP website for a listing of CET faculty (<http://pharmacy.uky.edu/graduate-program-pharmaceutical-sciences/scientific-tracks/clinical-and-experimental-therapeutics>). Each rotation will last approximately 6-8 weeks, and all should be completed before the end of the second semester. Students should register for Clinical Track rotations (this will be one of the sections of PHS 760). Students can register for a variable number of (but should be at least 2) credits to bring the total number of course hours up to 9 credits. A written summary (one typed page) of what was done, learned and accomplished should be submitted to the DGS following each rotation. Faculty will also provide a written summary of the student's performance (Research Rotation Performance Evaluation Form).

Individual Development Plans

Individual Development Plans (IDP) will be completed by each graduate student after identifying a major advisor. The mentor and mentee will undergo the initial IDP creation process prior to the student's first committee meeting. IDPs serve as a mechanism for students and their mentors to identify career goals and develop specific plans for projects, graduate study, and professional development to assist in achieving these goals. The IDP is a basis for communication between the student, the mentor, and the committee. This is an important step in the comprehensive

mentoring process where professional development and career planning are achieved in conjunction with completion of the degree.

The development and implementation of the IDP is an interactive and iterative process that continues to mature throughout the student's time in the program. For complete details please see the Individual Development Plan Guidelines.

Qualifying Exam

The student will be permitted to take the qualifying examination after s/he has completed the courses required in the relevant Track. The Advisory Committee should be formed and officially appointed no later than the point at which 18 credits hours of graduate work have been accumulated. Qualifying exams can be taken no earlier than one academic year after the official formation of the Advisory Committee. Exceptions can be made for students transferring into the program. Permission to schedule a qualifying exam should be requested by the student at their annual Advisory Committee meeting. The student should prepare a list of courses and grades received for all of their graduate work. The DGS will ensure that the relevant Graduate Program Core courses are completed. **Students are expected to take their Qualifying Exam during their 5th semester of study.**

Step by Step

1. Intent of Examination
 - a. To answer the question "Is the student ready to begin PhD-level work?"
 - b. NOT to judge the project
2. Graduate School requirements
 - a. Student must have completed four semesters (36 credit hours) in the PhD program or completed a master's degree from an accredited U.S. institution and 2 semesters (18 credit hours) in the PhD program
 - b. Must have a grade assigned to all completed courses—*have Student Affairs Coordinator submit Grade Change form to update previous "S" grades*
3. Steps to get the process started
 - a. Have Advisory Committee approval for student to sit for examination--*have an Advisory Committee meeting*
 - b. Settle on dates for Written Questions to be given to student (See Part 4.b.)—this should be in the month preceding the possible oral exam date. *Notify Student Affairs Coordinator*
 - c. Settle on date for Oral Portion of Examination. For the semester in which the Qualifying exam is planned, the student should register for PHS767- Dissertation Residency credit, for 2 credits. The qualifying examination can be taken at any time during the semester
 - d. Student must login to their personal page on the Doctoral Degree Candidate Forms website https://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm. The student should complete the Qualifying Examination Request Form online and submit to the DGS for approval two weeks prior to your oral qualifying examination date

- e. Grad School will return to Student Affairs Coordinator an AUTHORIZATION-TO-TAKE-EXAM card – *s/he will give it to your mentor on the day of the oral exam*
 - f. MUST have all members present for whole examination
4. Format of Examination
- a. Three parts: Written Questions, Written Proposal, and Oral Examination
 - b. Written question(s) submitted by each committee member to Student Affairs Coordinator
 - c. Written Proposal
 - i. NIH style research proposal. See format rules below and *check with your mentor and advisory committee for any unique format and page limits that they wish to impose.*
 - ii. Goal—to assess if the candidate can identify a worthy research problem, formulate a hypothesis and design experiments to test that hypothesis
 - iii. You can use your current research project, but must show independence from your mentor
 - iv. Provide written proposal to committee members **two weeks** prior to oral examination
 - d. Oral portion
 - e. Must pass all 3 portions to advance to candidacy
5. Results/Consequences
- a. If you are planning to take the exam for the Fall semester, register for 2 credit hours of PHS 767. If you are not planning to take any other courses that semester, these 2 credits will constitute full-time enrollment, and will cost only the tuition for 2 credits. If you wish to take additional course work that semester (such as a course that is offered only every other year) speak with your mentor and the DGS before you register for that course, as this will cause your tuition costs to be greater.
 - b. If you pass, you thereafter continue to enroll in PHS767 every fall and spring semester, for 2 credits, until you have completed and defended your dissertation. The Department or your mentor will pay the tuition for credits up to a total time in the program of 10 semesters. After that time, you must find a way (you or your mentor) to pay this tuition.
 - c. If the qualifying exam is failed, you can retake it after 4 months (one time).
 - i. You must immediately drop PHS767 and add PHS 790 (Research) to make a total of 9 credits.
 - ii. Full tuition for all 9 credits will then be charged to your mentor or the department for that semester.
 - iii. Your committee will determine if you must re-take the entire questions/proposal/oral, or just individual parts.
 - d. Department support for your tuition covers a maximum of 6 semesters at the full 9 credit rate. **Students are expected to take their Qual during their 5th semester.**
 - e. Do not put off the Qual until your 6th semester, for if you fail, then you or your mentor will have to pay the full tuition.
 - f. See Tuition Policy Statement for exceptions to these policies.

Written Questions

The written examination will be composed of questions designed to evaluate the student's understanding and competence of the specialty area within pharmaceutical sciences in which the student anticipates conducting his/her dissertation research. The time frame for the written exam

is decided during a meeting of the Advisory Committee or by email/phone communication between (and initiated by) the student and committee members.

The graduate student should notify the Student Affairs Coordinator of the week the committee has designated for the written exam. The Student Affairs Coordinator will contact the committee by email to confirm the dates for the written exam and to request that questions (along with stipulations, such as open book vs. closed, time limits) be emailed to the Student Affairs Coordinator by the Friday prior to the start of the exam week. The Student Affairs Coordinator will contact the student as questions are received to relay the stipulations (ex. Dr. Smith sent closed book questions with a 4 hour time limit). The student will notify the Student Affairs Coordinator of the days/times the student prefers to take each part of the exam. The Student Affairs Coordinator will reserve rooms for closed book questions. The graduate student will return his/her answers to the Student Affairs Coordinator. A copy will be retained for the student file and the original delivered to the committee member who provided that question for grading. Committee members grade questions as pass-fail at the PhD level and notify the major professor of the results. Each Committee Member completes the Qualifying Examination Performance Evaluation (Written Component) Form. The Major Professor relays results to student and confirms approval to take the oral exam. The committee members bring the graded written portions to the oral exam and can bring up points for clarification.

NIH-style proposal

The student will prepare a research proposal prior to beginning the written questions portion of the examination. The student and his/her Major Professor will determine the topic for the research proposal. *For CET students, one of the Aims should address a clinical hypothesis.* The research proposal must develop one or more hypotheses that involve unique ideas that the student presents and tests in the proposal and that the student is able to defend in the oral examination. The student **must not plagiarize** the mentor's grant applications or publications. The format of the proposal will be an abbreviated NIH grant (see below). The students should distribute copies of the proposal to each Advisory Committee member before taking the written questions, and no later than two weeks in advance of the oral examination. Advisory Committee members will review the proposal for evidence that the student has learned the scientific method including identification of the aims of the research, generation of the hypotheses to be tested and proper testing of the hypotheses. The Advisory Committee's review of the proposal will focus on the student's mastering of the scientific method, not the specific research to be conducted.

Written Project Proposal Format

The qualifying exam grant should be written using the NIH Guidelines for a Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellows (Parent F31).

<https://grants.nih.gov/grants/guide/pa-files/pa-19-195.html>

Specific Aims (one page)

State concisely the goals of the proposed research and summarize the expected outcome(s), including the impact that the results of the proposed research will exert on the research field(s)

involved. List succinctly the specific objectives of the research proposed, e.g., to test a stated hypothesis, create a novel design, solve a specific problem, challenge an existing paradigm or clinical practice, address a critical barrier to progress in the field, or develop new technology. Note: For CET students, one of the Aims should address a clinical hypothesis.

Research Strategy (no more than 6 pages total)

Organize the Research Strategy in the specified order using the instructions provided below. Start each section with the appropriate section heading — Significance, Innovation, Approach. Cite published experimental details in the Research Strategy section and provide full reference details.

(a) Significance

1. Explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses.
2. Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in one or more broad fields.
3. Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved.

(b) Innovation

1. The Innovation section is optional.

(c) Approach

1. Describe the overall 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 as well as any resource sharing plans as appropriate.
2. Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.
3. If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high risk aspects of the proposed work.
4. Point out any procedures, situations, or materials that may be hazardous to personnel and precautions to be exercised.
5. Include any courses that you plan to take to support the research training experience.

Preliminary Studies

Include information on preliminary studies, if any. Preliminary data can be included within any of the sections listed above.

Literature Cited

List the most relevant literature cited in the proposal. This section is not included in the page limit.

Oral Examination

The oral examination will evaluate the student's familiarity with literature in the specialty area in which the student anticipates conducting his/her dissertation research, skill in the recognition of meaningful questions for investigation, ability to design experimental protocols and ability to communicate effectively. Committee members may also ask questions related to the written

questions portion. The student will defend the mini-NIH format research proposal. Committee members are encouraged to meet at the beginning of the exam to identify the issues and questions to be pursued in the oral examination. Each Committee Member will complete the Qualifying Examination Performance Evaluation (Oral Component) Form.

The Final Examination (Dissertation and Defense)

This program operates within the purview of The Graduate School of the University of Kentucky. The Bulletin of the Graduate School should be consulted for guidelines and requirements applicable to all graduate students, and can be found at the following link.

<http://gradschool.uky.edu/graduate-school-bulletin>

The Doctor of Philosophy Degree

The PhD degree is intended to represent the demonstration of independent and comprehensive scholarship in a specific field. Both the student's mastery of subject matter and the capacity to do research must manifest such scholarship. The degree of Doctor of Philosophy is conferred upon a candidate who, after completing graduate work devoted to study of a special field of knowledge, (1) passes comprehensive examinations in the chosen field and the dissertation subject, (2) presents a satisfactory dissertation, and (3) shows evidence of scholarly attainment.

PhD Dissertation

The most important experience in the education of a graduate student is the completion of a PhD dissertation. Each student must present a dissertation that represents the culmination of a major research project. The dissertation must be a well-reasoned, original contribution to knowledge in the field of study and should provide evidence of high scholarly achievement. The Major Professor is the primary source of guidance in the planning and preparation of the dissertation. However, other members of the Advisory Committee may be involved in the process as well. All core members of the Advisory Committee must have the opportunity to read a near-final draft of the dissertation prior to signing the Dissertation Approval Form. The student must submit the dissertation to the Advisory Committee at least 4 weeks in advance of the defense date to allow the Advisory Committee sufficient time to review the dissertation prior to signing the Dissertation Approval Form. It is the responsibility of the Advisory Committee to make suggestions for revisions before the Final Examination. A majority of the Advisory Committee core members must indicate that the form and substance of the dissertation are adequate to justify the scheduling of the Final Examination. The Final Examination on the dissertation may not be scheduled without the signatures of a majority of the Advisory Committee's members on the Approval Form. A Dissertation Defense Evaluation Form is completed by the Advisory Committee and Outside Examiner upon completion of the defense.

The style and form of the dissertation must be in conformity with the instructions prepared by the Graduate School. For specific instructions regarding the format of the dissertation, the student should consult the Instructions for the Preparation of Theses and Dissertations from the Graduate School Office (<http://gradschool.uky.edu/thesis-dissertation-preparation>).

Residence Requirements

Students first enrolled in a doctoral program in the fall 2005 semester and beyond will be required to enroll in a 2 credit hour course (PHS767 or PPS 767 Dissertation Residency Credit) after successfully completing the qualifying examination. Students must remain continuously enrolled in this course every fall and spring semester, and pay the associated tuition for 2 credits (see Tuition Policy in this document), until they have completed and defended the dissertation. This will constitute full-time enrollment. Students will be required to complete a minimum of two semesters of 767 before they can graduate.

Time Limit for Doctoral Degrees

All degree requirements for the doctorate must be completed within five years following the semester or summer session in which the candidate successfully completes the qualifying examination, but extensions up to an additional 5 years may be requested for a total of 10 years. All requests should be initiated by the Director of Graduate Studies and be accompanied by a letter of support from the student's mentor. An extension of up to one year may be approved by the Senior Associate Dean of the Graduate School. Requests for extensions longer than one year must be considered by Graduate Council. All requests should be initiated by the Director of Graduate Studies and must include a recommendation on whether or not a retake of the qualifying examination should be a requirement of the extension. If requested, failure to pass the re-examination will result in the termination of degree candidacy; a second re-examination is not permitted. Failure to complete all degree requirements within 10 years of initially taking the qualifying examination will also result in the termination of degree candidacy. All pre- and post-qualifying residency requirements must again be met if the student subsequently seeks readmission to the doctoral program.

The Final Examination

The Final Examination includes a defense of the written dissertation and may be as comprehensive as the Advisory Committee desires. An expanded, 5-member Advisory Committee chaired by the mentor of the student's Dissertation Advisory Committee conducts this exam. The Dean of the Graduate School and President of the University are ex officio members of all final examination committees. The examination is a public event, and its time, date and place are published and announced in advance. Any member of the University community may attend.

At least **eight weeks** prior to the Final Examination, the graduate student should submit online the "Notification of Intent to Schedule a Final Doctoral Examination"

https://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm.

Upon electronic approval by the DGS, the Graduate Dean appoints an Outside Examiner as an official member of the Advisory Committee. The Graduate School must be informed of the specific time and date of the examination at least two weeks prior to the actual examination. The graduate student should submit online the "Request for Final Doctoral Examination"

https://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm.)

The Final Examination must take place no later than eight days prior to the last day of classes of the semester in which the student expects to graduate.

In all decisions, the majority opinion of the Graduate Faculty members of the advisory committee prevails. If the advisory committee is evenly divided, the candidate fails. In the event of failure, the advisory committee recommends to the Dean of the Graduate School conditions under which the candidate may be re-examined, if re-examination is deemed appropriate. When conditions set by the Dean of the Graduate School have been met, the candidate may be re-examined. The minimum time between examinations is four months. A second examination must be taken within one year after the first examination. Should any vacancies on the Committee occur between the two examinations, the Dean of the Graduate School shall appoint replacements. A third examination is not permitted.

After the Final Examination is passed, the final version of the dissertation is prepared, incorporating the changes required by the Advisory Committee. Final copies are signed by the mentor and the Director of Graduate Studies, and are submitted to The Graduate School. The dissertation in its final form must be received in The Graduate School office within 60 days of the Final Examination. If this deadline is not met, the candidate must obtain an official waiver from the Graduate School or must undergo a second examination.

Forms and Schedule of Important Deadlines for Final Examination

Graduate School Application for Degree Card

To access the online degree app, the student must go to <http://myuk.uky.edu/>. Once there, navigate to Student Services/myRecords/Graduate Degree Application.

To be eligible for a degree, students must file an application in the Graduate School within 30 days after the start of the semester (or 15 days into the second Summer Session), in which they expect to complete their work. This is accomplished by online submission of the “Application for Degree.”

Notification of Intent

Student must login to their personal page on the Doctoral Degree Candidate Forms website https://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm. The DGS must approve the “Notification of Intent to Schedule a Final Doctoral Examination” in order to initiate the doctoral final examination process. The “Notification of Intent” must be submitted to the Graduate School at least eight weeks before the exam is to be scheduled. Upon submission of the form, the Dean of the Graduate School appoints an Outside Examiner. Note that the minimum eight week lead time is required to secure a suitable outside examiner and to perform the necessary audit of the student’s academic record (a student will not be allowed to sit for the Final Examination until any remaining “I” or “S” grades in credit-bearing courses have been assigned letter grades).

Request for Final Doctoral Examination

Students must login to their personal page on the Doctoral Degree Candidate Forms website https://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm.

Following the appointment of the Outside Examiner, the final examination date may be set. The Request for Final Doctoral Examination must be submitted to The Graduate School at least two weeks before the scheduled date for the Final Exam. Before submitting the Request for Final Doctoral Examination form, the student must submit to the Student Affairs Coordinator the Dissertation Approval Form signed by a majority of the Advisory Committee including the Major Professor. The student must provide the Advisory Committee the completed, formatted dissertation at least 4 weeks prior to the defense date. The Graduate School will send announcements of the examination to each committee member and to the student. Doctoral Final Examinations may only be scheduled when classes are in session (fall and spring semesters, four- and eight-week summer sessions). Examination deadlines and their relation to degree conferral can be found in the University Calendar. <https://www.uky.edu/registrar/content/academic-calendar>

Last date for candidates to sit for a final exam

The final examination must take place no later than eight days prior to the last day of classes of the semester in which the student expects to graduate. Final examinations are public events and must take place while the University is officially in session. They may not be scheduled during the periods between semesters or between the end of the second summer session and the beginning of the fall semester.

Submission of final thesis/dissertation to the Graduate School

The dissertation in its final form must be received in the Graduate School within 60 days of the final examination. Please refer to the University Calendar for the deadlines in relation to degree conferral. <https://www.uky.edu/registrar/content/academic-calendar>

Core Competencies/Student Evaluation/Progress

Core Competencies

We have established a set of Core Competencies that form a foundation for our training. The competencies serve to form the basis for our Program Learning Outcomes and encompass 5 Domains: Foundational Knowledge, Research, Communication, Leadership/Management, and Personal/Professional Development. The Competencies form the basis for student evaluation as well as programmatic assessment. The current Core Competencies were approved in 2019 and can be found here <https://pharmacy.uky.edu/current-students/student-resources>.

Academic Honesty/Penalties

Academic honesty is the cornerstone upon which scientific research and scholarship are based. Experimental discoveries and new scientific insights are built upon a foundation formed by the work and thoughts of others. Thus, utilizing such thoughts in a paper or manuscript, without giving credit to the originator of the idea or result, is dishonest. Such dishonesty is termed *plagiarism*, and is considered an extremely serious offense by the graduate program, the University of Kentucky, and the academic community throughout the world. The penalties for plagiarism are

grave, and can range from a zero for an assignment, to an E (failure) in a course, and, in grievous instances, suspension, dismissal or expulsion from the graduate program and university. The official university list of definitions (Senate Rule 6.3.1), and penalties (Senate Rule 6.4.3(3)) is available at:

http://www.uky.edu/USC/New/rules_regulations/index.htm

In addition, scientific journals demand a high standard of honesty and fair credit for previous publications in manuscripts that are submitted for review. The journals published by the American Association of Pharmaceutical Scientists have developed an Ethics Policy that covers plagiarism, improper manipulation of images, data fabrication or falsification, and other serious breaches of scientific conduct. This information is available at: <https://www.aaps.org/education-and-research/journals/the-aaps-journal>. The American Chemical Society and its associated journals also have ethical guidelines that can be found at: <https://pubs.acs.org/page/policy/ethics/index.html>.

Students should familiarize themselves with what constitutes plagiarism, especially in writing manuscripts for the primary literature and their dissertations. Practices that are accepted in other cultures may be considered serious offenses in the United States. The University Academic Ombud Office has additional resources at: <http://www.uky.edu/Ombud/policies.php> and a link to an excellent paper, "Plagiarism: What is it?" at <http://www.uky.edu/ombud/plagiarism-what-it>.

The “cure” for plagiarism is general and simple—writers must include an immediate citation in the text, to indicate where the information originated, or, if phrases are used verbatim, quotation marks in addition to a citation. To quote Dr. Leggas, “...err on the side of caution – i.e., Don’t hesitate to give credit where credit is due – nobody will blame you for knowing and referencing the literature!”

Progress to Degree

Each year a Notice of Appointment form is completed and signed by each student. This form notes that a student’s continuation is “Contingent upon continued availability of funding, satisfactory performance and professional completion of assigned duties.” This includes grades in coursework, as well as attendance at seminars, and performance in rotations and research. Also, as noted on p. 12 of this Handbook (“Rotations”), there is a requirement that a “student may be dismissed from the Program if s/he fails to identify a mentor by the end of June of the first year.” Thus, to remain in good standing and continue in the program, a student must have a mentor and a dissertation project, and show continual effort toward completion of the dissertation and PhD degree. The process that will be followed should dismissal be sought is described in the Graduate School Bulletin, and is found at: <http://gradschool.uky.edu/graduate-school-bulletin>

Rotation Summary

The student will submit to the DGS and each rotation mentor a 1-page summary of each rotation. This submission will include: the overall objectives of the research conducted, the student's participation in that research and a summary of the results and their interpretation. The rotation mentor will submit to the DGS an independent evaluation of the student's performance during the rotation, identifying the student's strengths and weaknesses (Research Rotation Performance Evaluation Form).

Student Annual Advisory Committee Meeting Report

Each graduate student is required to have a formal advisory committee every year that they are in the program. The first committee meeting should be held within 3 months of selecting a mentor and no later than August 1, prior to the start of the second year of graduate school. The purpose of the first meeting is simply to introduce the student to the committee members, provide a rough idea of the research project, and discuss coursework for the second year of study. After the initial meeting, annual meetings should take place by March 31 of the next year, and each subsequent year. The purpose of these meetings is to review student progress towards goal completion and to ensure that all committee members are in agreement as to the acceptability of the student's work thus far, and the direction of the project.

General Advisory Committee Meeting Guidelines

1. Each student should complete Part 1 of the meeting report, and distribute to advisory committee members at least 2 days in advance of the meeting (this would go well with a reminder of the time and place of the meeting).
2. At the meeting, the student will give a short (~20-30 minutes) formal verbal presentation in which they explain their proposed, or on-going, research project.
3. In the discussion of the research progress, the committee will evaluate:
 - A) The appropriateness of the research plan and methodologies
 - B) The degree to which satisfactory research progress is being made
 - C) The student's knowledge of the research discipline relative to their project
 - D) The student's independence of thought, creativity, and competence in the design and execution of the research project
4. At the end of the meeting the committee should provide feedback to the student and advisor with regards to the student's progress in the graduate program, the degree to which the student's written and verbal communication skills meet expectations. Suggestions for future research and/or educational and scholarly progress will also be provided.
5. Following the meeting, the "Student Annual Advisory Committee Meeting Report" forms should be delivered to the Student Affairs Coordinator for inclusion in the student's file.

Advising

Director of Graduate Studies (DGS)

The DGS serves as adviser to incoming graduate students until the Advisory Committee is appointed. The Track Coordinators and the Student Affairs Coordinator also assist the DGS in advising students. The student is to inform the DGS in writing, in person, or by email of the selection of the faculty mentor and on the choice of Track.

Major Professor/Mentor

The Major Professor plays a crucial role in the individualized program of graduate studies. Students are encouraged to explore the breadth of research opportunities in the Pharmaceutical Sciences Program prior to making the important decision of Major Professor selection. To facilitate the

selection of a mentor, all students must participate in at least 2 (3 recommended) rotations during their first two semesters (see Rotations above). An exception to these mandatory rotations may be granted for those students entering the program committed to a Major Professor as a Research Assistant.

Dissertation Advisory Committee

A student's Dissertation Advisory Committee should normally be formed within 3 months of selecting a mentor and no later than August 1, prior to the start of the second year of graduate school. After the initial meeting, annual meetings should take place by March 31 of the next year, and each subsequent year. The Dissertation Major Professor and the student propose the composition of the Advisory Committee; however, the DGS must approve the Advisory Committee members. The Graduate School officially appoints the Advisory Committee. The Advisory Committee must be appointed at least one year prior to the Qualifying Examination.

The Major Professor and the Advisory Committee guide each student's program throughout her/his graduate career. Their purpose is to give continuity of direction and counsel and to provide intellectual stimulation from the earliest days of residency through the completion of the doctorate. The Advisory Committee has a core of four members. This core consists of the Major Professor as mentor and two other members from the graduate faculty of the Pharmaceutical Sciences Program. An additional member must be from outside the academic program. **The mentor and two other committee members must be Full Members of the Pharmaceutical Sciences Graduate Faculty** (<http://gradschool.uky.edu/graduate-faculty>). If the mentor is currently an Associate Member, then a co-mentor who is a Full Member must be appointed. At the time of the dissertation defense, the Graduate School will appoint an outside examiner as a fifth member. For details, see the section on Final Examination (Dissertation Defense), or consult the Graduate Bulletin, (<http://gradschool.uky.edu/graduate-school-bulletin>).

For students in the Clinical and Experimental Therapeutics Track, in addition to the rules above, the mentor must be a primary member of the CET graduate faculty (<http://pharmacy.uky.edu/graduate-program-pharmaceutical-sciences/scientific-tracks/clinical-and-experimental-therapeutics>). Graduate faculty in the PPS and PS departments are eligible for this appointment, provided they are committed to the goals, and can meet the requirements and expectations for clinical training of the Track. The procedure for requesting CET Faculty Membership is available from the Director for Graduate Studies or CET Track Coordinator.

The core of the Advisory Committee must be kept at its full complement throughout the graduate career of the individual student. In the event of a vacancy on the Committee (occasioned by resignation, faculty leave, or inability to serve), an appropriate replacement must be made prior to the making of any committee decision.

Financial Aid (Assistantships)

Students are expected to fulfill the responsibilities of their teaching assistantship, research assistantship, or fellowship to the best of their abilities. Students are also expected to meet the responsibilities of all coursework as outlined in individual course syllabi. Students are responsible for making progress toward graduation at all times.

Policy on Payment of Tuition

Drafted November, 2006

Policy to be implemented Fall semester 2007

General Statement of Policy

There is a general expectation that a graduate student's tuition will be paid by funds awarded to the faculty mentor, or by the department after year one. It is also expected that tuition reimbursement will be requested as part of graduate student support in applications for grants and contracts.

With regard to departmental support for students in Ph.D. programs in the College of Pharmacy, full, in-state tuition will be paid for 5 semesters. Students are expected to schedule their Qualifying Examinations at the start of their 5th semester in the program and, upon successfully passing that exam, to thereafter register each semester for 2 credits of PHS / PPS 767- residency for Ph.D. *If the student has not taken the Qualifying examinations by the beginning of the 6th semester, the portion of tuition above the 2 credit hours will be covered by the mentor or the student.* Tuition will continue to be paid for these residency credits for an additional 5 semesters only. During that time, students are expected to hold one meeting per year of their dissertation committee, and to submit the minutes of those meetings to the Graduate Program office. Before the end of this time (5 years) the student is expected to have completed their research project, and written and defended their Ph.D. dissertation. *Starting with the first semester of the 6th year, no tuition support will be provided by the department.* If the student continues on payroll as a Research Assistant, the mentor will be responsible for tuition. If the student does not hold a research assistantship (not on payroll), the student is responsible for payment of tuition.

Policy in Special Circumstances

1. The provision of tuition funding applies only to students who are in good standing. A student whose GPA falls below the university requirement will be placed on probation, and the university will no longer waive out-of-state tuition. Under such circumstances, the *departments will provide tuition, but only at the in-state tuition rate.* If the student is classified as international or out-of-state, the student or the major professor (as agreed in a letter to the department) will be responsible for the remainder of the tuition.
2. This policy applies only to students who are in-residence and actively pursuing completion of their degree program. *Students who leave the university before completion of the thesis will no longer receive tuition support from departmental resources.*

3. Students who do not pass the qualifying examination, do not successfully defend their thesis, or who through exceptional circumstances cannot meet this schedule, will need to petition the DGS and Chair in writing for an exception to this policy.

Teaching Expectations for Students Receiving Tuition Support

During their first year in the program, students who receive tuition support from departmental sources will be expected to perform assigned teaching duties. *Students receiving departmental tuition support may also be asked to perform occasional additional duties as exam proctors during their second and subsequent years.*

Most students admitted to the Pharmaceutical Science Graduate Program receive a stipend. The source of the stipend varies and includes Teaching Assistantships, Research Assistantships and Fellowships. The level current base stipend is \$30,000. Selected intramural fellowship recipients can receive both the fellowship and a partial TA assignment. Competition for stipends is strong.

Teaching Assistantships

Incoming students frequently receive a stipend in the form of a Teaching Assistantship (TA) within the College of Pharmacy professional curriculum. Various types of teaching opportunities are available including lecturing, tutoring, small group discussion leader, pharmacy practice lab assistant, grading and other duties. Assignment of a specific TA is a function of the knowledge base or skill level required of the assignment and past performance of the student. The DGS and the Associate Dean for Academics make assignments prior to the semester. Every effort is made to individualize the TA assignment to meet the academic and/or career interests of the graduate student. Many of these assignments provide the graduate student with opportunities to observe and develop their own teaching skills. Duties and responsibilities of a TA are taken very seriously. The TA is an extension of the faculty and is expected to act as a role model for our professional students. Scheduling of research activities, committee meetings, and other activities should not conflict with assigned TA duties. Although many students transition to a Research Assistantship (see below) after their second year, those wishing to continue in a TA (with the agreement of their Major Advisor) have the option to do so based on availability.

Research Assistantships

Students in their second year of study and beyond generally receive a stipend in the form of a Research Assistantship funded by the Major Professor. The Major Professor largely determines responsibilities for the Research Assistant. As with the TA, satisfactory progress in their graduate program must be maintained in order to retain stipend support (assuming availability of funds by the Major Professor).

Workload

Teaching and Research Assistants who are also full-time graduate students may be assigned responsibilities requiring no more than 50 percent of their time. Normally for TA's, this means service for not more than an average of 20 hours per week including time spent in preparation, classroom and laboratory teaching, grading papers, counseling students, etc. Responsibilities for RA's will vary with the fraction of time for which they are employed, but normally a one half-time

appointment should require no more than 20 hours per week of assignable duties, for a .50 (full) TA/RA, or 10 hours per week for a .25 (half) TA/RA. ("[Policies Relative to Teaching and Research Assistants](#)") (Univ. Administrative Regulation 5:2)

Additional Employment

In order to preserve the academic focus of graduate students who are on full-time assistantships and have their tuition paid by the University, the Graduate School does not allow for additional salary or employment.

A full-time assistantship at UK, whether teaching, research or graduate, is considered 0.50 FTE (full time equivalency) in the employment system, or the equivalent of 20 hours per week on average in any combination of assignments. ("[Policies Relative to Teaching and Research Assistants](#)") (Univ. Administrative Regulation 5:2)

In rare circumstances, an exception may be granted. To request such an exception the DGS should fill out an [Overload Request Form](#) and send it to the address found on the form. In the event that an exception is granted, the maximum FTE permitted for a graduate student may not exceed 0.7 FTE (28 hours/week).

Graduate Students are not eligible for overload assignments if they:

1. Are in their first term of study
2. Have a cumulative G.P.A. of less than 3.0.
3. Are receiving any fellowship or scholarship which prohibits additional aid

Employment greater than the full-time work load for a graduate student (0.50) may have FICA tax implications for the student.

Tuition and Fees

The University of Kentucky sets the tuition and mandatory fee rates for graduate students. <https://www.uky.edu/registrar/21-22TuitionandFees>

Tuition Scholarship Information

<https://gradschool.uky.edu/tuition-scholarship-information>

Eligibility for tuition scholarships

Students must be enrolled in a graduate program; post-baccalaureate students are not eligible. Graduate Assistants (TAs, RAs, GAs) placed on scholastic probation are not eligible to receive either an in-state or out-of-state tuition scholarship. Students receiving any support from an outside entity, including but not limited to government sponsors and grants that include a Cost of Education allowance or similar, are not eligible for tuition scholarships through the Graduate School. If an individual is readmitted to a doctoral program, and thus requires retroactive enrollment in the 2 credit 767 course for all fall and spring semesters between the semester of readmission and the last semester they had been enrolled in 767, the Graduate School will not provide a tuition scholarship for the out of state portion of tuition for the 2 credits of 767, and the

student will be required to pay all tuition/fee costs associated with all of the semesters of retroactive 767 course enrollments. If a student does not perform the work assigned for the Assistantship for the entire duration of the period for that semester stated in the GSAS form, or does not perform it at a level deemed to be satisfactory by the hiring unit, the tuition/fee scholarships associated with the Assistantship are subject to removal, with the student then being responsible for paying these charges. A DGS seeking an exception to this policy should contact the Funding office with a request.

Course exclusions for tuition scholarships

Given the limited amount of tuition scholarship funds, tuition scholarship funds from the Funding office are not permitted for courses taken with an audit (AU) grade type or as pass/fail. Tuition scholarships are also not intended for courses taken by doctoral students in addition to the 2 credit 767 course, or courses not required for the student's graduate degree as indicated in the program's Graduate Bulletin pages. This policy is enforced for all graduate assistants (TAs, RAs, GAs) and fellowship awardees receiving tuition scholarships through the Funding office. Graduate students should note that they are personally liable for tuition and fee charges associated with any of the above courses. Graduate programs/colleges can also be financially responsible for these tuition costs if they approve any such courses or fail to monitor enrollment of their funded graduate students. This policy is not intended to preclude graduate students from taking remedial courses, both at the graduate and undergraduate level, required by their academic program and DGS. Nor is this policy intended to preclude graduate students from taking courses to complete certificate programs, as long as the major professor, DGS, and Associate Dean for Research and Graduate Studies endorse enrollment in certificate or undergraduate courses. DGSs who wish to request exceptions to the tuition scholarship policy may send an e-mail, copied to their Associate Dean for Research and Graduate Studies (or similar Associate Dean in their college), to the Graduate School's tuition scholarship officer at gsas@email.uky.edu.

Student Recreation Fee (Johnson Center Fee) and Health Fee

All students are charged a mandatory recreation fee each semester. This fee is not covered by Graduate School tuition scholarships.

Fellowships - Internal

The following are among the Fellowships available from the Graduate School:

<https://gradschool.uky.edu/fellowships-0>

Presidential Graduate Fellowship

Graduate programs are invited to nominate candidates for the annual Presidential Fellowship (\$20,000, plus a tuition scholarship and student health insurance).

Pharmaceutical Sciences Excellence in Achievement Fellowships

The Graduate Program utilizes block funding provided by the Graduate School for this award. The competitive selection process is based on graduate GPA, quality and progress of the student's research project, presentation and publication record, other achievements and awards, and engagement and leadership in graduate program organizations and activities. The award is

generally applied to the student's stipend support plus and additional increase to the stipend for the student.

Fellowships - External

Pharmaceutical Sciences students are strongly encouraged to apply for extramural fellowships. Faculty will assist the students in preparation of these applications. Among the many fellowships available, our students have been particularly successful with applications for the following:

American Foundation for Pharmaceutical Education (www.afpe.org)

Pharmaceutical Research Manufacturers Association (www.phrmafoundation.org)

National Institutes of Health (www.nih.gov)

National Science Foundation (www.nsf.gov)

Travel Awards

Peter G. Glavinis Jr. PhD Fall Travel Award

Travel award up to \$1,000 (Awarded by the College of Pharmacy)

S. Elizabeth Helton Spring Travel Award

Travel award up to \$1,000 (Awarded by the College of Pharmacy)

Dr. Joseph V. Swintosky PhD Travel Scholarship Award

Travel award of \$500 (Awarded by the College of Pharmacy)

Pharmaceutical Sciences Graduate Student Program Travel Award

Travel award funded by Graduate School block funding allotment. The amount of the award may vary each fiscal year due to availability of funds. Emails regarding eligibility including seminar attendance requirements are sent to the listserv each semester.

Program Administration

Graduate Faculty

The graduate program faculty consists of members who hold primary appointments in either the Department of Pharmaceutical Sciences or the Department of Pharmacy Practice and Science in the College of Pharmacy and of other faculty members who hold primary appointments in various departments in other Colleges at UK.

The policies and programmatic content of the Pharmaceutical Sciences program are the purview of the graduate faculty members of the program. Any significant change to the program requires a majority vote of those faculty members.

Director of Graduate Studies (DGS)

Major responsibilities include: coordinating applicant recruitment and admissions; advising 1st-year students; administering policies and procedures of the Graduate School and the

Pharmaceutical Sciences program, and acting as liaison between the Graduate School and Pharmaceutical Sciences students and faculty.

Advising First Year Students

Each Track Coordinator and the Student Affairs Coordinator are to assist the DGS in advising entering (first year) students in selecting appropriate initial coursework, prior to the selection of a major professor. Each Track Coordinator will also assist the DGS to help the first year students identify laboratory rotations that will enable the student to select a dissertation project and major professor. After the student has chosen a major professor, advisement responsibilities are transferred to the selected major professor and the student's individual Dissertation Advisory Committee.

Registration for Courses

Process

Incoming graduate students schedule classes during the week preceding the first of the semester. Pre-registration for returning graduate students usually takes place about six weeks prior to the end of the semester, i.e., scheduling for the Spring semester takes place early in November during the Fall semester. The following steps should be taken:

1. Consult with your advisory committee or Track Coordinator (for first-year students) to obtain guidance in courses to take.
2. See the Student Affairs Coordinator (in Room 371) for instructions on how to register by web, if help is needed. Registration is completed by using myUK.
3. Returning graduate students who fail to pre-register must pay a late registration fee.

All returning graduate students should consult with the major professor concerning courses.

Academic Load

The total semester or term load of a student is the sum of all credits carried. The minimum semester load of a full-time graduate student is 9 credit hours or equivalent. Under no circumstances may the load exceed 15 credit hours or equivalent. For the student who is a full-time teaching assistant or whose service to the University requires approximately 20 hours per week, the academic load shall not exceed 10 hours. This maximum may be increased to 12 hours for students with lighter service loads upon recommendation of the Director of Graduate Studies and approval of the Dean of the Graduate School. The University classifies students satisfactorily completing nine course credits, or equivalent, of graduate level work during a semester, as full-time students. After passing the Qualifying exam, 2 credit hours per semester of PHS 767 is considered full-time status.

Graduate School Grading Policies

Grading

An overall average of 3.0 on all graduate work in the program must be attained before an advanced degree may be awarded. Graduate level courses (400G-799) are computed in the graduate grade point average. D grades are not given to graduate students. A grade of I (incomplete) may be assigned to a graduate student if a part of the work for a course remains undone and there is a reasonable possibility that a passing grade will result from completion of the work. An incomplete (I) must be removed within 1 calendar year after the close of the term in which the I is assigned if the student is to receive credit (unless the Dean of the Graduate School grants an extension of time). I grades will automatically convert to a grade of E after 12 months, or at the point of graduation, whichever occurs first. A grade of S (satisfactory work in progress) may be recorded for students in graduate courses, which carry no credit, and in graduate seminars, independent work courses and research courses that extend beyond the normal limits of a semester or summer term. When the work has been completed, a final grade will be substituted for the S. With an I on his/her record; a graduate student may not take the Qualifying examination and will not be considered for a U.K. Fellowship. Once a grade (other than an I or S) has been reported to the Registrar's Office, it may not be changed unless an error was made at the time the grade was given and recorded, and then only upon the written unanimous approval of the instructor, the Registrar, and the Dean of the Graduate School.

Scholastic Probation

If a student who has completed 12 or more semester hours of graduate course work has a GPA less than 3.0, the student is placed on scholastic probation and has one semester or equivalent (9 semester hours) to remove the probation by attaining a cumulative GPA of 3.0. The Graduate School automatically drops students who do not meet this requirement. Students on probation are not eligible for fellowships or tuition scholarships and may not sit for doctoral qualifying exams or Master's or doctoral final exams.

Repeat Option

A graduate student may elect to repeat a graduate course and count only the second grade as part of the GPA. A student may exercise the repeat option only once in a degree program. To exercise the option, a student must obtain the necessary form from the Graduate School. The request must be filed before the course is repeated; in no case will the request be accepted later than the last day on which a course may be dropped without having it appear on the transcript.

PharmD/MS in Pharmaceutical Sciences (PharmD/MSPHSC)

Overview

This dual MS in Pharmaceutical Sciences degree is highly desirable for persons seeking careers in state and local health departments, the pharmaceutical industry, managed care organizations, academic healthcare systems and colleges. Graduates will be well prepared for a variety of career options or alternatively could elect to continue their education in the UK College of Pharmacy PhD program in Pharmaceutical Sciences. Students that participate in this program can choose any aspect of research conducted by investigators at the UKCOP. These include the five training tracks: Medicinal, Bioorganic & Computational Chemistry, Pharmaceutical Chemistry & Engineering, Pharmacology and Experimental Therapeutics, Clinical and Experimental Therapeutics, and Pharmaceutical Outcomes & Policy. Students must be admitted and enrolled in the University of Kentucky College of Pharmacy to be considered for this dual degree. Please refer to the graphic of the timeline below on the website which can be found at <https://pharmacy.uky.edu/admission-aid/pharmd-program/dual-degrees/msps-dual-degree>.

Timeline

PY1 Year

1. Explore areas of research conducted by the UK College of Pharmacy Faculty.
2. Attend the dual degree information session offered by the UK College of Pharmacy in January.
3. Maintain a GPA of at least 3.0 during the first year of Pharmacy School.
4. Email the Director of Graduate Studies to indicate your interest in this dual degree program.
5. Students who have identified themselves to the Director of Graduate Studies as interested in this program will receive an email with instructions for submitting a CV, statement of purpose, and transcript to the Graduate Program Student Affairs Coordinator.
6. Participate in research rotation selection match.

Summer between PY1 and PY2 Year

1. Apply as a post-baccalaureate student through the “Apply Yourself” site associated with the UK Graduate School and notify the Graduate Program Student Affairs Coordinator. <https://gradschool.uky.edu/admissions>. Students who do not hold an awarded bachelor’s degree must have at least 90 hours of undergraduate credit hours. An undergraduate grade point average of at least 2.75 on a 4.0 scale and a GPA of at least 3.0 during the first year of Pharmacy school are required. For students in the Pharmaceutical Outcomes and Policy Track, they are required to apply for postbac status to begin in the summer session since there are required courses during this summer.
2. Begin research rotations.

PY2 Year

1. Attend a meeting at the beginning of the semester with the Director of Graduate Studies. The Director of Graduate Studies will schedule a meeting at the beginning of the semester with all admitted post-bac students to review the requirements for successful admission to the dual degree program.

2. Continue research rotations. Students should complete at least two research rotations before the end of the fall semester. The first rotation should start no later than August 23rd to be completed by October 15th. The deadline for a second rotation start date will be October 18th and ending by December 17th. Through rotations, the goal is for the students to be able to work with the faculty to understand the research options, mentor expectations, and time commitment while simultaneously giving the faculty the opportunity to determine which students may fit best with them. **The priority for the PY2 Year is to identify a lab mentor from the Pharmaceutical Sciences Graduate Faculty, who will provide the research home and a research project for the student.**
3. Enroll in a 3-credit overview course (PHS 760 Translational Research in Pharmaceutical Sciences) and additional required courses as communicated by the Director of Graduate Studies. Each of the courses are designed to expose the student to the various areas of research within the College of Pharmacy. Research credits are not transferrable from postbac status.
4. Provide Director of Graduate Studies with lab rotation summaries. These should be emailed to Catina Rossoll (catina@uky.edu). Upon completion of each lab rotation, faculty will be provided with student research rotation evaluation forms to complete. Research Rotation evaluation forms may be found on page 39 of this handbook.
5. By February 1 provide the DGS with the name of the Pharmaceutical Sciences Graduate Faculty member who has agreed to mentor you through the dual degree master's program.
6. Register for 4 credits of PHS 790 or PPS 790 Research credit for summer research.
7. At least one course should be completed that is within the research area of focus of the student's project as directed by their committee.

Summer between PY2 and PY3 Year

1. Complete summer research for credit.
2. Apply through the "Apply Yourself" site associated with the UK Graduate School for a Master's in Pharmaceutical Sciences. <https://gradschool.uky.edu/admissions>. You will need to use a different email address than what you used to complete the postbac application and you will need to pay the application fee. When completing the application, be sure to choose MSPS/PharmD Dual Program for the program-specific information in the Plan of Study section. For recommendation providers, please put the mentor that you will be working with to complete your master's thesis. We do not need 2 additional letters. Since the system will not let you proceed without entering two other names, put in Catina Rossoll for one and Dr. David Feola for the other. The application should be submitted by May 31st.
3. Prior to completion of summer research, the student should form a Master's Advisory Committee and schedule a meeting. The committee consists of at least three qualified faculty members and the lab mentor from the Pharmaceutical Sciences Graduate Faculty. A faculty member from outside the program is permitted but not required. At least one member of the committee must be a Full Member of the Graduate Faculty.
4. Notify the Student Affairs Coordinator (Catina Rossoll catina@uky.edu) of the date and time for the committee meeting and a room will be reserved. The advisory committee meeting form should be completed and submitted to Catina Rossoll upon completion of the meeting. The research project and plan for progress in the PY3 year should be discussed as well as graduate coursework to be taken during the PY3 Year.

5. Upon acceptance in the PharmD/MSPS dual degree program, a transfer of credit form will be submitted by Catina Rossoll to the Graduate School for eligible graduate credits earned as a postbac student during the PY2 Year.

PY3 Year

1. Under the dual degree program, one PharmD course will count towards graduate credit if a grade of “A” or “B” is earned (PHR 951 Scholarship I [3 credit hours]).
2. Additional graduate coursework for credit as recommended by the mentor and advisory committee and research credit is taken during the PY3 Year.
3. Spending time and making progress in the lab throughout the PY3 Year is critical to completing a master’s level research project.
4. Prior to the end of the PY3 Year Spring Semester, an advisory meeting should be scheduled. Notify the Student Affairs Coordinator (Catina Rossoll catina@uky.edu) of the date and time for the committee meeting and a room will be reserved. The advisory committee meeting form should be completed and submitted to Catina Rossoll upon completion of the meeting. At this meeting progress on the research project and the plan for 6-week rotations during PY4 Year should be discussed. Dual degree students spend at least one of their 6-week rotations working on their master’s thesis (6 credits). It is recommended that they also spend their “off” rotation also working on their master’s research in order to fully develop a master’s level research project.

PY4 Year

1. Please inform Catina Rossoll of the research rotation dates and instructions will be given for proper registration. Students should register for PHS 790 or PPS 790 research credit in addition to the rotation credits for the Pharm.D. program.
2. It is recommended that a committee meeting be scheduled for no later than January of the PY4 Year to discuss timelines for the master’s thesis exam. Notify the Student Affairs Coordinator (Catina Rossoll catina@uky.edu) of the date and time for the committee meeting and the evaluation forms will be set-up and a room will be reserved. The advisory committee meeting form should be completed and submitted to Catina Rossoll upon completion of the meeting.
3. At the beginning of the semester, a date for graduating dual degree student presentations will be determined. The student will give a 25-minute public seminar on the master’s research project.
4. The application for a May degree must be submitted prior to the deadline (usually within 5 weeks of the beginning of the semester). An email with deadlines to be met for a May degree will be sent by Catina Rossoll at the beginning of the spring semester.
5. The request for a final examination must be filed at least two weeks prior to the date of the examination: https://ris.uky.edu/cfdocs/gs/MastersCommittee/Student/Selection_Screen.cfm. Students on scholastic probation are not eligible to sit for the final examination. Class must be in session for the student to sit for the exam. If the candidate fails the final examination, the committee may recommend to the Dean of the Graduate School the conditions under which a second examination may be administered. Insofar as it is practical, the same examining committee gives this examination. In all decisions the majority opinion of the committee prevails. If the committee is evenly divided, the candidate fails. A third examination is not allowed.

6. Theses must be prepared in conformity with the instructions published by the Graduate School. Detailed instructions can be found at <https://gradschool.uky.edu/thesis-dissertation-preparation>. There are very specific deadlines that must be met in order to receive a May degree. These deadlines will be provided in January by Catina Rossoll. Theses submitted by candidates become the physical property of the University of Kentucky. The University protects the authors' rights by placing certain restrictions upon the use of theses. All master's theses must be submitted in electronic format. Instructions are available at <http://gradschool.uky.edu/electronic-dissertation-preparation>. To view the current collection of Electronic Theses and Dissertations, go to <http://uknowledge.uky.edu/gradschool/>.

The master's degree requires 30 credits. Two-thirds of these credits must be in graduate coursework (not only research credits). The goal for each dual degree student is to complete and defend a thesis.

Miscellaneous

Identification cards and badges

Please refer to the College of Pharmacy Employee Badge and Access Procedure for a UK Student and Medical Center ID. See Catina Rossoll for assistance with the badge access procedure.

Parking

As a funded graduate student (Research Assistant or Teaching Assistant), you may be eligible to purchase a student or employee parking permit. You may be eligible to purchase the permit through payroll deduction. Students with fellowships may not be eligible for payroll deduction. UK Parking Services is located at 721 Press Avenue (in the parking garage). Parking Services issues permits Monday-Friday from 7:30 a.m. – 4:00 p.m. www.uky.edu/transportation/park

Paid Internships Off Campus

Graduate Students participating in paid internships off campus must first have this internship approved by the academic advisor. A letter from the academic advisor must be submitted for approval by the DGS (send to catina@uky.edu) stating the beginning and ending date of the internship. International students on a visa must consult with the UK International Center months in advance regarding the process to participate in a paid internship off campus.

Vacation Leave

Graduate Students are eligible for ten vacation days per year. This vacation time does not accumulate if not used. An absence request form, available from the Student Affairs Coordinator, must be completed and approved by the mentor prior to taking the vacation leave. Teaching assistants must also have the approval of the course instructor and DGS. Vacation leave must not interfere with a teaching assignment. Generally, students are expected to keep a schedule similar to the UK staff calendar (and not the academic calendar) and to be on campus on a continuing basis during regular work hours throughout the year. Students should also be aware that the demands of research protocols or presentations can require work on holidays, weekends or evenings. Absence

for a number of days that exceeds the allotted vacation total will potentially result in suspension of stipend payment.

Post Office and Electronic Mail

There are two post offices on campus. One is located in the basement of the Whitehall Classroom Building Room 21A, and the other is located on the ground floor of the Chandler Medical Center Room M63. Hours of operation are Monday through Friday from 8:00 a.m. until 4:30 p.m. All graduate students are assigned a mailbox on the third floor of BPC. Most announcements are made through electronic mail. All graduate students are assigned an e-mail address by the Graduate School upon admission. Students are encouraged to check their email on a daily basis. <http://www.uky.edu/AuxServ/postalservices/>

Paycheck Statement Distribution

Paycheck statements are available on your myUK. Direct Deposit is required by UK.

Tax Information

This information is provided as general guidance for graduate students on assistantships, fellowships, or for other student support from the UK Graduate School. The Graduate School does not offer individual tax advice. Generally, all awards are reportable (either by the university or by the student on their tax return), but their taxability is dependent on the student's situation.

Fellowship stipends: Effective January 1, 1987, non-service fellowships are considered taxable income to the student. Tuition, course-related fees, and course-related expenses may be excludable from taxable income. There is no withholding on non-service fellowships for U.S. citizens; however, there is a withholding tax on international students. Fellowship expenses may be excluded when filing personal income tax forms. The Graduate School urges you to assess your tax situation and to take appropriate action regarding any potential tax liability. You should retain a copy of your fellowship letter for income tax purposes.

W-2 Forms: Assistantship stipends paid through your hiring department to U.S. citizens and international students (who have not signed a tax treaty form 8233 in the payroll department) should receive a W-2 form from the UK payroll department for that assignment.

Student 1098-T Forms: The forms are available on-line via myUK. With the exception of loans, all student awards which are processed through UK's financial aid system, such as fellowships, scholarships, grants, etc., are reported to the IRS. This same information is furnished to students on the 1098-T form. If you have questions, please contact Student Account Services at 859-257-6702 or e-mail taxcredit@lsv.uky.edu.

International students should consult with the Office of International Affairs for information on taxes. http://www.uky.edu/international/F-1_Student_Employment

Laboratory Safety

All graduate students must meet with the Collegiate Laboratory Manager, Safety Specialist Senior (Kristi Moore KRISTI.MOORE@uky.edu ; 859.323.7110; room 325 BPC) prior to beginning work in a research laboratory. The Collegiate Laboratory Manager facilitates badge access and provides instruction for completing universally required lab safety training. Your lab mentor or lab manager provides safety training required specific to the research conducted in that lab. You must notify the Collegiate Laboratory Manger prior to beginning a new lab rotation.

Smoking

Smoking is not permitted by students, faculty members, visitors or patients in any part of the College of Pharmacy building, or the buildings of the UK Health Care enterprise. Details of this policy are available at: <https://www.uky.edu/TobaccoFree/>

Conference Rooms

Classrooms are available for scheduling Advisory Committee meetings, qualifying exams, etc. Arrangements for their use should be made with the Student Affairs Coordinator.

University Health Service Fee and Student Health Insurance

Not all graduate students are required to pay the health fee. Only full-time students in nine hours or more pay the mandatory health fee. For all other students, the health fee is optional. All voluntary requests for the health fee should be made to the Student Billing office. To use University Health Service in the summer, all students must pay the summer health fee or pay on a fee-for-service basis. The health fee does not cover hospitalization, surgical procedures, accident care and any other health care provided outside University Health Service. The University, including University Hospital, assumes no responsibility for a student's medical expenses.

<http://www.ukhealthcare.uky.edu/uhs/>

Health Insurance Coverage for Funded Graduate Students

Health insurance coverage is provided to all enrolled and degree-seeking graduate students with full-time teaching, research, or graduate assistantships, full-time fellowship recipients, or a combination of these positions. The Graduate School Funding Office administers this insurance program. Please review the policy carefully. <https://gradschool.uky.edu/health-plan>

Evaluation Forms

Student Annual Advisory Committee Meeting Report

Part 1 - To Be Completed By The Student (distribute to committee at least 2 days prior to meeting)

Student Name: _____ Dissertation Chair: _____ Year in the program: _____

Date: _____ Date of last advisory committee meeting: _____

Please provide a summary of your accomplishments since the last meeting (use attachments if necessary)

Coursework completed / to complete:

TA performance:

National/Regional Meetings Attended:

Manuscripts Submitted/Published:

Posters/Presentations Given:

Awards:

Other Accomplishments of Note:

Student Annual Advisory Committee Meeting Report

Part 2 – To Be Completed By Each Advisory Committee Members: (1=unacceptable; 2=needs improvement; 3 =the “average” performance of a successful student in our program; 4=above average; 5=outstanding)

Student Performance	1	2	3	4	5	NA
Enthusiasm						
Work Ethic						
Scientific Curiosity						
Ability to Think Independently						
Understanding of the Research Problem						
Competency With Research Methods						
Knowledge of the Scientific Literature						
Written Communication Skills						
Oral Communication Skills						
Evidence of Progress in Dissertation Research						

Brief Narrative Statement of the Student’s Performance

Quality of Dissertation Research to date:

Outstanding _____ Acceptable _____ Unacceptable _____

**University of Kentucky – Pharmaceutical Sciences Graduate Program
Seminar Performance Evaluation**

Student: _____ **Major Professor:** _____ **Track:** _____
Date: _____

Seminar Title: _____

Please check each box where appropriate:

	Outstanding <i>(Consistently exceeds expectations.)</i>	Satisfactory <i>(Meets Expectations)</i>	Needs Improvement <i>(Marginal performance that falls below expectations.)</i>	Unsatisfactory <i>(Falls unacceptably below expectations.)</i>	N/A
Presentation of material and preparedness	<input type="checkbox"/> Student demonstrated outstanding command of knowledge in material presented. Appropriate length of time for topic.	<input type="checkbox"/> Student demonstrated command of knowledge appropriate for their level. Appropriate length of time for topic.	<input type="checkbox"/> Student command of knowledge slightly below appropriate for their level. Some misunderstanding evident. Inappropriate length of time for topic (too long or too short)	<input type="checkbox"/> Very little preparation if any. Student did not understand material presented. Inappropriate length of time for topic (too long or too short)	<input type="checkbox"/>
Critical Thinking	<input type="checkbox"/> Student demonstrated application of critical thought or scientific reasoning beyond expected student level during presentation. Able to field questions thoughtfully.	<input type="checkbox"/> Student demonstrated application of critical thought or scientific reasoning during presentation. Able to field questions.	<input type="checkbox"/> Student demonstrated some application of critical thought or scientific reasoning but not at the level expected. Unable to field some questions asked.	<input type="checkbox"/> Student did not demonstrate any application of critical thought or scientific reasoning during presentation. Unable to answer any questions.	<input type="checkbox"/>
Communications	<input type="checkbox"/> Presentation very organized and logical. Information was clearly explained. Student spoke effectively and used appropriate body language.	<input type="checkbox"/> Presentation organized and logical. Information explained at level expected from a graduate student. Student spoke effectively and used appropriate body language.	<input type="checkbox"/> Presentation needed improvement with organization. Information not explained at level expected from a graduate student. Improvement needed with public speaking. Showed nervousness in speech and body language.	<input type="checkbox"/> Presentation was not organized. Illogical flow. Poor public speaking. Unprofessional language (too many 'ums', 'you knows') Poor presence.	<input type="checkbox"/>
Audio/Visual (If applicable)	<input type="checkbox"/> Slides, handouts, or other presentation materials of highest quality and appropriate amount. Enhanced presentation.	<input type="checkbox"/> Slides, handouts, or other presentation materials appropriate. Enhanced or did not distract presentation.	<input type="checkbox"/> Slides, handouts, or other presentation materials, either not enough or too much. Did not enhance presentation or distracting.	<input type="checkbox"/> Slides, handouts, or other presentation materials ill prepared, hastily completed. Distracting from presentation. Or no A/V prepared at all when necessary.	<input type="checkbox"/>

Comments:

Faculty Signature: _____ **Date:** _____

**University of Kentucky – Pharmaceutical Sciences Graduate Program
Research Rotation Performance Evaluation**

Student: _____ **Rotation #** _____

Faculty Name (please print): _____ **Track:** _____

Rotation dates: From: _____ To: _____ **Approximate # of hours/week in lab:** _____

Please check each box where appropriate:

Work Ethic & Contribution	Outstanding <i>(Consistently exceeds expectations.)</i>	Satisfactory <i>(Meets Expectations)</i>	Needs Improvement <i>(Marginal performance that falls below expectations.)</i>	Unsatisfactory <i>(Falls unacceptably below expectations.)</i>	N/A
Spirit of inquiry	<input type="checkbox"/> Routinely asks appropriate questions of mentor and other lab peers. Routinely shows genuine interest in the lab and its processes.	<input type="checkbox"/> Asks questions of mentor when available, routinely asks appropriate questions of lab peers.	<input type="checkbox"/> Occasionally seeks out mentor or lab peers to ask questions. Has a minimal understanding of projects.	<input type="checkbox"/> Speaks to the mentor only when addressed. Does not ask questions of lab peers.	<input type="checkbox"/>
Collaboration	<input type="checkbox"/> Has appropriate knowledge base to routinely contribute to project planning.	<input type="checkbox"/> Has appropriate understanding of the projects but not a deep enough understanding to contribute to planning experiments.	<input type="checkbox"/> Has a basic understanding of the project but lacks depth, makes some errors in the lab due to miscommunication.	<input type="checkbox"/> Makes mistakes due to lack of understanding of the procedures and project and failure to communicate.	<input type="checkbox"/>
Timeliness	<input type="checkbox"/> Consistently punctual and reported for all days & appointments assigned. Respects the time of others. Always keeps mentor informed of needed time off or incidences of tardiness.	<input type="checkbox"/> Satisfactorily reported to work and appointments on time. Respects the time of others. Always keeps mentor informed of needed time off or incidences of tardiness.	<input type="checkbox"/> Inconsistent attendance or punctuality for work or other appointments.	<input type="checkbox"/> Unexpected number of absences. Consistently tardy for work or other appointments.	<input type="checkbox"/>
Work Ability	<input type="checkbox"/> Consistently works to ensure assignments are completed. Able to work independently.	<input type="checkbox"/> Works with minimal supervision. Assignments completed as expected. Consistently works to improve.	<input type="checkbox"/> Requires assistance and moderate supervision. Assignments partially completed.	<input type="checkbox"/> Requires constant assistance and supervision. Unable to work independently. Assignments incomplete.	<input type="checkbox"/>

Was the student's performance discussed with him/her at mid-rotation? YES NO

Does this student exemplify the quality of work you expect of a graduate student working-full time in your lab? *(if No, please elaborate)* YES NO

Would you accept this person as your graduate student? *(If Yes, with reservations, or No, please elaborate)* Yes Yes with reservations. No

Comments:

Faculty Signature: _____ **Date:** _____

**University of Kentucky – Pharmaceutical Sciences Graduate Program
Qualifying Examination Performance Evaluation (Written Component)**

Student: _____ Major Professor: _____ Track: _____

Advisory Committee Member (please print): _____

Please check each box where appropriate:

	Outstanding <i>(Consistently exceeds expectations.)</i>	Satisfactory <i>(Meets Expectations)</i>	Needs Improvement <i>Marginal performance that falls below expectations.)</i>	Unsatisfactory <i>(Falls unacceptably below expectations.)</i>
Content Area	<input type="checkbox"/> Demonstrates mastery of knowledge base relevant to content area.	<input type="checkbox"/> Has appropriate understanding of content with few areas identified in need of improvement. Very few errors.	<input type="checkbox"/> Understanding of content falls slightly below expectations. Several errors were made, and multiple areas identified that are in need of improvement.	<input type="checkbox"/> Has little to no understanding of content area. Many content errors.
Organization	<input type="checkbox"/> Highly logical thought process. Coherent and well-developed paragraphs and transitions. Well-organized content.	<input type="checkbox"/> Logical and developed thought process. Appropriate paragraph structure and transitions. Minor organizational issues.	<input type="checkbox"/> Logical yet underdeveloped thought process. Organization of paragraph structure in need of improvement.	<input type="checkbox"/> Underdeveloped and illogical thought process. Poor organization of paragraph structure with no transition.
Writing Style	<input type="checkbox"/> No Grammatical or spelling errors. Writing Style very clear and fluid. Precise syntax. Appropriate tone with regard to content and audience.	<input type="checkbox"/> Few to no grammatical errors. Overall clear syntax and style. Appropriate tone with regard to content and audience.	<input type="checkbox"/> Occasional grammatical errors. Some awkwardness with syntax and style. Tone at times inappropriate with regard to content and audience.	<input type="checkbox"/> Many grammatical errors and problems with syntax. Writing style awkward and distracting. Inappropriate tone with regard to content and audience.

Does this student exemplify the quality of work you expect of a graduate student? YES NO
(if No, please elaborate)

Please Check one:

- Pass** *(student should continue to the oral portion of the QE)*
- Fail**

Comments:

Faculty Evaluator: _____ Date: _____

**University of Kentucky – Pharmaceutical Sciences Graduate Program
Qualifying Examination Performance Evaluation (Oral Component)**

Student: _____ Major Professor: _____

Track: _____

Advisory Committee Member (please print): _____

Please check each box where appropriate:

	Outstanding <i>(Consistently exceeds expectations.)</i>	Satisfactory <i>(Meets Expectations)</i>	Needs Improvement <i>(Marginal performance that falls below expectations.)</i>	Unsatisfactory <i>(Falls unacceptably below expectations.)</i>
Presentation of material and preparedness	<input type="checkbox"/> Student demonstrated outstanding command of knowledge in material discussed.	<input type="checkbox"/> Student demonstrated command of knowledge appropriate and expected for their level of training.	<input type="checkbox"/> Student command of knowledge slightly below appropriate for their level. Some misunderstanding evident.	<input type="checkbox"/> Very little preparation if any. Student did not understand material discussed.
Critical Thinking	<input type="checkbox"/> Student demonstrated application of critical thought or scientific reasoning beyond expected student level during discussion. Very organized and logical thought process. Able to field questions thoughtfully.	<input type="checkbox"/> Student demonstrated application of critical thought or scientific reasoning during discussion. Somewhat organized and logical thought process. Able to field questions.	<input type="checkbox"/> Student demonstrated some application of critical thought or scientific reasoning but not at the level expected. Unable to field some questions asked. Student at times seemed unable to organize thoughts.	<input type="checkbox"/> Student did not demonstrate any application of critical thought or scientific reasoning during discussion. Unable to answer most questions. Unable to organize thoughts.
Oral Communication	<input type="checkbox"/> Student spoke effectively and used appropriate body language. Articulated thoughts very effectively.	<input type="checkbox"/> Student spoke effectively and used appropriate body language. Able to articulate thoughts.	<input type="checkbox"/> Improvement needed with public speaking. Showed nervousness in speech and body language. At times had difficulty articulating thoughts.	<input type="checkbox"/> Poor public speaking. Unprofessional language (too many 'ums', 'you knows') Poor presence. Unable to articulate thoughts.

Does this student exemplify the quality of work you expect of a graduate student? YES NO
(if No, please elaborate)

Please Check one:

- Pass with Confidence (No reservations. Exceeds expectations in all areas)**
- Pass (please elaborate on any areas that may need improvement)**
- Fail**

Comments:

Faculty Signature: _____ Date: _____

**University of Kentucky – Pharmaceutical Sciences Graduate Program
Dissertation Defense Performance Evaluation**

Student: _____ Mentor: _____

Advisory Committee Member (please print): _____ Track: _____

Please check each box where appropriate:

	Outstanding <i>(Consistently exceeds expectations.)</i>	Satisfactory <i>(Meets Expectations)</i>	Needs Improvement <i>(Marginal performance that falls below expectations.)</i>	Unsatisfactory <i>(Falls unacceptably below expectations.)</i>
Presentation of material and preparedness	<input type="checkbox"/> Student demonstrated outstanding command of knowledge in material discussed.	<input type="checkbox"/> Student demonstrated command of knowledge appropriate and expected for their level of training.	<input type="checkbox"/> Student command of knowledge slightly below appropriate for their level. Some misunderstanding evident.	<input type="checkbox"/> Very little preparation if any. Student did not understand material discussed.
Critical Thinking	<input type="checkbox"/> Student demonstrated application of critical thought or scientific reasoning beyond expected student level during discussion. Very organized and logical thought process. Able to field questions thoughtfully.	<input type="checkbox"/> Student demonstrated application of critical thought or scientific reasoning during discussion. Somewhat organized and logical thought process. Able to field questions.	<input type="checkbox"/> Student demonstrated some application of critical thought or scientific reasoning but not at the level expected. Unable to field some questions asked. Student at times seemed unable to organize thoughts.	<input type="checkbox"/> Student did not demonstrate any application of critical thought or scientific reasoning during discussion. Unable to answer most questions. Unable to organize thoughts.
Oral Communication	<input type="checkbox"/> Student spoke effectively and used appropriate body language. Articulated thoughts very effectively.	<input type="checkbox"/> Student spoke effectively and used appropriate body language. Able to articulate thoughts.	<input type="checkbox"/> Improvement needed with public speaking. Showed nervousness in speech and body language. At times had difficulty articulating thoughts.	<input type="checkbox"/> Poor public speaking. Unprofessional language (too many 'ums', 'you knows') Poor presence. Unable to articulate thoughts.

Does this student exemplify the quality of work you expect of a graduating student? YES NO
(if No, please elaborate)

Please Check one:

- Pass With High Recognition**
- Pass**
- Fail**

Comments:

Faculty Signature: _____ Date: _____