

**THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY  
GUIDELINES FOR GRADUATE STUDENTS & MENTORS  
UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

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**X. Student Copies of Required Documents for M.S. and/or Ph.D. Completion**

- A. Transcripts
- B. Proof of Registration (Needed Each Semester)
- C. FORM AA—Proposed Advisory Committee Member Appointment Form
- D. FORM BB—Thesis or Dissertation Advisory Committee Form
- E. FORM CC—Annual Committee Meeting Reports and Committee Meeting Reports
- F. FORM DD—Graduate Student Progress Reports
- G. FORM EE—M.S. Thesis Defense & Ph.D. Proposal Defense
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- L. Verification of Notification of Public Defense of Thesis or Dissertation

## I. GUIDELINE POLICY

These guidelines represent the policies of the Department of Pharmacology and Toxicology (PHTX) regarding the graduate program. The graduate program is administered by the Graduate Affairs Committee (GAC). This committee is responsible for insuring academic standards are met, reviewing students' progress, serving as an ombudsman for students and mentors, administering the qualifying exams and recommending changes to the program for approval by the faculty. In addition, the Department Chair, GAC, and all members of the faculty are available to assist students in their progress towards successful completion of the Ph.D. degree as well as assist students following graduation to achieve their career goals.

Students are expected to read and be familiar with all of the policies and requirements outlined herein. These guidelines do not supersede the academic policies of the School of Medicine Office of Graduate Studies and Postdoctoral Affairs (<http://louisville.edu/hsc/gradandpostdoc/graduate-students/som-minimum-guidelines>) or the policies of the School of Interdisciplinary Graduate Studies as outlined in the [Graduate School Catalog](#). Students are expected to familiarize themselves with the policies on academic standing, the statement of student ethics, and the requirements for obtaining graduate degrees at the University of Louisville.

- A. Time Spent at University of Louisville:** Students must take at least 30 hours of credit for the M.S. degree; 24 hours of course work must be taken at the University of Louisville to satisfy the residency requirement for the M.S. degree. Doctoral students must spend at least two years as a student at the University of Louisville and at least one year must be full-time. Full-time for doctoral students is defined as being registered for a minimum of 18 credit hours in a twelve-month period. Enrollment in candidacy does not fulfill this requirement.
- B. Time Limitations:** For the M.S. degree, the student must complete the degree within 6 years of beginning the program of study (Ph.D. students should complete their Master's within three years). This means coursework older than 6 years will not count toward the M.S. degree (including transfer credits). Doctoral students must complete all requirements for the Ph.D. degree within 4 calendar years after becoming a doctoral candidate. Additionally, doctoral students must be admitted to candidacy at least 9 months before receiving their Ph.D. degree.
- C. Candidacy:** When a student (Master's or Doctoral) completes all course requirements and has a GPA of 3.0 or better, they may enter "candidacy" (Master's candidacy or Doctoral candidacy). Master's candidacy is entered if a student is in the terminal Master's program or if a Ph.D. student has completed all of their coursework but has not passed their written and/or oral qualifying exams. Ph.D. candidacy can only be entered when Ph.D. students have completed all of their required coursework, have passed their written qualifying exams, have defended their Master's thesis (unless they are a MD/Ph.D. student or a student with a M.S. degree in our international program) and have defended their Ph.D. Proposal.
- D. Honor Code:** Students enrolled in the Pharmacology and Toxicology graduate programs at the University of Louisville are required to affirm that they have read, understand, and will abide by the [Code of Student Rights and Responsibilities](#) of the University of Louisville as published in the Student Handbook.
- E. REGISTRATION:** Dr. Siskind, the Director of Graduate Students, serves as advisor to all first-year students. All students are required to register each and every semester, prior to the published deadline. Students will NOT be reminded about the registration deadlines by the department or the GAC. Failure to register on time may result in late fees and/or your tuition not being paid by a sponsor.
- F. REFERENCES:**
  - 1. **IPBS Handbook:** <http://louisville.edu/medicine/ipibs/ipibs-student-handbook>
  - 2. **Graduate Studies Handbook:** <http://graduate.louisville.edu/>

## II. THE GRADUATE AFFAIRS COMMITTEE (GAC)

- A. The GAC** is responsible for the administration of the academic program for Pharmacology and Toxicology. The committee is charged with implementing changes in PHTX curriculum and

student policies upon request of faculty, the department Chair, or students. Any changes in the policies of the graduate program are made to reflect the current goals of the PHTX Graduate Program. All changes must be approved by a majority PHTX faculty vote and the Department Chair.

#### **B. Composition:**

1. **Director of Graduate Studies (DGS):** Serves as Director of GAC and manages matters pertaining to the PHTX graduate program. The DGS is responsible for informing the faculty and students of policies related to the PHTX graduate program and School of Interdisciplinary and Graduate Studies (SIGS), and revising policies related to graduate program based upon request of faculty or department Chair. The DGS serves as an advisor for all first-year graduate students until they have chosen a dissertation mentor. The current DGS is Leah J. Siskind, Ph.D.
2. **Director of Admissions and Recruitment:** Responsible for screening applications and presenting candidates to the admissions committee. Candidates receiving approval by the admissions committee are then presented to the faculty for a vote. Candidates receiving a 2/3 majority vote for admission by the faculty are then presented to the IPBS admissions committee for approval (if they will be receiving an IPBS fellowship). The current Director of Admissions and Recruitment is Geoff Clark, Ph.D.
3. **The Graduate Coordinator:** Serves as a liaison between the PHTX students, the GAC, IPBS, SIGS, and the University. The current Graduate Coordinator is the PHTX UBM Sonya Cary, assisted by Kelly Holland.
4. **At least three additional primary or secondary faculty in PHTX** that are nominated for three year terms to the GAC.
5. **Student Representative:** Serves as the liaison between PHTX students and GAC. Each academic year has an elected student representative. The current Student Representative to the GAC is the most senior student class representative.

The members of GAC work as a team and all have a vote.

#### **III. Faculty Advisors**

##### **A. The Director of Graduate Studies (DGS) for Pharmacology and Toxicology (PHTX).**

The DGS will serve as the advisor for all incoming graduate students for the first year in the program until a Dissertation mentor is selected. The DGS serves as the liaison between the graduate students and the department, unit, and school. All student progress is monitored and approved by the DGS and the Graduate Affairs Committee. The DGS is responsible for approving course registration, including drop/add, for each term throughout the duration of the program. The DGS also approves all lab rotation requests and advisor thesis/dissertation requests. He/she is also responsible for notifying the School of Medicine Office of Graduate Studies and Postdoctoral Affairs and the School of Interdisciplinary and Graduate Studies (graduate school) on student progress, e.g., advancement to Ph.D. candidacy, MS degree application, and degree completion. It is the student's responsibility to keep the DGS informed their progress. This is best accomplished through scheduled annual advisory meetings and submission of annual progress reports.

## B. Dissertation Advisor/Research Advisor/ Mentor

### 1. Role of the Dissertation Advisor (Mentor)

The Dissertation Advisor serves as the primary mentor for the student throughout the duration of the program. The major responsibility of the Mentor is for research training and professional development. Other responsibilities of the Mentor include: approval of any elective courses and vacation leaves; ensuring that students have at a minimum annual committee meetings and fill out an annual committee form (see FORM CC) and hand in the annual committee form; ensuring students submit annual written progress reports to the DGS and GAC (see FORM DD) by May 1<sup>st</sup>; ensuring students attend weekly departmental seminars; ensuring students submit their Ph.D. proposal as a fellowship application when the student qualifies and is ready to do so; and paying for the student's stipend and benefits as well as supplies for the student's project.

### 2. Selecting a Dissertation Advisor/Research Advisor/ Mentor

- a. **General Guidelines**--*The choice of a research Mentor is an important decision and the following criteria are provided as a guide.*
  - **What is the nature of the training in the laboratory?** *This includes but is not limited to the following questions: Will you be exposed to diverse research experiences? How much independence is expected? What is the accessibility and management approaches of the PI (mentor)?*
  - **What is the lab's track record for publication? What is the record for student publications?** *Peer-reviewed publications and presentations at national meetings are key components of productive research training.*
  - **Support for the research.** *Faculty members must contribute at least 2 years of the student financial support (years 3 -5 is expected). This is typically guaranteed by grant support. The faculty member must guarantee support for a student before the laboratory/mentor will be approved.*
  - **Training over research project.** *The PHTX faculty mission is to provide a strong foundation in the theoretical and experimental aspects of Pharmacology and Toxicology. Our goal is to train you to apply the scientific approach to problem solving and to develop the skills of an independent, critical thinker. Our view is this goal transcends a particular research problem and the training you receive will transfer to any future research problem. As scientists, any good research question should spark excitement, therefore, you should talk with all faculty to learn of their research and ensure that you and the mentor both have an equal level of excitement.*
- b. **Consider also the following expectations for your training when selecting a mentor.**
  - **"Pre-doctoral training entails both formal education in a specific discipline and an apprenticeship** *in which the graduate student trains under the supervision of one or more investigators who are qualified to fulfill the responsibilities of a mentor. What responsibilities does the prospective mentor expect to fulfill in the short- and long-term?*
  - **A positive mentoring relationship between the pre-doctoral student and the research mentor** *is a vital component of the student's preparation to become not only an independent and successful research scientist but also an effective mentor to future graduate students. What type of relationship does the mentor have with their current and past students? Request contact information for current and previous mentees and discuss their mentee-mentor relationship with them.*
  - **Faculty who advise students are expected to fulfill the responsibilities of a mentor,** *including the provision of scientific training, guidance, instruction in the*

*responsible conduct of research and research ethics, and financial support. The faculty mentor also performs a critical function as a scientific role model for the graduate student.”<sup>1</sup>*

## **B. Dissertation Mentor Selection Process**

During the orientation week, all incoming students will meet with primary and secondary PHTX faculty that have openings in their laboratories for new students to discuss research projects. This will be accomplished by scheduled faculty presentations during orientation and through scheduling follow up one-on-one meetings. The student is encouraged to select two or more laboratories for research rotations. One objective for the laboratory rotations is to provide an opportunity for students to experience diverse research environments and determine whether a potential mentor will be suitable for them as a Ph.D. dissertation research mentor. Equally, laboratory rotations afford students an opportunity to acquire research skills and new techniques. It is strongly recommended that a student complete rotations within the laboratories that they are considering for their dissertation research. This allows the student to become familiar with the laboratory and research projects before they commit to a laboratory and mentor.

The student is expected to have a Dissertation Mentor by the end of Spring term of the 1<sup>st</sup> year and no later than the end of the Summer term of year 1. Laboratory rotations are also important for faculty to assess a student's knowledge, research skills, motivation, work ethic, and how they might fit into their research program. If a student requires more than 3 laboratory rotations to find a laboratory, the student may request approval from the DGS to obtain additional laboratory experience. Any student still unable to find a research mentor before the start of Fall semester of Year 2 will be considered not to be making satisfactory progress towards their degree. It is the primary responsibility of each student to have a mentor, as the mentor and their lab resources are essential requirements for the student to make progress towards the Ph.D.

During the laboratory rotations, the students will be enrolled in 1 credit of PHTX 617. The course director of PHTX 617 is the DGS. There is a syllabus available for this course and required materials. All course materials and deadlines are outlined in the syllabus that is available through Blackboard. Once a mentor is chosen, the following semester, the student registers for PHTX 619 and continues to do so for each semester thereafter until they advance to Master's or Doctoral Candidacy. PHTX 619 is also administered through Blackboard with the DGS as the course director. Both PHTX 617 and 619 require the student to submit research plans at the beginning of the lab rotation or semester, respectively. Progress reports and a mentor evaluation for are due at the end of the lab rotations for PHTX 617 or semester for 619. The student is responsible for ensuring that their mentors submit the mentor evaluation on time. The mentor evaluation will contain comments for the student as well as confidential comments for the graduate affairs committee. It also contains a recommended grade.

Once a potential dissertation mentor has been identified, it is the student's responsibility, in consultation with his/her Mentor, to notify the DGS and Graduate coordinator via email. The email must also copy the dissertation mentor.

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<sup>1</sup> Excerpt from **Compact Between Biomedical Graduate Students and Their Research Advisors**

**Adapted from the AAMC GREAT group guidelines ([www.aamc.org/gradcompact](http://www.aamc.org/gradcompact))**

**Approved for circulation by the University of Louisville School of Medicine Graduate Council on March 2009**

**NOTE: Research Interests of the Faculty (RIFs)**

Faculty members with positions available for students will give short research presentations to the student group during PHTX orientation week. The presentations will be scheduled for August and all incoming students are required to attend. The student should follow-up and schedule individual meetings with the faculty to further discuss their work. Use this opportunity to learn about various faculty members' research interests and ask questions that address the criteria for selection of a lab/mentor. Read publications from the lab (it is a good idea to do this before the meeting!) and also be sure to talk to students and postdocs in the lab. Also discuss potential labs in which you wish to rotate with the DGS and GAC.

**C. Dissertation Committee**

Doctoral and Master's dissertation/ thesis committees shall be composed of a minimum of five qualified members that includes the Research Mentor. Each person on the committee must be a member of the University of Louisville Graduate Faculty. Graduate Research Training Faculty status is required before a faculty member is eligible to mentor students. One member of the committee must be a primary faculty in PHTX. A list of primary PHTX faculty is available on the departmental website. One member of the dissertation committee must be from outside the PHTX department (not a primary PHTX member). Once a Research Mentor has been selected and the research project is underway, the student in consultation with the mentor will submit to DGS the names of at least five faculty members that they wish to request to serve on their dissertation committee so that the DGS can ensure that the committee has the appropriate composition and that there are no conflicts of interest. (In cases where there is a potential conflict of interest additional requirements may be imposed. For instance, if a committee member is dependent on the mentor, then a sixth member must be appointed.) This is done by submitting a committee approval form (FORM AA). The DGS will look over the committee and either request alterations be made or grant approval. Once the committee composition is approved by the DGS, the student must fill out and submit a Dissertation Committee Form (FORM BB) that contains signatures of all committee members. The Dissertation Committee Form is available for download from the SIGS website (<http://louisville.edu/graduate/forms/thesis-dissertation-advisory-committee-appointment-form>) and is included in the appendix. Since this dissertation committee must approve the student's research proposal, the committee should be appointed as soon as possible after the written or oral qualifying exam have been passed. Committees must be approved by DGS and the Dean of the Graduate School. Once all committee members have signed this form, it is submitted to the DGS for signature. The graduate coordinator or the DGS will submit the form for the student for the signature of the Dean of the Graduate School. A copy of the signed form is kept on record by the graduate school, the department, and the student.

The role of the Dissertation Committee is to help advise students on their research, evaluate research progress, and approve the final dissertation. A copy of the guidelines for faculty serving on dissertation committees is in Appendix J.

**D. Changes to The Dissertation Committee**

At times, the composition of the dissertation committee will require alteration. This can occur if a committee member leaves the University or if a project changes direction and requires the addition of a committee member with additional expertise. Changes to the dissertation committee require approval of the DGS and will require that the dissertation committee form be updated. When there are major changes to the dissertation committee (change in primary mentor for example), a new form is required.

#### IV. REQUIREMENTS FOR THE M.S. DEGREE IN PHARMACOLOGY AND TOXICOLOGY

Students should familiarize themselves with the general requirements for the M.S. Degree as stated in the current University of Louisville Graduate Catalog (<http://graduate.louisville.edu/>). The award of a M.S. degree indicates mostly that a student has attained a level of mastery of a field and has demonstrated the capacity to perform independent scholarly research, including the ability to think critically.

##### A. Good Standing In PHTX Program Requirement Overview

To complete a M.S. degree a student must remain in good standing within the PHTX graduate program. The criteria for good standing in the graduate program are based on successful completion of milestones that indicate progression towards a degree. These milestones are outlined by the following requirements:

To be in good standing a student must successfully complete:

1. all coursework (no grades with a C or below) with a minimum GPA of 3.0.
2. laboratory rotation(s)
3. a seminar presentation once per year
4. Master's thesis written and oral defense of the Master's thesis
5. annual committee meetings with documentation via FORM CC
6. annual progress reports **DUE MAY 1<sup>st</sup>** to the department (FORM DD)
7. annual IDPs **DUE** with the annual progress report by **MAY 1<sup>st</sup>**
8. regular attendance of weekly departmental seminars

To fulfill all requirements for the M.S. degree a student must:

1. complete a body of research (thesis).
2. write and publicly defend a Master's thesis that is acceptable by the thesis committee and School of Interdisciplinary Graduate Studies.

In cases where student progress is deemed to be inadequate, a remediation plan will be developed. The timeline for remediation will be determined on a case-by-case basis with a maximum of 6 months before reassessment of student progress. In year 1, the DGS will advise the student and outline specific milestones that must be met to return to good standing. In years 2 and beyond, the thesis Committee is responsible for monitoring student progress and developing remediation plans for approval of the GAC.

##### B. Courses

1. For students with previous graduate training, documented graduate level courses may be considered for fulfilling a course requirement. The student must make a formal written request and provide a syllabus for the equivalent course to the DGS. The DGS and Course Director will review the request and bring a recommendation to GAC for a final decision. All previous courses must be taken within the past three years for consideration.
2. Required Coursework  
All PHTX graduate students are required to complete a minimum of 40 credit hours by the end of year 2 to be eligible to enter Master's candidacy. The program has 30 hours of required classroom instruction listed on the following page.
3. Students must maintain a B (3.0) or higher average in their course work to remain in good standing. A student who fails to maintain a B average will be placed on academic probation for one semester and will be subject to dismissal from the program after a second semester with an average below 3.0. The course offerings for PHTX are shown in the table below.

YEAR ONE--FALL COURSE OFFERING		
course #	course name	hr
PHTX 641	Pharmacology I	3
PHTX 643	Toxicology	3
BIOC 645	Adv Biochemistry I	4
PHZB 602	Physiology	2
PHTX 606	Seminar	1
PHTX 617	Research	1

YEAR TWO--SPRING COURSE OFFERING		
course #	course name	hr
PHTX 642	Pharmacology II	3
PHTX 644	Toxicology II	3
BIOC 667	Cell Biology	3
BIOC 630	Research Ethics	1
PHTX 606	Seminar	1
PHTX 619	Research	1

YEAR ONE--SUMMER COURSE OFFERING		
course #	course name	hr
PHTX 632	Analysis of Parametric & Nonparametric Data	2
PHTX 619	Research Electives Courses	(1-9)

YEAR TWO--FALL COURSE OFFERING		
course #	course name	hr
PHTX 625	Scientific Writing	2
PHTX 619	Research Elective Courses	(1-9)

YEAR TWO--SPRING COURSE OFFERING		
course #	course name	hr
PHTX 619	Research Elective Courses	(1-9)

Please note that students in iPBS must be registered for full-time for the first two years. For fall & spring semesters, the minimum is 9 credits to be full-time. For summer, the minimum is 6 credits to be full-time.

## C. Additional Requirements for the Master's Degree

### 1. Laboratory Rotations

Laboratory rotations are a course (PHTX 617) that the student must enroll in during their first academic year. The goal of laboratory rotations is to identify a mentor and laboratory 'home' for the student to pursue dissertation research. Students select a faculty mentor for the rotation, and with the faculty mentor's approval, pursue research in the mentor's laboratory. Each laboratory rotation lasts half of a semester. At the beginning of each rotation, the student must submit a research plan. Research plans are to be prepared in consultation with the faculty mentor whose laboratory that the student is performing the rotation. Research plans are due to the course director for PHTX 617 on the first Friday following the start of the laboratory rotation by 5pm. A form to be used for the research plan is provided in the content section of blackboard for PHTX 617 and at the end of the syllabus for PHTX 617 (also on Blackboard). Plans are to be submitted as an attachment to an email to the course director and the laboratory rotation mentor should be Cc'ed on the email.

Research progress reports detailing the work performed during the laboratory rotation are due at the end of each laboratory rotation. Research progress reports are due by 5pm on the last day of the laboratory rotation. The date in which the research progress report is due is listed on the syllabus and Blackboard for PHTX 617. A form to be used for the research plan is provided in the content section of blackboard for PHTX 617 and is also included at the end of the course syllabus. Progress reports are to be submitted as an attachment to an email to the course director and the laboratory rotation mentor should be Cc'ed on the email.

At the end of each laboratory rotation, mentors must submit an evaluation to the course director with comments on the student's performance. Mentor Evaluations are due on the last day of each rotation. A form to be used for the mentor evaluation is provided in the content section of blackboard for the course. Students are to complete the information at the top of the form and forward it to their mentor for completion and submission to the course director. NOTE: It is the student's responsibility to ensure that the mentor submits the mentor evaluation to the Course Director by the due date. The student should send both their research plan and research progress reports to their laboratory rotation mentor along with the mentor evaluation form for their laboratory rotation mentor to fill out. The student should Cc the course director on this email. The mentor should fill out the evaluation and send it as an attachment to Dr. Siskind. The student's grade will be penalized if the mentor evaluation is submitted late by the mentor. Students need to give their mentors plenty of advanced notice to prepare their evaluations prior to the deadline.

**2. Seminar Course and Seminar Presentations: First and second year students are required to enroll in the seminar course (PHTX 606).** The fall Pharmacology Seminar course is a survey course designed to acquaint 1st and 2nd year pharmacology graduate students with a broad range of basic science subject matter and the organization of a scientific presentation. For the Fall semester seminar course, each student will be required to summarize in writing (250 words or less) three of the seminars by a specified date. The synopsis should describe how the seminar was organized, a brief description of the background information presented by the speaker, the hypothesis that was tested, the results that proved or disproved the hypothesis, and the conclusions of the speaker. The student should also indicate if they believe the data supported the conclusions of the speaker. The fall seminar course is pass/ fail. To pass the fall seminar course, the student will need to attend a total of 14 one hour seminars and complete a written synopsis for three seminars. The assignments are designed to give the student practice in writing a succinct summary of a research project. For the spring semester seminar course, first year students must present a

departmental seminar that is 20-25 minutes in length that will be evaluated and graded according to the rubric in APPENDIX H. The students will also be required to submit a title and abstract for their seminar presentation. Like all courses at the University, the seminar course (PHTX 606) has a syllabus that is available on blackboard. All students are expected to read the syllabi and adhere to all deadlines specified therein.

**3. Seminar Attendance and Graduate Student Seminar Presentations:** All graduate students are required to attend all weekly departmental seminars. These weekly seminars are held on Thursdays at noon in room 124 in the CTR Building unless otherwise specified. There is a sign in sheet that all students must sign to indicate their attendance. If a student is unable to attend a seminar, then they must email the seminar director Dr. Hong in advance specifying that they cannot attend and the reason for not being able to attend. Students may not miss more than 30% of seminars and if they do miss more than the allowed amount, then they will report to the graduate affairs committee for remediation.

#### **4. Annual Thesis/Dissertation Committee Meetings**

**Every student must present a research conference and hold an annual committee meeting in years 2 and beyond.** The Seminar Committee will schedule the research conferences and it is the student's responsibility to schedule the committee meetings and prepare written progress reports that must be distributed to their committee at least two weeks prior to the conference/meeting. *The research report should focus on the data collected or significant changes since the previous committee meeting.* The progress report should include an updated curriculum vitae and an a 1-2 page summary on the student's progress. It is advisable that committee members be given copies of the Powerpoint presentation in advance of the committee meeting. Students experiencing significant difficulty in scheduling a committee meeting should contact the DGS for advice.

It is the responsibility of the committee members to determine at each meeting whether adequate progress is being made. It is at the discretion of the committee to determine whether more frequent meetings may be required. The student should schedule more frequent meetings when major new findings and/or changes in the research project warrant committee approval. It is the student's right to request more frequent meetings to take advantage of the committee members' expertise and guidance.

#### **5. Documentation of Committee Meetings**

A departmental record of committee meetings (FORM CC) is required. It is the responsibility of the Student to complete PART A. It is the responsibility of the dissertation mentor/advisor to complete PART B. The content of Part B should summarize committee member comments and contain specific feedback for the student to know the expectations and goals to be accomplished before the next meeting. **The report must be approved by all committee members and student. Approval is indicated by signature on the report. The signed annual report must be sent to the DGS within 1 week of the committee meeting.** The completed form is placed in the student's file and serves as a record to indicate progress in the program.

#### **6. Thesis and Defense**

A thesis consists of a complete and coherent body of work resulting in a significant, contribution to the field of pharmacology and toxicology.

The writing and defense of a Master's Thesis is the final requirement for the M.S. degree. The Thesis Committee must receive a completed copy of the dissertation at least two weeks prior to the expected date for the defense. It is the student's responsibility to inform the DGS, the seminar director and university of the scheduled defense date at least two weeks prior to the defense. It is the students' responsibility to inform the School of Interdisciplinary and Graduate Studies of the student's pending defense. This is done online through the graduate

school website. An email confirmation will then be sent to the students and that email should be forwarded to the GC and staff (Sonya Cary & Kelly Holland).

The thesis must present data of sufficient quality and quantity so as to demonstrate to the Thesis Committee that the student possesses the ability to pursue research. The student must defend the research protocol, results, and conclusions at an oral Thesis Defense. To satisfactorily pass the thesis defense, a student may not receive more than one unfavorable vote from a member of the thesis Committee. (See FORM EE).

The student is responsible for making final revisions of the written thesis within the semester of the defense and prior to Graduate School deadlines for final submission of the thesis. Once the student has submitted the approved dissertation to the School of Interdisciplinary Graduate Studies, he/she has fulfilled all requirements for degree. A confirmation email from Courtney Kerr indicating acceptance of the thesis should be forwarded to the GC and staff (Sonya Cary & Kelly Holland).

For the format of the thesis, consult the current "Standards for the Preparation of Theses and Dissertations," published by the School of Interdisciplinary and Graduate Studies. A copy is available online at the Graduate School's web site. (See APPENDIX K.)

## **V. REQUIREMENTS FOR THE Ph.D. DEGREE IN PHARMACOLOGY AND TOXICOLOGY**

Students should familiarize themselves with the general requirements for the Ph.D. Degree as stated in the current University of Louisville Graduate Catalog (<http://graduate.louisville.edu/>). The award of a Doctor of Philosophy degree indicates that a student has attained mastery of a field and has demonstrated the capacity to perform independent scholarly research, including the ability to think critically. The doctoral degree is not awarded solely upon completion of a curriculum of courses, even though the student may have done superior work in them; rather, it is awarded in recognition of having both successfully completed coursework and demonstrating creative scholarship in the candidate's chosen field.

All Ph.D. students receiving financial support from the University of Louisville, must be enrolled as full-time students during the period for which they are receiving support. The minimum and maximum number of credit hours for full time study is 9 and 12, respectively, in the fall and spring semesters (6 and 12 for the summer). Students are registered for more than 12 credits during their first year. The DGS and/ or the Graduate Coordinator file the appropriate forms to allow students to be registered for more than 12 credits. To be considered in good standing, a grade average of 3.0 or better must be maintained. The program faculty and unit dean monitor the GPA of every graduate student. A student must be in good standing to receive a degree. Students must be enrolled during the semester in which they wish to graduate. Registration for Master's or Doctoral candidacy is considered full-time.

### **A. Good Standing In PHTX Program Requirement Overview**

To complete a Ph.D. degree a student must remain in good standing within the PHTX graduate program. The criteria for good standing in the graduate program are based on successful completion of milestones that indicate progression towards a degree. These milestones are outlined by the following requirements.

To be in good standing a student must successfully complete:

1. all coursework (no grades with a C or below) with a minimum GPA of 3.0.
2. laboratory rotation(s)
3. a seminar presentation once per year
4. passing of written qualifying exams
5. Master's thesis written and oral defense of the Master's thesis (see above)
6. writing the PhD. Proposal
7. oral qualifying exam (presentation and defense of the Ph.D. proposal)
8. annual committee meetings
9. annual progress reports
10. annual IDPs
11. regular attendance of weekly departmental seminars

To fulfill all requirements for the Ph.D. degree a student must:

1. complete a body of novel research (dissertation)
2. write and publicly defend a doctoral dissertation that is acceptable by the dissertation committee and School of Interdisciplinary and Graduate Studies.

In cases where student progress is deemed to be inadequate, a remediation plan may be considered. The timeline for remediation will be determined on a case-by-case basis with a maximum of 6 months before reassessment of student progress. In year 1, the DGS will advise the student and outline specific milestones that must be met to return to good standing. In years 2 and beyond, the Dissertation Committee is responsible for monitoring student progress and developing remediation plans.

## **B. Courses**

1. For students with previous graduate training, documented graduate level courses may be considered for fulfilling a course requirement. The student must make a formal written request and provide a syllabus for the equivalent course to the DGS. The DGS and Course Director will review the request and bring a recommendation to GAC for a final decision. All prior coursework must be completed within three years of the request.
2. **Required Coursework**  
All PHTX graduate students are required to complete the minimum of 40 required credit hours by the end of year 2 to be eligible to enter Master's candidacy. The required coursework is the same for the Master's Degree and the Ph.D. degree.
3. Students are expected to maintain a B (3.0) or higher average in their course work. A student who fails to maintain a B average will be placed on academic probation for one semester and will be subject to dismissal from the program after a second semester with an average below 3.0

## **C. Additional Requirements**

### **1. Laboratory Rotations**

See section IV.C.1. above under Master's degree.

### **2. Seminar Presentations**

See section IV.C.2. above under Master's degree

### **3. Seminar Attendance:**

See section IV.C.3. above under Master's degree.

### **4. Ph.D. Written Qualifying Exams (QE)**

The written qualifying exam is taken by students in the MS/PhD and MD/PhD programs. Students in the MS track have the option of taking the exam if they anticipate they may want to become PhD candidates, but are not obligated to do so. The exam is administered in three components during the first year Fall semester, first year Spring semester, and second year Fall semester. Students in the MD/PhD program will arrange with the Director of Graduate Studies to schedule their three exams preferably within the first semester of their graduate studies.

**Purpose:** The purpose of the written qualifying exam is to assess the students' integration and retention of the material from the Pharmacology and Toxicology curriculum. Emphasis will be placed on key universal pharmacological and toxicological concepts, problem solving, and experimental design.

**Learning Objectives:** The successful student will demonstrate that they are able to assimilate key biomedical concepts from the coursework and apply it to data interpretation, problem solving and experimental design. In addition, the exam will also test the students' written communication skills.

**Format:** Each written exam is comprised of four questions written by the Departmental Faculty and edited by the Graduate Affairs Committee. Each student will choose three of the four questions to answer. Questions will be answered during the 4 hour exam period. The exam will be administered electronically through the Blackboard website. All exams will be submitted through the website.

**Grading/evaluation:** Each question is graded by three members of the Graduate Affairs Committee and ad hoc committee members as necessary. Each question is graded on a scale of 0 to 4. The following criteria for each grade are used: 4 = Outstanding, 3 = Good, 2 = Acceptable, 1 = Unacceptable, 0 = No knowledge. The average of the two evaluators' scores is the student's grade for that question. A score of  $\geq 2$  on a question, constitutes passing that question. Students must achieve a score of 2 or greater for 6 questions and receive a composite score (for all three exams) of 18.

**Remediation:** Students that fail the written exam have one chance to remediate the written qualifying exam with an oral exam. The Examination committee is composed of member of the Graduate Affairs Committee. Students are given a set of three questions to review for 30 minutes and make notes. The student then stands before the Graduate Affairs Committee to answer questions relating to those questions or any concept taught in the first two years of the Pharmacology & Toxicology graduate curriculum. The committee convenes in the absence of the student and decides if the student passes.

## **5. Master's Thesis Proposal and Defense**

As part of the PhD in PHTX, students are required to complete a Master's degree. This includes writing and defending a Master's Thesis. These details are described above in Section IV.C.6.

## **6. Annual Dissertation Committee Meetings**

Every student must present a research conference and hold a committee meeting in years 2 and beyond. The Seminar Committee will schedule the research conferences and it is the student's responsibility to schedule committee meetings. Students must prepare written research progress reports that are distributed in advance of committee meetings to their committee members at least two weeks prior to the conference/meeting. The progress report should focus on the data collected or significant changes since the previous committee meeting. The progress report should include an updated curriculum vitae. A copy of the progress report must be submitted to the DGS to be placed in the student's file. Students experiencing significant difficulty in scheduling a committee meeting should contact the DGS for advice.

It is the responsibility of the committee members to determine at each meeting whether adequate progress is being made. It is at the discretion of the committee to determine whether more frequent meetings may be required. The student should schedule more frequent meetings when major new findings and/or changes in the research project warrant committee approval. It is the student's right to request more frequent meetings to take advantage of the committee members' expertise and guidance.

## **7. Documentation of Committee Meetings**

A departmental record of committee meetings (FORM CC) is required. The report must be approved by all committee members and student. Approval is indicated by signature on the report. The signed annual report must be sent to the DGS within 1 week of the committee meeting. The completed form is placed in the student's file and serves as a record to indicate progress in the program.

## 8. Dissertation and Defense

A dissertation consists of a complete and coherent body of work resulting in a significant, substantial, and novel contribution to the field of pharmacology and toxicology. It is expected that the work will result in first author, peer-reviewed publications.

The writing and defense of a Doctoral Dissertation is the final requirement for the Ph.D. degree. The Dissertation Committee and Chair of the Department must receive a completed copy of the dissertation at least two weeks prior to the expected date for the defense. It is the student's responsibility to inform the DGS and seminar director of the scheduled defense date at least two weeks prior to the defense. It is the DGS' responsibility to inform the School of Interdisciplinary and Graduate Studies of the student's pending defense.

The dissertation must present data of sufficient quality and quantity so as to demonstrate to the Dissertation Committee that the student possesses the ability to pursue independent and original research. The student must defend the research protocol, results, and conclusions at an oral Dissertation Defense. To satisfactorily pass the dissertation defense, a student may not receive more than one unfavorable vote from a member of the Dissertation Committee.

The student is responsible for making final revisions of the written dissertation within the semester of the defense and prior to Graduate School deadlines for final submission of dissertations. Once the student has submitted the approved dissertation to the School of Interdisciplinary and Graduate Studies, he/she has fulfilled all requirements for degree and is eligible to apply for the Ph.D. degree.

In the absence of a publication, the mentor must provide a written report that addresses why a publication has not resulted from the work and confirm that the dissertation indeed represents a significant advance of the field. The report must be approved by the Dissertation committee and submitted to the DGS and Chair of the Department. For the format of the dissertation, consult the current "Standards for the Preparation of Theses and Dissertations," published by the School of Interdisciplinary Graduate Studies. A copy is available online at the Graduate School's web site. (See APPENDIX K.)

## VI: REQUIREMENTS FOR MD/PHD:

Students enrolled in the M.D./Ph.D. program in the Department of Pharmacology and Toxicology will have satisfied almost all of the didactic course requirements upon passing all first and second year courses of the medical school curriculum and the USMLE Step I examination. The program requires MD/PhD students to register for the Pharmacology & Toxicology Seminar course (PHTX606) for at least the first year. During this time the student must make at least one oral presentation to the department. Research Ethics (BIOC 630) is also required of all students, including MD/PhD. If a student has not yet obtained an F30 fellowship, then taking Scientific Writing (PHTX 625) is strongly encouraged in the first fall semester. In consultation with his or her mentor and dissertation committee, the student may take or be asked to take additional classes, for example Pharmacology (PHTX 641, 643), Toxicology (PHTX 642, 644), Molecular Toxicology (PHTX 661), Cancer Biology (BIOC 675),

Molecular Biology (BIOC 668). The program requires MD/PhD students to take and pass the written qualifying examinations as do all PhD students. The program expects the students to complete these examinations by the end of the first fall semester but if not, they must be passed prior to standing for the oral qualifying examination. Students will be required to prepare, present, and successfully defend a dissertation research proposal within their first full research year. This will serve as their oral qualifying exam for designation as a doctoral candidate. It is anticipated that students will prepare, present, and successfully defend their dissertation within three years for the awarding of the Ph.D. degree. Upon successful completion of the oral qualifying examination and passing the written qualifying examinations, the student will enter PhD candidacy.

Ph.D. Students must be continuously enrolled at full-time status. 9 credit hours for Fall and Spring terms and 6 credit hours for Summer term is considered full time. A maximum of 12 hours is allowed for Fall and Spring terms and 9 hours for Summer term. When students are enrolled for more than 12 hours, the DGS must request a variance to SIGS to allow this. Any additional coursework must be approved by the DGS and/or mentor. Registration for Master's or Doctoral candidacy is considered full-time.

## **VII. INTERNATIONAL PROGRAM AFFILIATIONS**

The Department of Pharmacology and Toxicology at the University of Louisville has PhD partnerships with four universities, namely (1) Wenzhou Medical University; (2) Jilin University; (3) Cairo University; (4) Ain Shams University. These PhD partnerships are for the purpose of strengthening the relationships between the University of Louisville and each of the international universities by developing an academic as well as cultural exchange in areas to include teaching, research, and other activities. Students admitted under these partnerships will have completed required coursework at their home institution in relevant areas as specified on the memorandum of understanding (MOU) documents that are available for download from the Department of Pharmacology and Toxicology website. Upon admission to our program, student will complete additional credits at the University of Louisville as specified in the relevant MOU documents (for example scientific writing, research ethics, seminar, and research credits). International affiliation students will choose a laboratory within their first semester of admission into our program; students are expected to develop their PhD project as well as write and defend their PhD proposal as specified in this manual within the first semester in the program and no later than their first calendar year. International affiliation students will follow all the protocols outlined in this manual with the exceptions noted here regarding coursework and MS degree. Please note that the MOU documents will at times require amending as our program requirements change.

**Appendix A: MINIMUM GUIDELINES FOR DOCTORAL & MASTER'S GRADUATE EDUCATION**  
**THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY**  
**UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

To ensure high quality doctoral and master's graduate education programs, the School of Medicine maintains minimum guidelines for admission and performance of doctoral and master's level graduate students, for faculty involvement in doctoral and master's graduate education and for proper academic administration. Doctoral refers to both the Ph.D. and Au.D degree programs. The faculty of the School of Medicine has the academic authority and responsibility to establish rigorous and effective: admission requirements, curricula, instruction, examinations, and recommendations to the Board of Trustees for granting of degrees (Redbook Article 3.3.2.)

The faculty of each doctoral and master's graduate program shall establish and publish its own set of policies and procedures for its graduate programs in the University catalog. Individual doctoral and master's graduate programs may establish policies that are more stringent than those set forth in this document, but may not establish standards that are lesser. Programs and policies for School of Medicine doctoral and master's graduate programs shall be approved by the School of Medicine Graduate Council and the Dean of the School of Medicine.

**I. Academic standards for students in graduate doctoral and master's programs**

**Admissions standards**

1. All applications for graduate doctoral and master's program admissions shall include:  
(a) a completed application, (b) an application fee, (c) results from the general Graduate Record Exam or a suitable alternative at the discretion of the program (d) official transcript(s) for all previous post-secondary coursework, and (e) at least two letters of recommendation. All transcripts not in English must be certified as authentic and translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution.
3. The School of Medicine requires a minimum 3.0 grade point average (on a 4.0 scale), and GRE scores of Verbal + Quantitative of 300 (on the new GRE scale of 130-170 each for Verbal and Quantitative) to be considered for non-provisional acceptance and admission.
4. Non-provisional admission to degree seeking status shall be made only if all admission credentials shall have been received, evaluated and approved.
5. Any provisional acceptance shall be made on an individual basis and shall require a statement of the rationale for the exception, plans for monitoring progress and performance and stated success criteria. Such justification must be provided in writing and must be accepted by the faculty of the degree-granting program and Dean of the School of Medicine. This will allow consideration of special circumstances in which the potential for high quality graduate performance has been clearly demonstrated by other means.

6. Students who fail to meet performance goals or who do not meet other requirements as outlined in the admission letter, program requirements or the University's catalog will be subject to academic dismissal from their programs.

## **Academic Performance**

1. Each doctoral or master's degree-granting program at the School of Medicine shall establish and publish in the University catalog current curricular and program offerings which include all requirements for degrees.
2. The School of Medicine requires a minimum grade point average of 3.0 and satisfactory progress towards the degree for maintenance of good standing. Satisfactory progress is established by the doctoral or master's degree-granting programs at the School and published in the University catalog.
3. Any student who does not satisfy the published performance criteria shall be placed in probationary status. Any student who remains in probationary status for two consecutive terms will be considered for dismissal from the program.
4. Students receiving graduate assistantships (teaching, research, or service) shall be provided adequate training and shall be required to understand and adhere to University policies related to these areas. The performance of teaching, research and service duties by such students shall be periodically evaluated. Students with teaching assistantships shall be evaluated annually.

### **A. International students**

1. All international students shall comply with regulations of the U.S. Immigration and Naturalization Service, its Student and Exchange Visitor Program, and all related policies of the University of Louisville International Center.
2. All international students must be registered with the University of Louisville International Center including presentation of evidence of financial resources adequate to support their educational and living expenses in the United States for the duration of their studies.
3. International students for whom English is not their primary language must show English language proficiency by demonstration of proficiency on the TOEFL examination (defined as 213 or higher on the computer-based test; 550 or higher on the paper-based test; or 79 or higher on the internet-based test) or by successfully completing the exit examination for the advanced level of the Intensive English as a Second Language Program at the University of Louisville or by demonstration of a degree award from an acceptable English language institution.

### **B. Academic program administration**

1. Policies for administration of academic programs shall be promulgated by the Dean of the School of Interdisciplinary and Graduate Studies (SIGS) following appropriate consultation with: (1) an advisory body of deans or their designees, (2) directors of graduate programs, (3) representatives of the Graduate Student Council and/or (4) the Graduate Council. Final approval of these guidelines shall be made by the University Provost.

2. These administrative policies shall be published in the university catalog, and shall include policies and procedures for: the academic calendar and catalog maintenance, requirements for maintenance of good academic standing, course, credit and degree requirements, grades and grading policies, honors and awards, requirements for theses and dissertations, residency policies, and policies for award of stipends, benefits, tuition and fee remission.

## **C. Conflict resolution**

Any student who believes that he or she has been treated unfairly, discriminated against, or has had rights abridged may seek resolution of this conflict. Students, faculty and administrators shall first seek to resolve the matter through informal discussion and through administrative channels, and through the University Student Grievance Officer. Should this fail, a student may initiate a grievance with the School of Medicine's Graduate Student Academic Grievance Committee within one year of the event giving rise to the complaint. The Graduate Student Academic Grievance Committee in the School of Interdisciplinary and Graduate Studies will have appellate jurisdiction for grievances filed by graduate students at the School of Medicine and adjudicated by the School of Medicine's Graduate Academic Grievance Committee. All grievance procedures shall be conducted in accord with Redbook Section 6.8.

## **II. Faculty Participation in Graduate Education**

A. Faculty who participate in teaching graduate level courses shall meet the requirements of the University of Louisville Faculty Credentials Policy. This policy is consistent with the guidelines of the Southern Association of Colleges and Schools which state that faculty teaching graduate and post-baccalaureate course work should have an earned doctorate/terminal degree in the teaching discipline or a related discipline. However, programs may consider other qualifications (e.g., work experience, research) when determining whether a person is qualified to teach graduate level courses. Such exceptions must be documented and approved by the School of Medicine Graduate Council and the Dean of the School of Medicine, and recorded by the Dean of the School of Interdisciplinary and Graduate Studies.

B. Faculty who serve as Ph.D. mentors, chair doctoral dissertation committees, and/or chair master thesis committees shall, in addition to the above requirement,

1. show evidence of active research, scholarship or creative activity, as defined by the School of Medicine Graduate Council.
2. have this responsibility specified in the annual faculty work plan.
3. shall make provisions for continuous availability of student mentoring.

C. Faculty who serve as dissertation and thesis committee members shall show evidence of experience in independent research, scholarship or creative activity, or may be appointed because of specific professional expertise of value to the student's program.

D. Doctoral dissertation committees shall be composed of a minimum of five qualified members and masters' thesis committees a minimum of three qualified members. One of the members shall come from outside the program of the student. In the case of joint programs with other universities, a committee member from the other institution may fulfill this requirement upon recommendation by the Departmental program and approval of the School of Medicine Graduate Council.

E. Faculty certified for participation in graduate education or for service as a doctoral mentor shall be evaluated periodically by their respective program and approved by the School of Medicine Graduate Council for continuation of such status. The School of Medicine shall publish its criteria for certification and continuation in graduate faculty and mentor status.

F. All dissertation and theses committees shall provide sufficient expertise in the area of study and sufficient faculty availability for necessary student guidance.

G. The School of Medicine shall certify eligibility of faculty for participation on dissertation and theses committees and shall forward committee rosters upon appointment and upon any changes to the Dean of the School of Interdisciplinary and Graduate Studies.

H. Exceptions to these guidelines for involvement with graduate education at the masters' and doctoral level must be documented and approved by the Dean of the School of Medicine and by the Dean of the School of Interdisciplinary and Graduate Studies.

## **Appendix B: PROFESSIONALISM STANDARDS FOR GRADUATE STUDENTS & THEIR RESEARCH ADVISORS**

### **THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

Below, please find an excerpt of the student mentor compact adopted by the AAMC GREAT committee which can be found in its entirety in the IPBS Handbook. These points outline the professional standards for graduate students. Following this section, you will find the standards for research advisors.

#### **Graduate Students Professionalism Standards**

- I acknowledge that I have the primary responsibility for the successful completion of my degree. I will be committed to my graduate education and will demonstrate this by my efforts in the classroom and the research laboratory. I will maintain a high level of professionalism, self-motivation, engagement, scientific curiosity, and ethical standards.
- I will meet regularly with my research advisor and provide him/her with updates on the progress and results of my activities and experiments.
- I will work with my research advisor to develop a thesis/dissertation project. This will include establishing a timeline for each phase of my work. I will strive to meet the established deadlines.
- I will work with my research advisor to select a thesis/dissertation committee. I will commit to meeting with this committee at least annually (or more frequently, according to program guidelines). I will be responsive to the advice of and constructive criticism from my committee.
- I will be knowledgeable of the policies and requirements of my graduate program, graduate school, and institution. I will commit to meeting these requirements, including teaching responsibilities.
- I will attend and participate in laboratory meetings, seminars and journal clubs that are part of my educational program.
- I will comply with all institutional policies, including academic program milestones. I will comply with both the letter and spirit of all institutional safe laboratory practices and animal-use and human-research policies at my institution.
- I will participate in my institution's Responsible Conduct of Research Training Program and practice those guidelines in conducting my thesis/dissertation research.
- I will be a good lab citizen. I will agree to take part in shared laboratory responsibilities and will use laboratory resources carefully and frugally. I will maintain a safe and clean laboratory space. I will be respectful of, tolerant of, and work collegially with all laboratory personnel.
- I will maintain a detailed, organized, and accurate laboratory notebook. I am aware that my original notebooks and all tangible research data are the property of my institution but that I am able to take a copy of my notebooks with me after I complete my thesis/dissertation.
- I will discuss policies on work hours, sick leave and vacation with my research advisor. I will consult with my advisor and notify fellow lab members in advance of any planned absences.
- I will discuss policies on authorship and attendance at professional meetings with my research advisor. I will work with my advisor to submit all relevant research results that are ready for publication in a timely manner prior to my graduation.
- I acknowledge that it is primarily my responsibility to develop my career following the completion of my doctoral degree. I will seek guidance from my research advisor, career counseling services, thesis/dissertation committee, other mentors, and any other resources available for advice on career plans.

#### **Commitments of Research Advisors**

**I will be committed to the life-long mentoring of the graduate student.** I will be committed to the education and training of the graduate student as a future member of the scientific community.

**I will be committed to the research project of the graduate student.** I will help to plan and direct the graduate student's project, set reasonable and attainable goals, and establish a timeline for completion of the project. I recognize the possibility of conflicts between the interests of externally funded research programs and those of the graduate student, and will not let these interfere with the student's pursuit of his/her thesis/dissertation research.

**I will be committed to meeting one-on-one with the student on a regular basis.**

**I will be committed to providing financial resources for the graduate student as appropriate or according to my institution's guidelines, in order for him/her to conduct thesis/dissertation research.**

**I will be knowledgeable of, and guide the graduate student through, the requirements and deadlines of his/her graduate program as well as those of the institution, including teaching requirements and human resources guidelines.**

**I will help the graduate student select a thesis/dissertation committee.** I will assure that this committee meets at least annually (or more frequently, according to program guidelines) to review the graduate student's progress.

**I will lead by example and facilitate the training of the graduate student in complementary skills needed to be a successful scientist, such as oral and written communication skills, grant writing, lab management, animal and human research policies, the ethical conduct of research, and scientific professionalism.** I will encourage the student to seek opportunities in teaching, if not required by the student's program.

**I will expect the graduate student to share common laboratory responsibilities and utilize resources carefully and frugally.**

**I will not require the graduate student to perform tasks that are clearly unrelated to his/her training and professional development.**

**I will discuss authorship policies regarding papers with the graduate student.** I will acknowledge the graduate student's scientific contributions to the work in my laboratory, and I will work with the graduate student to publish his/her work in a timely manner prior to the student's graduation.

**I will discuss intellectual policy issues with the student with regard to disclosure, patent rights and publishing research discoveries.**

**I will encourage the graduate student to attend scientific/professional meetings and make an effort to secure and facilitate funding for such activities.**

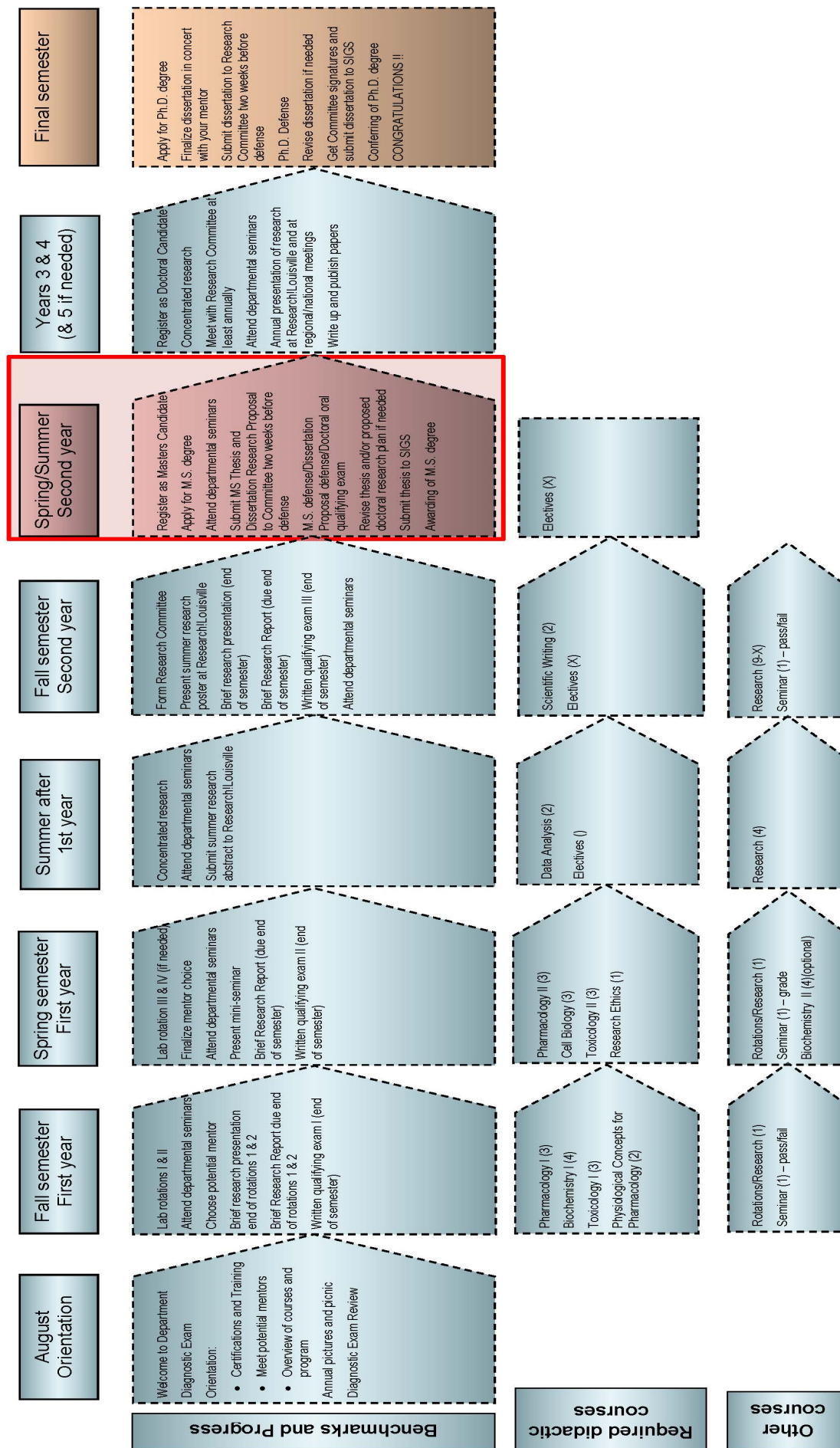
**I will provide career advice and assist in finding a position for the graduate student following his/her graduation.** I will provide honest letters of recommendation for his/her next phase of professional development. I will also be accessible to give advice and feedback on career goals.

**I will provide for every graduate student under my supervision an environment that is intellectually stimulating, emotionally supportive, safe, confidential and free of harassment.**

**Throughout the graduate student's time in my laboratory, I will be supportive, equitable, accessible, encouraging, and respectful.** I will foster the graduate student's professional confidence and encourage critical thinking, skepticism and creativity.

Please find the full document at: <http://louisville.edu/medicine/ipibs/ipibs-student-handbook>

# M.S./Ph.D. Program – Pharmacology and Toxicology



## **Appendix D: Steps Towards Achieving Master's and Doctoral Candidacy**

### **THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

Prepared by Hunter Miller, June 17, 2018 and Modified by the Graduate Affairs Committee  
September 2018

This document is an outline of the tasks that are necessary to complete for PHTX graduate students at UofL. The outline is specific to graduate students who are pursuing both the M.S. degree and Ph.D. degree through the IPIBS program and does not apply to those in the M.D./Ph.D. program.

\*NOTE: This document must be periodically updated, as the names of persons involved in the process, the names of courses, and the requirements themselves are subject to change. – LAST UPDATE: **Summer 2018**

\*NOTE: Not all of these items will be completed in the order they are listed. A typical timeline is provided at the end of each paragraph where needed.

\*NOTE: It's a good idea to use this document as a reference to create your own personal timeline in the form of a checklist. **Pay attention to add/drop deadlines for registration, thesis submission deadlines, and graduate application deadlines. It is your responsibility to meet these deadlines, which are all available online. Reminders will not be sent out by the Graduate Director or the Graduate Coordinator.**

\*NOTE: To obtain the signature of the Director of Graduate Studies, currently Dr. Siskind, please leave the form requiring her signature with the Graduate Coordinator, currently Sonya Cary, or Kelly Holland. The Graduate Coordinator will take care of getting Dr. Siskind's signature. If the Graduate Coordinator is not available, then please make a personal copy of the form requiring the signature, and leave the original in the envelope on Dr. Siskind's office door (CTRB Room 203).

This outline is divided into 2 major sections. First, students should focus on achieving master's candidacy. Then, students should focus on obtaining the M.S. degree and achieving doctoral candidacy.

MASTER'S CANDIDACY - In order to achieve master's candidacy, three major tasks must be completed. Here is outline of what must be completed leading up to the registration for master's candidacy:

1. **Choose a laboratory to complete your thesis and dissertation work.** You will have the opportunity to rotate through laboratories during your first two semesters, then you must choose a lab to stick with until the end of your Ph.D. Typically, students choose their dissertation laboratory before the beginning of the second year. Performing rotations in at least two different laboratories is strongly encouraged, but not required.
2. **Complete all required coursework, as determined by the department.** Typically, the coursework will include the departmental pharm/tox courses, as well as biochemistry, physiology, cell biology,

research ethics, data analysis, seminar, and scientific writing. Also, you must register for research credit (PHTX 617 or 619) as instructed by the department each semester and submit the research plan and progress report forms as outlined in the syllabus available on Blackboard. During this time, you will also have the opportunity to take any elective courses that you wish. By the end of your coursework, you should have accumulated enough credit hours to obtain the M.S. degree. Keep in mind that a grade of "B" or better is needed in each required course. **NOTE: you must maintain an overall GPA of 3.0 or better to qualify for candidacy.** Students will typically complete all of the required coursework after the spring semester of year 2.

3. Pass the written qualifying exams. At the end of each semester for the first fall, first spring, and second fall semesters, a written qualifying exam will take place. Each exam consists of three questions for a total of 9 qualifying exam questions. Each question is graded by two different graduate affairs committee members and the final grade is the average of these two grades. Questions are scored on a scale of 0 (being the worst) to 4. To pass a question, a student must receive a score of 2 out of 4. Students may not fail (receive scores less than 2) on more than 2 questions and thus must pass 7 of 9 questions. In addition, to pass the written qualifying exams over all, a student must achieve a cumulative score of 18 or higher.

M.S. DEGREE AND DOCTORAL CANDIDACY - Once all of the previous items have been completed, you must prepare to defend your master's thesis and dissertation (Ph.D.) proposal. Please consider each step carefully, as missing an item will likely delay your graduation.

1. Enroll in master's candidacy (MAST 600). Once all of the required coursework is complete you may enroll in MAST 600 for the following semester. If you cannot enroll, check with the department to ensure all the requirements have been met and get the override. Typically, students enroll in master's candidacy the Spring semester of their second year.
2. Form a graduate student committee. Your committee is made up of at least 4 faculty members who, along with your primary mentor, will assist you during your studies. First, you should choose the faculty who you would like to be on your committee. One member must be from outside the department and at least one must have a primary appointment in the Department. Your committee is not only to test your competency on your project, but also to help to help you navigate problems, both scientifically and personally. In addition, they can be excellent resources for letters of recommendation, collaboration, and networking. You want to choose faculty who have research interests and experience similar to your intended studies. It is a good idea to search the literature for publications with faculty authorship, attend seminars, and engage the faculty to get an idea if a particular person will be a good fit for you or not. In order to form your committee, first you must fill out a Desired Committee Form and send it via an email attachment to Dr. Siskind for her approval. Once she approves, make sure to ask each person individually if s/he would like to serve on your committee and make sure that they understand that your Master's and PhD defenses will need to occur during the Department Seminar time held on Thursday's at noon. Make sure the faculty member is aware that their attendance is required. Once a faculty member commits to being on your committee, you must have her/him sign the committee approval form, which is provided on Blackboard by the department and is also available for download from the SIGS website. It might take some time to track down everyone and get signatures. Once all 5 faculty (including your mentor) have signed the form, return it to Dr. Siskind for her to sign. Dr. Siskind or Sonya Cary will then forward your form to the IPIBS office for the signature of Dr. Salter. You will receive a copy of the final signed form via email and you should keep a copy for your files.

You can form your committee anytime you would like, but it's a good idea to have your committee approved several months before you plan to defend, but definitely by the previous semester. Do this and you have the opportunity to get to know your committee members so they can provide suggestions for your thesis and proposal documents before your defense which increases the chances of a successful defense. You are allowed to have committee meetings as early and as often as you and your primary mentor feel is necessary. However, you are required to have a committee meeting at least once per year. You are encouraged to have them more often than this, preferably once per semester.

3. Apply for the M.S. degree. Once you are enrolled in MAST 600, you should apply for the degree during the semester you plan to defend (and graduate). This is done through the student services tab on ULink. If you do not apply for the degree before the deadline, you may still defend and have your thesis/proposal approved, but your graduation will be delayed until the following semester. It is your responsibility to be aware of the deadline for applying for graduation and to meet this deadline. You will **not** receive reminders about this deadline from the Graduate Director or the Graduate Coordinator.
4. Prepare your Master's thesis. By this point, you will need data showing original research and hopefully a manuscript completed and ready for submission to a scientific journal. You may use these data to help form your thesis. Typically, a master's thesis will follow a format similar to a scientific manuscript (Introduction, Methods, Results, Discussion). There are very specific formatting requirements for the thesis document. The formatting requirements can be found on the UofL graduate school website; they are not department specific! Once you have prepared your thesis document (as a word file), send it to the Coordinator of Academic Services (Courtney Kerr) and she will check the formatting and you will have a chance to correct any formatting mistakes.

NOTE: You can look up previously submitted theses and use them as examples. A few example Master's Theses will be made available for you to look over in the Graduate Coordinator's office; you will be required to sign these out and return them within 3 business days. It is advised that you speak to your committee about what specific scientific content to include in your thesis document. **The thesis must be presented to your committee at least 2 weeks (10 business days) before your defense date. Send your thesis for formatting check at the same time.**

5. Prepare your Ph.D. proposal. Your research proposal should be formatted like an F31 NIH grant proposal. It must contain the specified components of the F31 proposal that are listed in the document attached that is entitled "Requirements for the PhD Proposal." In your scientific writing course, you will learn how to construct the research strategy and will form a draft of your specific aims, innovation, and significance sections. **The proposal must be submitted to your committee at least 2 weeks (10 business days) before your defense date, e.g. same time you submit your MS thesis.**
6. Schedule the defense date. Defenses are considered departmental seminars and will be scheduled Thursday at noon. Before asking the Chair of the Seminar Committee Dr. Kouokam and Kelly Holland to reserve a room/time/date for your seminar, you will need to obtain a list of the available seminar dates and will then need to coordinate with all of your committee members to

determine a set of preferred dates. Your committee members may not all be available at the same time, so make sure to settle on a date or set of dates that everyone agrees to. Start this process early so that you will be able to schedule your seminar to take place before the end of the semester you plan to graduate with your M.S. degree. You should try to schedule your defense to take place at least a couple of weeks before the end of the current semester, so you have a chance to do revisions to your thesis/proposal documents as determined by your committee. It is a good idea to schedule your seminar date several months in advance (if you wait too long, there may not be any spots open to reserve). The university requires all defenses to be publically announced. Once your date, time, and title of your defense seminar is settled upon, you must fill out "Request to Schedule Final Oral Defense Form" (<http://louisville.edu/graduate/forms/request-to-schedule-thesis-dissertation-final-oral-examination>). This form must be completed at least two weeks prior to your defense date. Do this as early as possible so that you do not forget. Once this form is filled out, you should receive a conformation e-mail, send a copy of the email to all of the following people: Dr. Siskind ([leah.siskind@louisville.edu](mailto:leah.siskind@louisville.edu)), Dr. Hong ([kyung.hong@louisville.edu](mailto:kyung.hong@louisville.edu)), and Sonya Cary ([Sonya.cary@louisville.edu](mailto:Sonya.cary@louisville.edu)) Your dissertation must be sent to your committee members at least 2 weeks prior to your defense.

NOTE: If your defense takes place towards the end of the semester, you should go ahead and register for MAST 600 for the following semester to act as a place holder for doctoral candidacy. Afterwards, you may swap master's candidacy with doctoral candidacy. However, before you are able to do this you must be registered for master's candidacy before the late registration deadline (usually occurs weeks before the add/drop deadline)! The department must indicate to the graduate school that all requirements for candidacy (successful defense of thesis and proposal, acceptance of the proposal by your committee, and submitting signed MS thesis to the graduate school) have been met in order to register for doctoral candidacy. Therefore, DO NOT wait until the last minute.

7. Present the seminar and stand for the oral defense exam before your committee. All members of your committee should be present for the departmental seminar. Your presentation will most likely be a summary of both your thesis and proposal documents, with a section at the beginning for an introduction/background. Make sure to clearly lay out your hypothesis and specific aims. Your committee will conduct the oral qualifying examination after your seminar. The committee will likely have concerns and suggestions for improvement of the documents.
- a. Your mentor (committee chair) must fill out the MS Thesis Defense/PhD Proposal form after the oral exam. **Make sure to bring a hard copy of this form with you to your seminar.** This form is a rubric and has signature lines for all committee members and is available on Blackboard. **A copy of this form is also attached at the end of this document.** Your mentor should have them all sign this form if they have approved of your proposal. The form should then be forwarded to Dr. Siskind, Sonya Cary and Kelly Holland for signature of the Graduate Director. A copy of the form will be kept by the PHTX department for their record. A copy will be sent to you and your mentor of the final signed form for you to keep in your personal records.
- b. **Bring a copy of the signature page from your thesis.** If all of your committee members approve your thesis, have them sign a hard copy of the signature page. Then, you must submit this hard copy with original signatures to the Coordinator of Academic Services (Courtney Kerr) at the IPIBS offices in the Houchens building on Belknap.

- c. If either your thesis or proposal was not approved by all 5 committee members, make any necessary revisions and return the documents to your committee and obtain their signatures. **DO NOT SUBMIT YOUR THESIS TO THE GRADUATE SCHOOL UNTIL BOTH THE THESIS AND PROPOSAL HAVE BEEN APPROVED WITH ALL 5 SIGNATURES.**
  - d. Save your thesis document as a pdf file and submit it to the graduate school through the institutional repository (ThinkIR; Courtney Kerr can provide you with instructions for how to do this).
  - e. The document you submitted will be under review. Wait a few days until it is approved, then forward the email from the graduate school indicating that your thesis has been accepted to the PHTX department.
8. Congratulations!! All of the requirements for doctoral candidacy have been met and you will be awarded with the M.S. degree at the end of the semester. **You may now add doctoral candidacy to your course schedule for the following semester or swap master's candidacy with doctoral candidacy.**

**Appendix E: PHTX MS/PhD Curriculum & Course Directors**  
**THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY**  
**UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

The Pharmacology and Toxicology courses will use Goodman & Gilman and Cassarett & Doull, respectively, as primary textbooks. Courses will utilize a student-centered approach incorporating student presentation of material as much as possible.

<b>1<sup>st</sup> Year, Fall</b>	<b>1<sup>st</sup> Year, Spring</b>	<b>1<sup>st</sup> Year Summer</b>	<b>2<sup>nd</sup> year, Fall</b>	<b>2<sup>nd</sup> year, Spring</b>
PHTX 641 Pharmacology I, 3 cr	PHTX 642 Pharmacology II, 3 cr	PHTX 632 Analysis of Parametric & Nonparametric Data, 2 cr	PHTX 625 Scientific Writing, 2 cr	
PHTX 643 Toxicology I, 3 cr	PHTX 644 Toxicology II, 3 cr	Electives (0-9 cr)	Electives (0-9 cr)	Electives (0-9 cr)
BIOC 645 Adv Biochemistry I, 4 cr	BIOC 667 Cell Biology, 3 cr	PHTX 619 Research (0-9 cr)	PHTX 619 Research (0-9 cr)	PHTX 619 Research (0-9 cr)
PHZB 602 Physiology, 2 cr	BIOC 630 Research Ethics, 1 cr			Write & submit paper
PHTX 606 Seminar, 1 cr	PHTX 606 Seminar, 1 cr		PHTX 606 Seminar, 1 cr	write & defend MS Thesis & PhD proposal
PHTX 617/619 Research, 1 cr	PHTX 619 Research, 1 cr			
14 cr	12 cr	6 cr	9 – 12 cr	2 – 9 cr

<b>Class #</b>	<b>Course #</b>	<b>Course name</b>	<b>Course director(s)</b>	<b>Credit hours</b>
10096	PHTX 641	Pharmacology I	Siskind	3
10097	PHTX 643	Toxicology I	Wise	3
3433	PHTX 606	Seminar	Hong	1
	PHTX 617	Lab Rotations	Siskind	1
3435	PHTX 619	Research	Siskind	1-12
3402	PHZB 602	Sel Top In Phy & Bio	Harris	2
3411	BIOC 645	Adv Biochemistry I	Ellis	4
	PHTX 642	Pharmacology II	Song	3
	PHTX 644	Toxicology II	Clark	3
	PHTX 632	Analysis of Parametric & Nonparametric Data	Kidd	2
	BIOC 677	Cell Biology	Hetman	3
	PHTX 625	Scientific Writing	Palmer	2

## Appendix F: Timeline for Ph.D. Degree

### THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE

Year 1				Spring			Summer		
Required Courses	course #	course name	hr	course #	course name	hr	course #	course name	hr
	BIOC 645	Adv Biochemistry I	4	PHTX 642	Pharmacology II	3	PHTX 619	Research	4
	PHTX641	Pharmacology I	3	BIOC 667	Cell Biology	3	PHTX 632	Analysis of Parametric & Non-parametric Data	2
	PHTX 643	Toxicology I	3	PHTX 644	Toxicology II	3			
	PHZB 602	Physiological Concepts for General Life Sciences	2	PHTX 619	Research	1			
	PHTX 606	Seminar	1	PHTX 606	Seminar	1			
	PHTX 617	Laboratory Rotation Research	1	BIOC 630	Responsible Conduct of Research: Survival Skills and Research Ethics	1			
Required Hrs			14			12			6
Written qualifying exam 1 (end of fall semester)				Written qualifying exam 2 (end of spring semester)					
Year 2				Spring			Summer		
Required Courses	course #	course name	hr	course #	course name	hr	course #	course name	hr
	PHTX 625	Scientific writing	2	PHTX 606	Seminar	1	MAST600	Master's Candidacy	
	PHTX 606	Seminar	1	PHTX 619	Research	1-9		(if not in Doctoral Candidacy)	
	PHTX 619	Research	1-9					(DOCT 600)	
Other		Students may take 1-3 elective courses for enrichment	0-9		Students may take 1-3 elective courses for enrichment (Master's Candidacy)	0-9			
Written qualifying exam 3 (end of semester)				Submission, presentation, and defense of PhD proposal (NIH grant format) and MS thesis. Awarding of MS degree and transition to PhD candidacy.					
Required Hrs			9			9			0
Year 3				Spring			Summer		
Enrollment	course #	course name		course #	course name		course #	course name	
	DOCT600	Doctoral candidacy		DOCT600	Doctoral candidacy		DOCT600	Doctoral candidacy	
Other									
Years 4-5				Spring			Summer		
Enrollment	course #	course name		course #	course name		course #	course name	
	DOCT600	Doctoral candidacy		DOCT600	Doctoral candidacy		DOCT600	Doctoral candidacy	
Other									

\* Students must present annually. The Dissertation Defense is the final research conference and can be in any term

## **Appendix G: HOW TO REGISTER FOR CLASSES**

### **THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

There are several options available when beginning the registration process, depending on when you register and the path desired.

- PLAN allows you to browse the course catalog and select courses of interest for current and future semesters.
- ENROLLMENT SHOPPING CART is a 'holding area' for courses which you have selected for the given semester, but have not officially added to your semester class schedule.
- ADD CLASSES allows you to search for courses, enter a specific class number for a course, or add classes directly from the Shopping Cart.

**Plan**—used to browse the course catalog and narrow your course selection for each term, *planning* your schedule ahead of time (ULink>Student Services>Registration>Registration Preparation>Plan)

1. Select Plan
2. Click Browse Course Catalog
3. Locate a subject by clicking on the first letter of that subject in the green box. (e.g. Looking for a Mathematics course, click on 'M')
4. Click on the subject for a list of courses.
5. Click on the Course Title for a description of the course and the prerequisites, *or* click in the box to the left of the Course Number to select the class.
6. Click Add to Planner.
7. To view the courses in My Planner, click Plan at the top of the page.
8. The courses will remain in My Planner under Unassigned Courses until moved to a specific term or deleted.
9. To delete a course from My Planner:
  - A. Click on the trash bin located under Delete to the right of the course.
10. To move a course to a specific term:
  - A. Check the box to the left of the course under Select
  - B. Click on the drop-down box next to 'Move selected courses to Term'
  - C. Select the term of where you wish to move the selected courses
  - D. Click Move

*(Please note: These courses are not added to your schedule for that term, but are easily accessible when registration becomes available.)*

**Enrollment Shopping Cart**—used to temporarily save classes until it is time to enroll/add for the available term (ULink>Student Services>Registration>Registration Preparation>Enrollment Shopping Cart)

1. Select Enrollment Shopping Cart
2. Enter the 4- or 5-digit class number in the box under Add to Cart and click Enter
3. If you do not have the class number, select Class Search or My Planner under Find Classes and click Search
  - A. Class Search.
    1. Select Course Subject
    2. Enter Course Number (optional)
    3. Select Course Career (Undergraduate, Graduate, etc)
    4. Click Search

5. View sections currently available
  6. Click Select Class
  7. Verify the class selection
  8. If the class is waitlisted, check the box 'Wait list if class is full'
  9. Click Next
  10. The class is now in the Shopping Cart
- B. My Planner
1. Click Select to the right of the class you wish to add.
  2. View sections currently available.
  3. Click Select to the right of the section you wish to add.
  4. If the class is waitlisted, check the box 'Wait list if class is full'.
  5. Click Next.
  6. The class is now in the Shopping Cart.

**Add Classes** – use to select courses you wish to add and finalize your semester class schedule  
(ULink>Student Services>Registration>Registration>Add Classes)

1. Select Add Classes.
2. If applicable, select the correct term.
3. Enter the 4- or 5-digit class number in the box under Add to Cart and click Enter.
4. If you do not have the class number, select Class Search or My Planner under Find Classes (or Search for Class) and click Search.
  - A. Class Search.
    1. Select Course Subject.
    2. Enter Course Number (optional).
    3. Select Course Career (Undergraduate, Graduate, etc).
    4. Click Search.
    5. View sections currently available.
    6. Click Select Class.
    7. Verify the class selection.
    8. If the class is waitlisted, check the box 'Wait list if class is full'.
    9. Click Next.
    10. The class is now in the Shopping Cart.
  - B. My Planner
    1. Click Select to the right of the class you wish to add.
    2. View sections currently available.
    3. Click Select to the right of the section you wish to add.
    4. If the class is waitlisted, check the box 'Wait list if class is full'.
    5. Click Next.
    6. The class is now in the Shopping Cart.

Once the classes are in the Enrollment Shopping Cart, click "Proceed To Step 2 of 3", and then "Finish Enrolling".

**Appendix H: GRADING RUBRIC FOR SEMINAR**  
**THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY**  
**UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

**Scientific Content and Organization (Overall)**

**50% of grade**

Student demonstrated the topic's relevance in the introduction and provided an outline of the talk .	1 2 3	4 5 6	7 8 9
Student provided a background of related work in his/her field suitable to bring the non-expert "up to speed."	1 2 3	4 5 6	7 8 9
Student clearly presented his/her work, interpreted the results and explained how it fits into the current work in their field.	1 2 3	4 5 6	7 8 9
Student summarized the conclusions of their talk with respect to significance stated in the introduction.	1 2 3	4 5 6	7 8 9
Student presented a plan for future work.	1 2 3	4 5 6	7 8 9

**Comments:**

**Question/Answers**

**30% of grade**

Student listened to each question and provided a thoughtful answer	1 2 3	4 5 6	7 8 9
Student answered questions at an acceptable level <i>without</i>	1 2 3	4 5 6	7 8 9
Student is able to address questions related to the topics and technique presented in their research and research plans.	1 2 3	4 5 6	7 8 9

**Comments:**

**Communication****20% of grade**

Slides are of professional quality; organized, clear, and free of mistakes.	1	2	3	4	5	6	7	8	9
Student speaks clearly and sufficiently loud; not too fast or too slow. Presentation is professional, not overly casual, and the student has no distracting mannerisms.	1	2	3	4	5	6	7	8	9

**Comments:**

Grading will be based on the NIH 9 point criteria:

These scores break down to grades as follows:

<b>Score</b>	<b>Letter Grade</b>
≤1.25	A+
1.26-2.75	A
2.76-3.50	A-
3.51-4.25	B+
4.26-5.75	B
5.76-6.50	B-
6.51-7.50	C
7.51-8.50	D
>8.50	F

## **Appendix I: GUIDELINES FOR LABORATORY ROTATIONS**

### **THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

#### **I. Rotation Selection Procedures**

- A. Research Interests of Faculty (RIF) presentations will be scheduled during PHTX orientation week. Attend all of them.
- B. Meet with faculty you are interested in working with. You are required to talk to at least 3 RIF presenters before your first rotation.
  - 1. Use this opportunity to learn about various faculty members' research interests and ask questions about
    - a. potential projects available in the lab.
    - b. expectations for students during a rotation and as a student in the lab.
    - c. funding for students.
  - 2. Read publications from the lab (it is a good idea to do this before the meeting!) and also be sure to talk to students and postdocs in the lab.
- C. Schedule an advisory meeting with the DGS to discuss possible lab rotations.
- D. Submit your Rotation Director Selection Agreement form to the DGS.

#### **II. Rotation Schedule**

- A. Each rotation lasts approximately 6 weeks, for a minimum of 60 h (1 credit hr).
- B. A research plan is due at the beginning of each rotation and a research progress report is due at the end of each rotation. The faculty mentor should assist the student in writing the research plan and should read over the research progress report. The faculty mentor is also required to fill out an evaluation which gets submitted to the DGS at the end of the rotation. These forms are located on the Blackboard site for PHTX 617.
- C. A timeline for rotations and presentations will be provided during PHTX orientation week.

## **Appendix J: GUIDELINES FOR DISSERTATION COMMITTEES**

### **THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

#### **I. Summary of Responsibilities Committee Roles:**

- Oversee and evaluate student's progress in research
- Assist student in timely completion of project
- Assure high quality of dissertation
- Recommend changes in student's status
- Read and evaluate dissertation

#### **Committee Responsibilities:**

- Understand that thesis/dissertation defenses are departmental events that should include a seminar in the regularly scheduled department seminar series
- Make accommodations to attend all committee meetings
- Evaluate progression towards degree by participating in annual committee meetings
  - Critically and fairly evaluate student progress and make appropriate recommendations for the committee reports
- Provide expertise to assist student with specific approaches and methodology
- Approve transition from bench work to dissertation writing
- Evaluate and provide corrections to final dissertation

#### **Student Administrative Responsibilities:**

- Organize annual committee meetings
  - o Schedule 1<sup>st</sup> committee meeting (oral defense of dissertation proposal and/or MS Thesis) by end of semester preceding intended defense
  - o Distribute research proposal / progress reports for committee meetings at least 2 weeks prior to the meeting.
- Schedule dissertation defense date and inform DGS of defense by end of semester preceding intended defense date (see section III)
- Submit to the School of Interdisciplinary Graduate Studies the student's pending defense at minimum two weeks prior to the defense
- Complete final revisions of the written dissertation within the semester of the defense and submit to the Graduate School prior to deadlines for final submission of dissertations.
- Apply for degree by deadline during semester of intended defense (MS or PhD)

#### **II. Committee Meetings- Timelines and Documentation**

By the end of the second year in the Ph.D. program, a Dissertation Committee will be formed which will serve as the Reading Committee and Oral Examination Committee for the student. The Committee will

consist of the mentor, at least three other graduate faculty members (at least one Committee member must be primary faculty in Pharmacology and Toxicology), and one member outside of the Department. If the Committee includes a clinician or a faculty member either related to or dependent on the mentor or another committee member, then a sixth member who is independent must be included. The committee's composition must be approved by the Graduate Affairs Committee (GAC).

The role of the dissertation committee is to oversee the student's progress in the program, specifically progress towards timely completion of the dissertation research. The committee may offer advice and recommend changes in direction of the research should they feel such changes are necessary for timely completion of a high quality dissertation. Ultimately, it is the committee's responsibility to evaluate student progress in terms of Departmental expectations for the dissertation. Specifically, the dissertation should be an original piece of research of high quality and publishable in a peer reviewed journal.

Each student must meet regularly with his/her Dissertation Committee. There must be at least one formal meeting per year and the first Committee meeting must be held no later than thirty-six months after entering the program. After each meeting, the mentor must complete the comments section of the **Committee Meeting Progress Report**. The content of this document should summarize committee member comments and contain specific feedback for the student to know the expectations and goals to be accomplished before the next meeting. **The report must be approved by all committee members, student and the graduate program director. Approval is indicated by signature on the report. The signed report must be presented to the graduate program director (DGS) for signature within 1 week of the committee meeting.** The completed form is placed in the student's file and serves as a record to indicate progress in the program. A copy of the report is provided to the student and the student's mentor.

The Dissertation Committee is responsible for monitoring the student's research and professional development progress. Ultimately, it is the committee's responsibility to determine whether a student remains in good standing in the program. If deficiencies are identified during a meeting, the Graduate Student Report form must contain a remediation plan with the areas of weakness identified and the expectations outlined for the next review period. It is at the discretion of the committee to determine the remediation period and whether more frequent meetings are required. Lack of progress during the remediation period due to insufficient effort or inadequate scientific aptitude on the part of the student may constitute grounds for cancellation of stipend support or termination from the Program. The dissertation committee has the authority to recommend to GAC and the Chair of the Department that a student be terminated from the program for failure to make progress, or be given the option of leaving the program with an MS degree.

When the student and mentor believe work for the dissertation is almost complete, they will call a meeting of the committee to obtain approval and guidance for preparation of the written dissertation. This meeting should be called the semester prior to the intended defense date.

When a dissertation defense date has been set, the student must complete the following:

- submit the dissertation to the Dissertation committee members at least two weeks prior to the defense date.
- inform the DGS and seminar director of the scheduled defense date by end of the semester prior to the defense in order to reserve a date in the departmental seminar. The student must submit an online form to the School of Interdisciplinary Graduate Studies confirming the student's dissertation defense at minimum two weeks prior to the scheduled defense.

The student is responsible for making final revisions of the written dissertation within the semester of the defense and prior to Graduate School deadlines for final submission of dissertations. Once the student has submitted the approved dissertation to the School of Interdisciplinary Graduate Studies and provided a copy to the department chair, he/she has fulfilled all requirements for degree and is eligible to receive the Ph.D. degree.

## **Appendix K: Ph.D. Proposal Format Requirements**

### **THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

The purpose of the PhD training and PhD proposal are to prepare the student to competently compose and present a research plan, learn to present themselves effectively to potential employers, and to reflect and self-evaluate on their training and career goals. The Graduate Affairs Committee with unanimous approval from the faculty has made several changes to the current format of the PhD proposal with these goals in mind.

Changes to the PhD proposal:

1. All students will write the proposal in the format of a F31 proposal with a one-page specific aims page and 6-page research strategy.
2. Students are highly encouraged, but not required, to submit their PhD proposal as a NIH F31 grant proposal. Submission to another scientific foundation (i.e. AHA, ACS, etc.) is also encouraged.
3. The list of components that are required in the PhD proposal is below. All students must follow the instructions (attached) on format and content that are specified for NIH F31 proposals. The page numbers below indicate the pages in the NIH Fellowship Instructions (attached) where detailed information on content and links to formatting can be found.

Contents of the PhD Proposal:

1. Project Summary/ Abstract (see pages F-35 to F-36)
2. Project Narrative (see page F-36)
3. Specific Aims (see page F-58 to F-59)
4. Research Strategy (see pages F-59 to F-61)
5. Bibliography/ References Cited (see pages F-36 and F-37)
6. Student Biographical Sketch (see pages F-47 to F-51; no more than 5 pages in length)
7. Statement of Applicant's Background and Goals for Fellowship Training (see pages F-57 to F-58)
8. Selection of Sponsor and Institution Statement (see page F-62)
9. Vertebrate Animals and/ or Human Subjects Sections, if applicable (see pages F-67 to F-68)
10. Select Agents Research, if applicable (see page F-69 to F-70)

Your dissertation committee will be responsible for ensuring that you have all of the above components in your PhD proposal before they will sign the PhD proposal defense form. In addition, students are required to submit a hard copy of the final completed PhD proposal, containing all of the above items, with the Proposal Defense Form to obtain the signature of the Director of Graduate Studies. A completed proposal is required before a student will be allowed to advance to PhD candidacy.

## **Appendix L: I'm Ready to Defend my PhD Dissertation—Now What**

### **THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

**\*\*The following was prepared by Samantha Carlisle, Ph.D. and edited and approved by the Graduate Affairs Committee and Ms. Courtney Kerr in September 2018.**

1. Hold a final committee meeting to confirm your committee agrees that you are ready to defend your PhD (3-4 months prior to your defense)
  - a. committee needs to fill out “Annual Committee Meeting Form” which can be found on the blackboard site under “Organizations” and the Pharm/Tox Graduate Students group
  - b. Make a digital copy of the form and email it as an attachment to Sonya Cary ([sonya.cary@louisville.edu](mailto:sonya.cary@louisville.edu)), Dr. Siskind ([leah.siskind@louisville.edu](mailto:leah.siskind@louisville.edu)), yourself, and your mentor. Bring the hardcopy original to Sonya Cary (office: CTRB 1<sup>st</sup> floor).
2. Apply to graduate via ULINK \*BE SURE TO CHECK SEMESTER DEADLINES at <http://louisville.edu/registrar/registration-information/special-dates> \*
  - a. Log into ULINK->Student Services (middle tab at top of page)->Registration tab (far right column)->Registration Information->Degree Application
  - b. print out confirmation page for your records
3. Send an email to Dr. Hong ([kyung.hong@louisville.edu](mailto:kyung.hong@louisville.edu)) containing your dissertation seminar title and the desired dates for your dissertation
  - a. send ASAP, months in advance
  - b. preferred times are the departmental seminar time slot on Thursdays at noon
  - c. if the defense cannot be scheduled on a Thursday at noon, then you must obtain permission from Dr. Siskind to hold it at an alternative day and time
  - d. ask Dr. Hong to reserve a room for your defense (3-4 hour block of time)
4. Fill out a “Request to Schedule Final Oral Defense Form”  
<http://louisville.edu/graduate/forms/request-to-schedule-thesis-dissertation-final-oral-examination>
  - a. Complete 4 weeks in advance. The form must be completed a minimum of three weeks prior to your defense date.
    - i. You will receive a conformation e-mail. Send a copy of the email to Dr. Hong ([kyung.hong@louisville.edu](mailto:kyung.hong@louisville.edu)), Sonya Cary ([sonya.cary@louisville.edu](mailto:sonya.cary@louisville.edu)) and Dr. Siskind ([leah.siskind@louisville.edu](mailto:leah.siskind@louisville.edu)).
5. Your dissertation must be sent to your committee members at least 2 weeks prior to your defense date. When you send your dissertation to your committee, you should also send your dissertation to Courtney Kerr ([courtney.kerr@louisville.edu](mailto:courtney.kerr@louisville.edu)) so that she can look it over for formatting issues in advance. Your dissertation should adhere to formatting guidelines found at the following website: <https://louisville.edu/graduate/current-students/thesis-dissertation-information/thesis-dissertation-guidelines-1>.

6. At your dissertation defense, have your committee fill out and sign "PhD Defense Form," which can be found on the blackboard site under "Organizations" in the Pharm/Tox Graduate Students group. This form is also included at the end of this list.
  - a. Make a digital copy of the form and email it as an attachment to yourself, your primary mentor, Dr. Siskind ([leah.siskind@louisville.edu](mailto:leah.siskind@louisville.edu)), and Aaron Howell ([aaron.howell@louisville.edu](mailto:aaron.howell@louisville.edu)). Bring the original hardcopy of the form to Aaron Howell (office: CTRB 1<sup>st</sup> floor; recommend making a copy for your records).
7. Obtain a single copy of your dissertation signature page signed by all members of committee (this may occur the day of your defense or after you make suggested edits): Submit signed copy of title page to SIGS office (Belknap Campus, Houchens Building, Room 105) prior to the semester degree conferral date.
8. Once your committee has approved your dissertation and has signed the title page, send a pdf copy of your dissertation (final copy) to Courtney Kerr ([courtney.kerr@louisville.edu](mailto:courtney.kerr@louisville.edu)) for final review of formatting before semester degree conferral date.
  - a. dissertation should adhere to formatting guidelines found at <https://louisville.edu/graduate/current-students/thesis-dissertation-information/thesis-dissertation-guidelines-1>
  - b. Ms. Kerr will e-mail you back any formatting changes needed and will attach a memo detailing the process for submitting the final electronic copy of your dissertation to SIGS (ThinkIR University of Louisville's institutional repository)
    - i. It may take up to a month after approval to appear online publicly in the database
  - c. The memo from Ms. Kerr will also have instructions for completing the Survey of Earned Doctorates which is required to be completed for your degree
9. You will receive an e-mail from Ms. Kerr (around the semester degree conferral date) stating the electronic version of your dissertation (that you submitted to the ThinkIR database) was accepted
  - a. this e-mail should be forwarded to Dr. Siskind ([leah.siskind@louisville.edu](mailto:leah.siskind@louisville.edu)) and Sonya Cary ([sonya.cary@louisville.edu](mailto:sonya.cary@louisville.edu))
10. It will take up to 4 weeks after the semester degree conferral date for your degree to appear on your unofficial transcript
  - a. access unofficial transcript on ULINK
    - i. ULINK->Student Services (middle tab at top of page)->Registration (right column)->Transcripts->View/Print Unofficial
11. Dissertation binding options can be found at: <http://louisville.edu/graduate/current-students/thesis-dissertation-information/thesis-dissertation-information>
  - a. this is no longer required by the department but you may want to have a hard copy
  - b. costs not covered by department
12. Diplomas will arrive at the Registrar's office approximately 8-10 weeks after the end of each semester.
  - a. An email notification will be sent to all graduates when diplomas arrive and are ready to be picked up in the Office of the Registrar, Houchens Building, room 31.
  - b. When you pick up your diploma, be sure to verify that your name is spelled correctly
  - c. If you live out of town, your diploma can be mailed to you.
    - i. After the diploma arrival date, students may call the Office of the Registrar at (502) 852-6522 to arrange mailing.

### Important Things to Be Aware of:

You must be enrolled in doctoral candidacy in the semester in which you plan to graduate. There are three semesters: Spring, Summer, and Fall which all have separate deadlines. Check <http://louisville.edu/registrar/registration-information/special-dates> for the deadlines specific to the semester in which you plan to complete your dissertation.

Commencement is held only at the end of the Fall and Spring semesters. Therefore, Summer semester graduates will participate in the Fall semester commencement. More information about commencement can be found at <http://louisville.edu/commencement>

**Appendix M: GUIDELINES FOR THE PREPARATION AND  
PROCESSING OF THESES & DISSERTATIONS**

**THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY  
UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

**THE SCHOOL OF INTERDISCIPLINARY AND GRADUATE  
STUDIES**

**University of Louisville**

**GUIDELINES FOR THE PREPARATION AND  
PROCESSING OF THESES AND  
DISSERTATIONS**

Approved by Graduate Council March 5, 2014

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## THE SCHOOL OF INTERDISCIPLINARY AND GRADUATE STUDIES

University of Louisville

### GUIDELINES FOR THE PREPARATION

### AND PROCESSING OF THESES AND DISSERTATIONS

The purpose of these guidelines is to assist graduate students and their mentors with the preparation, formatting, and submission of theses and dissertations to the School of Interdisciplinary and Graduate Studies. Students should follow these guidelines and contact the School of Interdisciplinary and Graduate Studies with questions left unanswered by these instructions. Theses/Dissertations received by the School of Interdisciplinary and Graduate Studies that do not reasonably adhere to these guidelines will be returned to the student or committee chairperson; some deviations from these guidelines will be permitted if the student can demonstrate that the proposed format is acceptable to the individual's scholarly discipline. Final approval of all formatting of theses/dissertations rests with the School of Interdisciplinary and Graduate Studies.

### **Review by School of Interdisciplinary and Graduate Studies**

Students are required to have their theses/dissertations reviewed by a representative from the School of Interdisciplinary and Graduate Studies prior to submitting the final copy to make sure that they adhere to the guidelines. The review may be completed by scheduling an appointment with Courtney Kerr, Coordinator of Academic Services, at [clkerr01@louisville.edu](mailto:clkerr01@louisville.edu) to come into the School of Interdisciplinary and Graduate Studies or can be done by sending a PDF document via e-mail to Ms. Kerr. Please indicate in the message that you are requesting the document be reviewed.

### **Style and Format Requirements**

While some departments may suggest that students follow a particular style manual in the preparation of theses/dissertations, the *Guidelines for the Preparation and Processing of Theses/Dissertations* supersede all other style manuals. Final responsibility for the form, accuracy, and completeness of the dissertation lies with the student, although the committee chair should assist the student in this process. It is in the best interests of the student to be internally consistent in style, notation, form, etc. **It is not acceptable to submit published articles or a published monograph manuscript in lieu of a properly formatted thesis/dissertation.** The finished dissertation should contain all the components described in these guidelines. Students are expected to **prepare the thesis/dissertation with commercially and widely-available word processing software.**

## **Published Work**

With the approval of your adviser and your thesis or dissertation committee, you may include part or all of the content of manuscripts published in or accepted for publication by scholarly journals and proceedings as chapters in your thesis or dissertation. If you choose this option, you must:

1. Be a primary author—i.e., lead author—of the articles (i.e., a person principally involved in the data selection or collection, the data analysis or interpretation, and the writing of the papers).
2. Obtain the needed copyright clearance from the publisher—i.e., a letter granting permission to include the journal article in your thesis or dissertation.
3. Include a proper citation to the work, either a footnote or a citation in the reference section of the thesis or dissertation.
4. Format the work so that it conforms to the requirements as specified in “Guidelines for the Preparation and Processing of Theses and Dissertations” (*The Guidelines*). In other words, the journal publication cannot simply be pasted into the thesis or dissertation in its published format.

There is no limit to the number of journal publications you may include in your thesis or dissertation, as long as each constitutes an independent chapter and, together, the articles blend cohesively with each other and work in other chapters of the thesis or dissertation. Students should consider having an introductory chapter and discussion or conclusion chapter in the thesis or dissertation to unify and provide context to the material in the intermediate chapters.

The content and format of each paper included may be similar to or the same as what you submit to the journal/proceedings, except the content must comply with the formatting requirements as outlined in *The Guidelines*. The bibliography or reference section of each article must become part of the final Reference Section in the thesis and dissertation, as stipulated in *The Guidelines*. There should be only one abstract and one list of acknowledgments for the thesis or dissertation.

If the publisher grants permission for the publication to be used, the publisher will give instructions on how the approval should be documented in the thesis/dissertation. The publisher's official notice of approval must be formatted accordingly and added as an Appendix. Permission to use previously published material in a thesis or dissertation doesn't necessarily give the student permission to sell that material. The student may need to put a restriction on the sale and availability of his/her work according to the publisher's guidelines.

## **Landscape Pages**

Landscape pages are allowed. When including landscape pages be sure to include the page number. The page number should remain in portrait style at the bottom center, ½" from the bottom edge.

## **Fonts**

A standard font of 10 or 12 points should be selected for use throughout the entire thesis/dissertation. Standard fonts include Arial, Courier, CM, or Times New Roman. Eccentric type styles, such as cursive, are not permitted.

## **Margins and Spacing**

Each page of the document should have the following margins:

<b>Top:</b>	2" for the first page of each chapter or division; 1" for all other pages.
<b>Bottom:</b>	1"
<b>Left:</b>	1½"
<b>Right:</b>	1"

The entire thesis/dissertation should be double-spaced except for long quotations, computer programs, endnotes, footnotes, and text in tables when appropriate. These exceptions should be single-spaced.

Paragraphs should begin with a standard, consistent indentation and each sentence should be consistently followed by one or two spaces after the period before the next sentence begins.

## **Signature page**

Students must submit a hard copy of their signature page on white paper, with original signatures, to the School of Interdisciplinary and Graduate Studies.

Students are responsible for preparing and printing the signature page and obtaining the signature of each thesis/dissertation committee member. Please check with your advisor or department to see if they require a paper copy of your thesis/dissertation or if they require a copy of the signature page.

While not required, students may wish to have their thesis/dissertation bound. For archival purposes, students may wish to print on 25% cotton paper.

## **Pagination**

Preliminary pages should be numbered with lower-case Roman numerals (ii, iii, etc.) at the bottom and center of each page, ½" from the bottom edge. The title page should be counted when numbering successive pages, but the number should not appear on that page. The first page on which a number should appear is the signature page (numbered ii). See page 7 for a complete list of thesis/dissertation pages and how each should be numbered, and see illustrations A-N for examples of each page.

Begin numbering the text with Arabic numerals (1, 2, 3, etc.) at the start of the first page of text (after the abstract). Arabic numerals should appear ½" from the bottom center of the page. All pages in the appendices must also be numbered. The page and pagination continues through all content, e.g. References, Appendices, and Curriculum Vita.

## **Electronic Format Theses/Dissertations**

The School of Interdisciplinary and Graduate Studies requires the submission of a digital thesis/dissertation. The digital document must be submitted in Adobe PDF format. No compression or password protection should be used. The School of Interdisciplinary and Graduate Studies will not make changes to the content of the document. Therefore, the document's appearance when it is accessed or printed is entirely the responsibility of the author. The author must assume responsibility for preparing the document according to the School of Interdisciplinary and Graduate Studies Guidelines for the Preparation and Processing of Theses/Dissertations, converting the document into Adobe PDF format, checking the document for appearance, and submitting the PDF document to the School of Interdisciplinary and Graduate Studies. The electronic copy is reviewed in regard to formatting and will be sent to the University Library. The electronic version should not include signatures from the dissertation advisory committee. It should list the committee members' names only.

Submission of an electronic format thesis/dissertation will allow **compound** (mixed format) documents to be developed. Such documents may contain both text and other electronic media only available and accessible through a specific electronic format. For example, a biological study could contain a database with a complete gene map, or an analysis of a screenplay could be accompanied by a CD, DVD or other media storage device containing full motion video of a performance of the work. External and internal links to multi-media files are acceptable and all fonts used should be embedded in the document. If multi-media elements are used in the document, file formats should be identified in the thesis/dissertation abstract. Acceptable file formats include the following:

Images:

GIF (.gif)  
JPEG (.jpeg)  
PDF (.pdf) use Type 1 PostScript fonts  
TIFF (.tif) Audio:

Video:

Apple Quick Time (.mov)  
Microsoft Audio Video Interleaved (.avi)  
MPEG (.mpg)

AIF (.aif)                      MIDI (.midi)                      WAV (.wav)  
CD-DA                          MPEG

Standards for multi-media formats change often. Please check with the School of Interdisciplinary and Graduate Studies if you wish to use a multi-media format that is not listed in this document. Multimedia submissions must be placed on a CD-or DVD ROM, or on a Submitted CD-ROMs must follow the ISO 96-90 specification for disk creation. Player or reader must be ubiquitous free ware or fully licensed third party software. A copy of the application used to display, play or read the document must be available on CD and be fully licensed on a reader's machine. Author created programming must be in a format that can be copied by a machine at an operating system prompt.

## **Plagiarism**

The School of Interdisciplinary and Graduate Studies of the University of Louisville defines plagiarism in the following way:

Representing the words or ideas of someone else as one's own in any academic exercise, such as:

1. Submitting as one's own paper a paper written by another person or by a commercial "ghost writing" service.
2. Exactly reproducing someone else's works without identifying the words with quotation marks or by appropriate indentation, or without properly citing the quotation in a footnote or reference.
3. Paraphrasing or summarizing someone else's work without acknowledging the source with a footnote or reference.
4. Using facts, data, graphs, charts, or other information without acknowledging the source with a footnote or reference or using copyrighted material without permission.

Borrowed facts or information obtained in one's research or reading must be acknowledged unless they are "common knowledge." Clear examples of "common knowledge" include the names of leaders of prominent nations, basic scientific laws, and the meaning of fundamental concepts and principles in a discipline. The specific audience for which a paper is written may determine what can be viewed as "common knowledge": for example, the facts commonly known by a group of chemists will differ

radically from those known by a more general audience. Students should check with their mentors regarding what can be viewed as “common knowledge” within a specific field, but often the student will have to make the final judgment. When in doubt, footnotes or references should be used.<sup>1</sup>

Plagiarism is forbidden and can result in disciplinary action and immediate dismissal from the University of Louisville.

## **Animal and Human Studies Approval**

Compliance with federal regulations governing the use of human subjects, experimental animals, animal care, radiation, recombinant DNA (Institutional Biohazard Committee approves <https://louisville.edu/dehs/biosafety/institutional-biosafety-committee-ibc.html>), or the handling of hazardous materials in research is monitored by a number of federal agencies. Students are required to verify their compliance with appropriate approval procedures prior to beginning any dissertation research. This approval must be cited in the dissertation. Please refer to the University Human Studies web site (<http://research.louisville.edu/UHSC/UHSC.htm>) or the Office of Research Services Institutional Animal Care and Use Committee for more information regarding University and Federal guidelines and the process of obtaining approval for human or animal research plans.

## **Survey of Earned Doctorates (for Doctoral Students only)**

Doctoral candidates must complete the “Survey of Earned Doctorates.” This form is completed online. The web address is as follows:  
<https://survey.norc.org/doctorate/showRegister.do>

Each student will have to register, at which time you will receive the URL, PIN and password information, which is required to complete the survey.

---

<sup>1</sup> Graduate Student Orientation Handbook, University of Louisville, Office of the School of Interdisciplinary and Graduate Studies Dean, page 5.

## **Parts and order of pages for a Thesis or**

### **Dissertation Title Page**

The title page is required. It should be assigned the page number “i” (lower case Roman numeral one), although the number does not appear on the page. The date included on the title page is the month and year of the author’s graduation (December, May and August). On the title page, the student should include the unit (College of Arts and Sciences, School of Medicine, etc.) that houses the degree program and the faculty who will grant the degree. Students must add after the degree, the students major (program plan), (in Humanities, in Microbiology and Immunology, etc). See Illustration A for a sample title page.

### **Copyright Page**

The copyright page is optional but if included, must be inserted immediately after the title page. It should be left unnumbered, and it is not counted in numbering successive pages. See Illustration B for an example of a copyright page.

### **Blank Page**

The blank page is required and should not include markings of any sort. It should be left unnumbered, and it is not counted in numbering successive pages. If there is no copyright page, the blank page follows the title page.

### **Approval/Signature Page**

This page is required of all theses/dissertations. The committee signatures must be original (not copies of the original) and in black or blue ink that will photocopy. The electronic document should not include the signatures. It should

list each committee members name typed underneath the signature line. The date on this page is the date of the final oral examination or defense. The page should be numbered as page “ii” (lower case Roman numeral two). Successive pages should be numbered from this page. See Illustration C for an example of an approval/signature page.

### **Dedication and/or Acknowledgment Pages**

These pages are optional for theses/dissertations. Lower case Roman numerals should be used to number these pages. See Illustrations D and E for sample dedication and acknowledgment pages.

## **Abstract**

All theses/dissertations must include an abstract. It should be numbered with lower case Roman numerals and should include the student's name, the title of the dissertation, and the defense date or degree awarding date. The thesis abstract must not exceed 150 words and the dissertation abstract must not exceed 350 words. Although students and their committees determine the contents of the abstract, the following information is appropriate:

- a brief introduction of background or importance;
- a brief discussion of methods and procedures used in gathering data; a condensed summary of findings; and
- a summary of conclusions reached in the study.

See Illustration F for a sample abstract.

## **Table of Contents**

The Table of Contents is required for all theses/dissertations. The Table of Contents is NOT listed in the Table of Contents. Number all table of contents pages with lower case Roman numerals. See Illustration G for a sample Table of Contents page.

## **List of Tables**

This list should only be included in a thesis/dissertation that incorporates five or more tables. If used the List of Tables page(s) should be numbered with lower case Roman numerals. See Illustration H for a sample List of Tables. See Illustration K for a sample table.

## **List of Figures, Illustrations, Charts, or Graphs**

This list should only be included in a thesis/dissertation that incorporates five or more figures, illustrations, charts, or graphs. If used, the List of Figures page(s) should be numbered with lower case Roman numerals. See Illustration I for a sample list of figures. See Illustration L for a sample figure. A list of symbols page is optional as needed. If figures must be presented in landscape format, the page must be numbered at the bottom center and the margin of 1 ½" must be maintained on the binding side of the figure. Page number will remain in portrait style.

## **Text**

The pages of the body of the thesis/dissertation should be numbered with Arabic numerals (1, 2, 3, etc.). Each chapter or section should begin at the top of a new page. With a top margin of 2", the title of the section should be centered and typed in full capital letters. The first line of text begins two double spaced lines below the section title. Headings and subheadings may be bolded. See Illustration J for sample pages of text.

## **Footnotes or Endnotes**

Footnotes come at the bottom of the page where noted and endnotes come at the end of each chapter or are grouped together directly after the entire body of the thesis/dissertation. They should be uniform and formatted according to a standard style guide (such as the *Publication Manual of the American Psychological Association*).

## **References or Citations**

All theses/dissertations must include a list of works cited and/or referenced. The citations should appear directly after the body of the thesis/dissertation (and after footnotes or endnotes, if they are used). References may be presented in the style of the scholarly discipline, i.e., they may be alphabetical, numerical, in order of citation, etc. All pages of the references should be numbered with Arabic numerals at the center of the bottom of the page. Use of citation management software is highly recommended. The University supports the use of "EndNote" and information regarding this product can be found at <http://louisville.libguides.com/endnote> See Illustration M for a sample reference page.

## **Appendix**

Appendices are optional for theses/dissertations. If included, all pages of an appendix must be numbered in Arabic numerals as in text.

## **Curriculum Vita**

Inclusion of a Curriculum Vita as the last page(s) of the thesis/dissertation is required. The vita should be numbered at the bottom center of each page. See Illustration N for a sample Curriculum Vita.

## **Theses/Dissertations Prepared in a Foreign Language**

Theses/Dissertations submitted to the School of Interdisciplinary and Graduate Studies should be written in English. Only under exceptional circumstances may another language be used, and only with prior approval obtained from the School of Interdisciplinary and Graduate Studies.

## **Binding**

The University no longer requires binding of Theses/Dissertations. If you wish to have a bound copy of your Thesis/Dissertation, the School of Interdisciplinary and Graduate Studies can provide a list of companies that provide this service.

## **Publishing and Copyrighting**

The School of Interdisciplinary and Graduate Studies does not require students to submit their thesis or dissertation to ProQuest; however, upon request, the School of Interdisciplinary and Graduate Studies will assist students who wish to submit their work to ProQuest for publishing.

Publication rights are reserved to the author, subject to the provisions of research contracts, patent agreements, or other similar agreements made by the author with the dissertation/thesis advisor, the university, the funding agency, or other parties.

Dissertations/Theses are published exactly as they are submitted. They are not edited, typeset, or retyped by the School of Interdisciplinary and Graduate Studies. Students are responsible for the content and appearance of their work.

Students have the option to copyright their theses/dissertations. Degree candidates may contact the Library of Congress directly to complete this process. The information can be found on the following web-site: <http://www.copyright.gov/forms/>

## **SIGS Policy on Embargo of Electronic Theses and Dissertations**

Students and their faculty advisor may request to embargo the release of the thesis or dissertation for a period of 6 months. The embargo will apply to release through the University of Louisville Libraries. Reasonable justification for requesting an embargo would include, for example, patent protection or copyright issues. The faculty advisor and student should jointly submit a request for approval of the embargo to the Dean of the School of Interdisciplinary and Graduate Studies.

## **Student Submission**

Electronic Submission of Thesis or Dissertation:

<https://graduate.louisville.edu/forms/electronic-thesis-or-dissertation-submission-form/>

## **Nonexclusive License**

Student must agree to the “Nonexclusive License to Electronically Disseminate University of Louisville Thesis or Dissertation” which allows University Libraries to archive the Thesis or Dissertation on their Electronic Thesis and Dissertation web-site. The document can be found on the web-site:

<https://louisville.edu/graduate/sigs/Programs/theses-dissertations>

Students also receive this form after the initial review of their Thesis or Dissertation.

## **Deadlines**

Deadlines for the submission of theses/dissertations are published in the schedule of classes and on the School of Interdisciplinary and Graduate Studies web-site.

## **Sample Thesis/Dissertation Pages**

The following pages are samples illustrating these thesis/dissertation guidelines. **NOTE: Illustration letters at the top of each page refer to the contents below and should not be reproduced on actual thesis/dissertation pages. Also, authors should use either thesis or dissertation on their title pages as appropriate, not both as shown on the samples. These Sample Pages are only examples of form and style; authors have flexibility as long as they remain internally consistent and consistent with their scholarly disciplines.**

Illustration A Title page\* Illustration

B Copyright page\*

Illustration C Signature/Approval page\*

Illustration D Dedication page Illustration

E Acknowledgment page Illustration F

Dissertation Abstract Illustration G

Thesis Abstract

Illustration H Table of Contents (and text page 2)

Illustration I List of Tables

Illustration J List of Figures

Illustration K Sample pages of body of thesis/dissertation

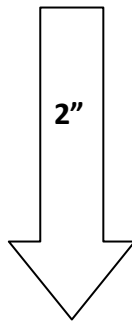
Illustration L Table

Illustration M Figure

Illustration N References

Illustration O Curriculum Vita

\*The text on these pages should be centered between the left and right margins.

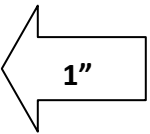
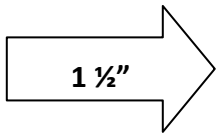


## Illustration A

THE MOST PREVALENT FORM OF ENLIGHTENMENT

By

John Henry Stewart  
B.A., Seton Hall, 1996  
M.A., Louisiana State University, 1998

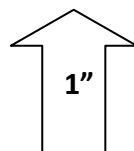


A Thesis or Dissertation  
Submitted to the Faculty of the  
College of Arts and Sciences of the University of Louisville  
in Partial Fulfillment of the Requirements  
for the Degree of

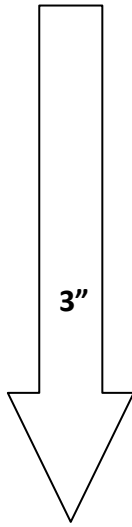
Master of Arts or Doctor of Philosophy  
in English/Rhetoric and Composition

Department of English  
University of Louisville  
Louisville, Kentucky

May 2002

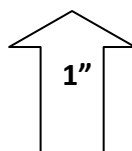
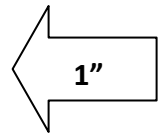
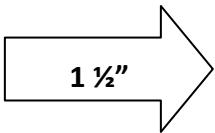


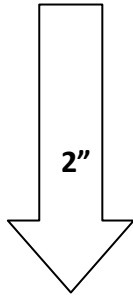
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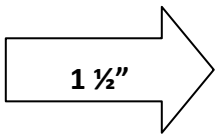
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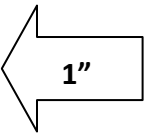
By

John Henry Stewart  
B.A., Seton Hall, 1996  
M.A., Louisiana State University, 1998

A Thesis or Dissertation Approved on



April 22, 2002



by the following Thesis or Dissertation Committee:

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Thesis or Dissertation Director  
Name

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Thesis or Dissertation Co-Director or Second Committee Member Name

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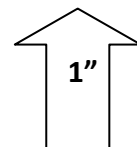
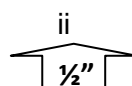
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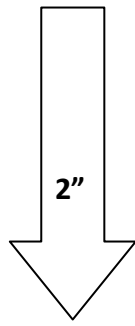
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Fourth Committee Member Name

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Fifth Committee Member Name





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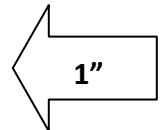
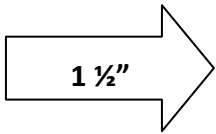
### DEDICATION

This thesis or dissertation is dedicated to my  
parents Mr. Appurajapuram Krishnamurthy

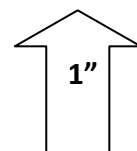
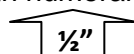
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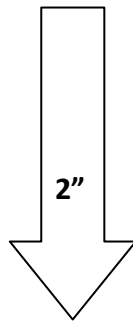
Mrs. Nagalakshmi Sethuraman

who have given me invaluable educational opportunities.



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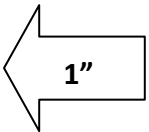
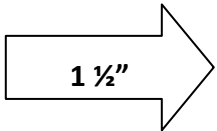




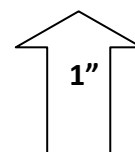
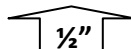
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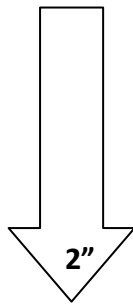
### ACKNOWLEDGMENTS

I would like to thank my major professor, Dr. Jack Watson, for his guidance and patience. I would also like to thank the other committee members, Dr. Joe Perona and Dr. Fred Weber, for their comments and assistance over the past four years. I would also like to express my thanks to my wife, Amy, for her understanding and patience during those times when there was no light at the end of anything. She encouraged me and made me stick with it. Also, many thanks to the members of my family in Savannah, Georgia: Paul and Jeanenne Adams, Jim and Catherine Shippy, and the late Eleanor and Fred Catti. Finally, I would like to thank the members of my family in Knoxville, Tennessee, Andy and Ruth Thomason.



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## Illustration F Dissertation Abstract

### ABSTRACT

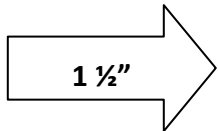
#### WRITING ASSESSMENT AS SOCIAL ACTION

Ellen E.

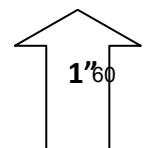
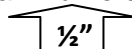
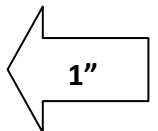
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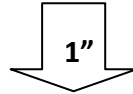
14, 2002

This dissertation is a historical and theoretical examination of writing assessment as social action. It begins with a historical overview of writing assessment as reform, focusing on the various ways in which writing assessments shape knowledge, subjectivities, and the university. It uses poststructuralist theory and educational measurement scholarship to argue for an understanding of writing assessment as progressive social action, an opportunity for teachers and administrators to reflect upon and change writing instruction. The latter part of the dissertation argues that understanding writing assessment as social action can help compositionists design and implement ethical assessment technologies.



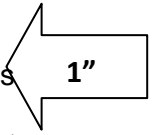
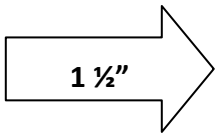
The dissertation is divided into five chapters, covering writing assessment history, theory, practice, and ethics. Chapter One gives a historical overview of writing assessment and argues that it has always been a form of social action. Chapter One also looks to contemporary writing assessment theory and practice to explore how writing assessment might become a means of proactive social change within writing programs, universities, and the culture at large. Chapter Two explores through poststructuralist theories of power and education the role that writing assessment has played within.



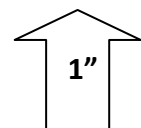
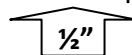


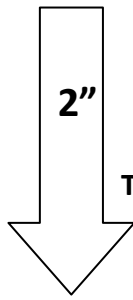
universities and culture at large. In particular, it highlights the role of human agency in changing the universities and the culture at large. In particular, it highlights the role of human agency in changing the way that writing assessments (re)produce institutional and cultural systems.

While Chapters One and Two are more theoretical in nature, Chapters Three and Four center on writing assessment practice and on the consequences that writing assessments have on programs, institutions, and individuals. Chapter Three focuses on a single assessment technology, the writing portfolio, to examine the extent to which writing assessment can be proactive social change in practice. And Chapter Four links writing assessment as social change to ethical inquiry, arguing that vigorous inquiry into the validity of writing assessments—including their social consequences on individuals and writing programs—is imperative research to conduct, as it is a means of reflecting upon and changing the course of writing assessment.



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**Illustration G**  
**Thesis Abstract**

**ABSTRACT**

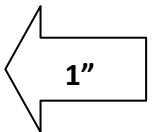
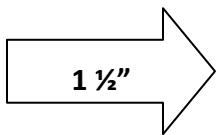
**A COMPARISON OF BRIEF, SINGLE-SESSIONS OF PHYSICAL ACTIVITY AND  
RELAXATION/MEDITATION ON AFFECTIVE RESPONSES OF FEMALE  
UNDERGRADUATES**

Paul G. Salmon

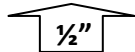
December 8,

2003

This study compared brief, single sessions of physical activity (PA, self-paced treadmill walking) and relaxation/meditation (*RIM*, the 'Body Scan') on positive and negative affect and anxiety measures in female undergraduates. Both were predicted to reduce negative and enhance positive affect. Differential effects of PA and RIM were predicted for participants with predominantly cognitive or somatic anxiety symptoms. Forty-six undergraduates were randomized to PA or RIM interventions. Changes in affect (Positive and Negative Affect Scale, PANAS) and anxiety (Spielberger State / Trait Anxiety Inventory) were assessed using multivariate, repeated measures statistics. Both PANAS Negative Affect & ST AI anxiety scores declined following PA, but PANAS positive affect also declined. Similarly, RIM significantly reduced ST AI and PANAS Positive Affect scores, and (marginally) PANAS negative affect. Anxiety reduction was greatest following RIM for participants with cognitive anxiety symptoms, but the complementary prediction concerning PA and somatic symptoms was not supported.



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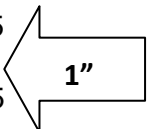
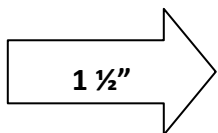




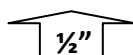
## Illustration H

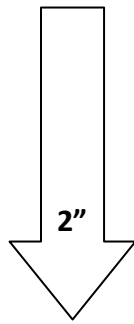
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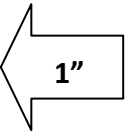
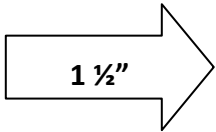




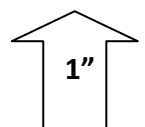
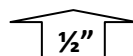
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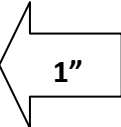
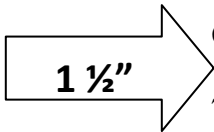
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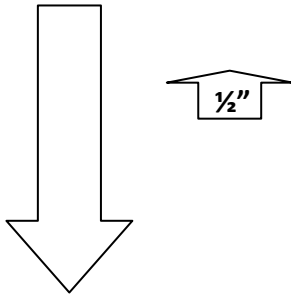


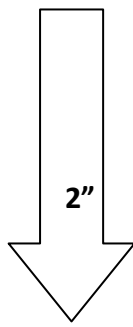
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### CHAPTER III

#### CARBON AND KEVLAR® FIBERS

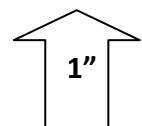
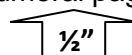
##### Morphology of Carbon and Kevlar® Fibers

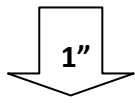
###### General

A characteristic of considerable importance is the morphology of the void phase embedded in carbon and Kevlar® fibers. These voids range in size between 1-30 mm (Barton, 1994), and tend to be elongated in shape with the length of the void being on the order of 1.5-6 times the void width. The mechanism by which the void phase forms is dependent upon both processing conditions and material characteristics (Anson & Brown, 1996). In the case of wet spun fibers, such as Kevlar®, the voids are formed as the solvent leaves the polymer during coagulation (Smith, 2000). The ellipsoidal shape of the voids is due to the applied tensile force during this process.

The micro void phase in pitch-based carbon fibers has a number of sources. The formation of the structure is refined, and volatiles are given off (Barton, 1994). Polyacrylonitrile (PAN) based fibers often have similar structures with voids arising both from wet spinning and from carbonization. The more needle-like appearance of the voids in PAN based fibers are attributed to the high tensile forces applied to the fibers during spinning and carbonization (Jones, 2000). The appearances of voids in the PAN based fibers also contribute to the lightness of the fibers in virtually all applications. This property has contributed to the universal acceptance of PAN based fibers in

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## Illustration L

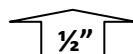
**Table 4**

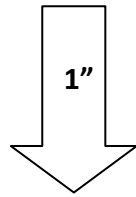
Flexor Carpi Radialis Enthesis Measurements

Measurement (mm)	Left			Right		
	n	Maximum	Minimum	n	Maximum	Minimum
Length	246	17.00	8.00	234	16.00	7.00
Width	245	7.60	3.10	234	9.00	2.50
Height	246	5.00	1.50	231	5.00	1.50

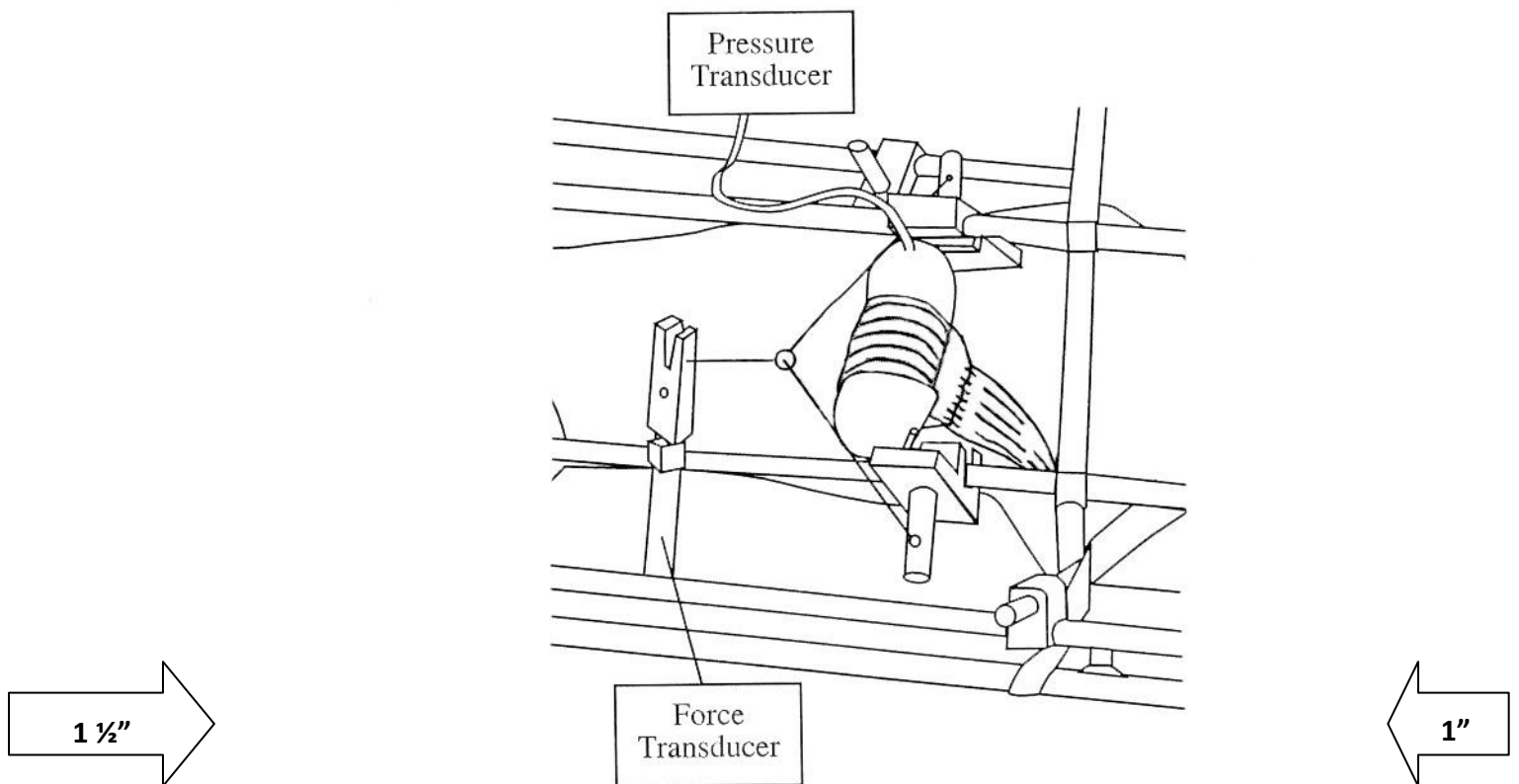
Extensor Carpi Radialis Brevis Two (E2B) is one of the two insertions measured for this muscle, and is located on the dorsal ulnar side of a proximal MC2, just across from the ERL insertion. E2B is a raised bony area that runs obliquely across the ulnar fork of the bone (see Figure 22). The enthesis is narrower distally and wider proximally. The oblique axis was used as the length measurement with width the average of several measurements taken at equal distance perpendicular to the length.

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## Illustration M

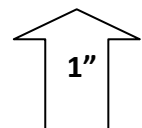
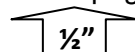


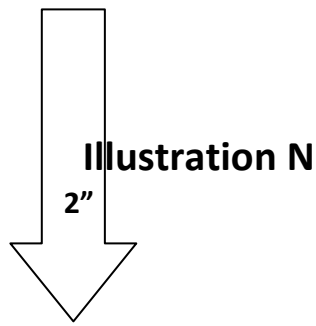
**Figure 1.** Schematic illustration of the contractile force measurement system.

Circumferential squeezing of the LDM is measured by the Pressure Transducer and longitudinal pull of the LDM is measured by a Force Transducer. See text for further explanation.

(**Note:** types of figures may include: graphs, charts, dot maps, drawings, photographs, etc.)

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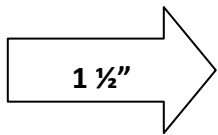


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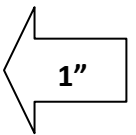
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**Appendix N: HOLIDAYS, PTO & LEAVE POLICIES**  
**THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY**  
**UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

**HOLIDAYS:** The official University of Louisville Holiday Schedule for 2019-20 is as follows:

Labor Day	September 2nd
Thanksgiving Holiday	November 28 <sup>th</sup> -29 <sup>th</sup>
Winter Break	December 25-31
New Year's Day	January 1, 2020
Martin Luther King Day	January 20 <sup>th</sup>
Memorial Day	May 27 <sup>th</sup>
Independence Day	July 3 <sup>rd</sup> -4 <sup>th</sup>

**VACATION, SICK LEAVE AND FAMILY LEAVE POLICIES FOR PRE-DOCTORAL FELLOWS:**

In the absence of a specific University Policy from the Department of Human Services or Graduate School, the Department of Pharmacology and Toxicology, University of Louisville School of Medicine will adopt the policies concordant with the USPHS National Research Service Awards for trainees (see link below).

1. By faculty agreement, 2 weeks annual\* vacation is allowed for pre-doctoral fellows, in addition to the other stated University holidays. Annual leave cannot be accumulated from year to year. Other arrangements may be made on a case-by-case basis by the mentor in consultation with the director of the Graduate Executive Committee and approval of the department chair. First year students should inform the Graduate Program Director of the timing of vacation leave at least two weeks in advance; after the first year, students should inform their graduate advisor/mentor of vacation leave two weeks in advance. The times for vacation leave must be approved by the advisor/mentor.
2. Pre-doctoral Fellows are allowed 15 days sick leave annually; sick leave cannot be accumulated from year to year. Illness in excess of 3 days will require documentation from a doctor in writing; in the absence of such documentation, the student will not receive pay for the days missed in excess of 3 days.
3. Pre-doctoral fellows may receive stipends for up to six weeks of parental leave per child for the adoption or the birth of a child. Either parent is eligible for parental leave. For those with outside fellowships, the use of parental leave may require approval by the sponsor (funding agency). If medical conditions warrant (see item 2 above) sick leave may be used when parental leave is exhausted.
4. Unpaid leave. Individuals requiring extended periods of time away from their research training experience, that is, more than 15 calendar days of sick leave or more than six weeks of parental leave, must seek approval for an unpaid leave of absence from the Dean of the School of Interdisciplinary and Graduate Studies (SIGS), with approval of the Department Chair and Associate Dean for Graduate Affairs.
5. Terminal leave. A period of terminal leave is not permitted, and payment may not be made from university funds for leave not taken

For the purposes of this policy, annual is considered July 1 to June 30.

Reference: [http://grants.nih.gov/grants/policy/nihgps\\_2003/NIHGPs\\_Part10.htm#\\_Toc54600187](http://grants.nih.gov/grants/policy/nihgps_2003/NIHGPs_Part10.htm#_Toc54600187)

## **Appendix O: STUDENT GRIEVANCE PROCESS**

### **THE DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE**

#### **Student Grievance Process Steps:**

1. Student submits grievance to Graduate Program Director.
2. Graduate Program Director discusses circumstances of grievance with student and reports grievance to Departmental Chair.
3. Graduate Program Director and Departmental Chair meet with relevant faculty members (e.g., curriculum committee for curricular complaints, dissertation committee members for mentorship complaint, etc.) and subsequently with Faculty member(s) against whom student filed complaint to discuss grievance and possible resolution.
4. If unresolved, Departmental Chair forwards student's written grievance (if written) and executive summary of meetings in items 2 and 3 above to Associate Dean for Graduate and Postdoctoral Studies for review and hearing by Graduate Council Student Grievance Committee. Grievance Committee recommendation is copied to Departmental Chair and involved parties.
5. Student has option to file grievance with Associate Dean for Graduate and Postdoctoral Studies for review by Graduate Council Student Grievance Committee or to Provost's Office for review at University level at any time during or within 1 year of incident(s).

**FORM AA: PROPOSED ADVISORY COMMITTEE MEMBER APPOINTMENT FORM**

**Department of Pharmacology and Toxicology  
University of Louisville School of Medicine**

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Student Name:

Name	Degrees	Dept.
1		
2		
3		
4		
5		
6		

Complete this form listing the faculty you and your mentor propose for your committee and send to Dr. Siskind ([leah.siskind@louisville.edu](mailto:leah.siskind@louisville.edu)) for approval.

School of Interdisciplinary and Graduate Studies  
Thesis/Dissertation Advisory Committee Appointment

**FORM BB**

To: Unit Dean  
Cc: Dean of the School of Interdisciplinary and Graduate Studies

Date: \_\_\_\_\_

**Student Name:** \_\_\_\_\_

**SID#:** \_\_\_\_\_

**Department:** \_\_\_\_\_

**Major Subject Field:** \_\_\_\_\_

**Degree: M.A., M.S., Ph.D., Other (specify):** \_\_\_\_\_

Proposed Committee Members

	Name	Department	Signature
Mentor1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____

(Master's committee requires 3 members, Doctoral committee requires 4 members)

By signing above, each of the faculty members agrees to serve on the advisory committee.

Advisory committee members must be certified by their unit to participate in Graduate education.

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**The above named faculty members are hereby appointed to act as the  
Advisory Committee for the student named above.**

Department Chair    Date

Unit Approval    Date

## **FORM CC: ANNUAL COMMITTEE MEETING REPORT**

Department of Pharmacology and Toxicology  
University of Louisville School of Medicine

Student's Name: \_\_\_\_\_

Date of Meeting: \_\_\_\_\_

Student's understanding of the research for stage of development.

☐ Satisfactory

☐ Unsatisfactory

Student's ability to apply scientific methods in independent research.

☐ Satisfactory

☐ Unsatisfactory

Student's ability to communicate science in oral and written English.

☐ Satisfactory

☐ Unsatisfactory

Student's success in publication for the period.

☐ Satisfactory

☐ Unsatisfactory

Individual Development Plan Completed

☐ Satisfactory

☐ Unsatisfactory

Completed Annual Progress Report

☐ Satisfactory

☐ Unsatisfactory

Comments – attach additional pages if necessary:

Role	Printed Name	Signature	Date
Major Professor	_____	_____	_____
Committee Member	_____	_____	_____
Committee Member	_____	_____	_____
Committee Member	_____	_____	_____
Committee Member	_____	_____	_____
Committee Member	_____	_____	_____
Director Graduate Studies	_____	_____	_____
Student	_____	_____	_____

**FORM DD: GRADUATE STUDENT PROGRESS REPORT**

**Department of Pharmacology and Toxicology  
University of Louisville School of Medicine**

Student Name:

Student ID:

Semester:                      Year:

**General Information**

Degree Program: ☐ M.S./Ph.D. ☐ M.S. ☐ M.D./Ph.D. ☐ Ph.D.

Year Admitted:

Anticipated Graduation Semester & Year:

**Graduate Advisory Committee Information**

Advisor:

Committee Members:

Date of last committee meeting:

Date of next planned committee meeting:

**Course Work**

<b><i>Course Name</i></b>	<b><i>Course Code</i></b>	<b><i># of credits</i></b>

Lab Rotation Credits 0

Research Credits 0

**Written Qualifying Examinations:**

☐ QE1 ☐ QE2 ☐ QE3

Total points:

Total questions passed:

**Oral Qualifying Examination**

Date:                      Result:

Date:                      Result:

**MS thesis accepted by Graduate School:** Date:

**Ph.D. Dissertation Proposal Accepted by Committee:** Date:

**FORM DD: GRADUATE STUDENT PROGRESS REPORT**

**Department of Pharmacology and Toxicology  
University of Louisville School of Medicine  
(Page Two)**

Research Activities

Date of most recent annual presentation:

Publications:

Abstracts:

Meetings/Symposia Attended:

Honors and Awards

Student's Development Plan (Please attach completed/updated **IDP** – Spring Semester only)

Comments on student's overall performance and progress (expand with additional pages or supporting material as needed)

**FORM EE: M.S. Thesis Defense & Ph.D. Proposal Defense**

**Department of Pharmacology and Toxicology**

**University of Louisville School of Medicine**

Student's Name: \_\_\_\_\_

Date of Meeting: \_\_\_\_\_

- ☐ MS Thesis Defense only (complete sections A, B and comments)
- ☐ PhD Proposal Defense only (complete sections A, C, page 2 and comments on both pages)
- ☐ Joint MS Thesis & PhD Proposal Defense (complete ALL sections on both pages)

**Section A**

Student's understanding of the research for stage of development.	<input type="checkbox"/> Satisfactory	<input type="checkbox"/>
Unsatisfactory		
Student's ability to apply scientific methods in independent research.	<input type="checkbox"/> Satisfactory	<input type="checkbox"/>
Unsatisfactory		
Student's ability to communicate science in oral and written English.	<input type="checkbox"/> Satisfactory	<input type="checkbox"/>
Unsatisfactory		
Student's success in publication for the period.	<input type="checkbox"/> Satisfactory	<input type="checkbox"/>
Unsatisfactory		
Individual Development Plan Completed	<input type="checkbox"/> Satisfactory	<input type="checkbox"/>
Unsatisfactory		

**Section B (Select only one):**

- ☐ This student has successfully presented and defended work sufficient for the M.S. degree. When the thesis and documentation are in final form, the Committee recommends this student be awarded the M.S. degree.
- ☐ This student's M.S. defense is unsatisfactory. Additional work, presentation or research will be required before a recommendation can be made to award the M.S. degree. The additional work is listed in the comments section below.

**Section C (Select only one):**

- ☐ This student has successfully presented and defended his/her Dissertation Research Proposal and is recommended for Doctoral Candidacy.
- ☐ Changes and review of the Research Plan are required as delineated below before progression to Doctoral Candidacy.



This student's presentation/defense of the Research Proposal is unsatisfactory. Additional work, presentation or research will be required before a recommendation can be made to progress to Doctoral Candidacy. The additional items required for completion are listed in the comment section below.

Comments (Required)--attach additional pages if necessary

**Rubric for Use in Defense of Dissertation Proposal/Oral Qualifying Exam for the Ph.D.  
in Pharmacology and Toxicology**

<b><u>Defense of written dissertation proposal:</u></b>	<b>Satisfactory</b>	<b>Needs improvement</b>	<b>Unsatisfactory</b>
<b><u>Proposal definition:</u></b> Delineates the proposed research & its key questions and hypotheses.			
<b><u>Literature of proposal:</u></b> Demonstrates sound knowledge of the literature of the research area and the field.			
<b><u>Project approach:</u></b> Applies appropriate methodology /technology. Understands the basis & interpretations thereof.			
<b><u>Context:</u></b> Student communicates the broader implications of the research, basic and/or applied.			
<b><u>Oral defense of proposal:</u></b>			
<b><u>Presentation:</u></b> Orally communicates concepts and details of the written proposal.			
<b><u>Response to questions:</u></b> Addresses questions and concerns with knowledge and professionalism.			

**Comments (Required):**

Role	Date	Printed Name	Signature
Major Professor			
Committee Member			
Committee Member			
Committee Member			
Committee Member			
Committee Member			
Director Graduate Studies			
Student			

**Form FF: Ph.D. Dissertation Defense**  
**Department of Pharmacology and Toxicology**  
**University of Louisville School of Medicine**

Student's Name: \_\_\_\_\_

Date of Meeting: \_\_\_\_\_

**Section A**

Student's understanding of the research for stage of development.    ☐ Satisfactory                      ☐  
Unsatisfactory

Student's ability to apply scientific methods in independent research. ☐ Satisfactory                      ☐  
Unsatisfactory

Student's ability to communicate science in oral and written English. ☐ Satisfactory                      ☐  
Unsatisfactory

Student's success in publication for the period.                      ☐ Satisfactory                      ☐  
Unsatisfactory

Individual Development Plan Completed                      ☐ Satisfactory                      ☐  
Unsatisfactory

**Section B (Select only one):**

☐      This student has successfully presented and defended work sufficient for the Ph.D. degree.  
When the dissertation and documentation are in final form, the Committee recommends  
this student be awarded the Ph.D. degree.

☐      This student's Ph.D. defense is unsatisfactory. Additional work, presentation or research will be  
required before a recommendation can be made to award the Ph.D. degree.

**Comments (Required)– attach additional pages if necessary:**

**Role**

**Printed Name**

**Signature**

**Date**

Major Professor \_\_\_\_\_

Committee Member \_\_\_\_\_

Committee Member \_\_\_\_\_

Committee Member \_\_\_\_\_

Committee Member \_\_\_\_\_

Committee Member \_\_\_\_\_

Director Graduate Studies \_\_\_\_\_

Student \_\_\_\_\_