

PHARMACOLOGY AND TOXICOLOGY (PHD)

Doctor of Philosophy in Pharmacology and Toxicology

Unit: School of Medicine (<http://louisville.edu/medicine/>) (GM)

Department: Pharmacology and Toxicology (<https://louisville.edu/medicine/departments/pharmacology/>)

Program Website (<https://louisville.edu/medicine/departments/pharmacology/programs/>)

Academic Plan Code(s): PHARPHD (also PHARPHDCAI, PHARPHDJIL, PHARPHDWEN)

Program Information

The Department of Pharmacology and Toxicology is committed to academic excellence and to the attainment of regional, national, and international recognition for the quality of its educational, research, and service activities. The Department Strategic Plan focuses accomplishment of five broad objectives:

-Provide instruction in pharmacology and toxicology of the highest quality for the education and preparation of medical, dental, and other health care professional students. Emphasis is placed on the fundamental principles necessary for life-long learning and the essential knowledge required for rational, effective, and safe use of drug therapy.

-Advance biomedical knowledge through high quality research and other scholarly activities, particularly in pharmacology and toxicology and other areas of focus within the University of Louisville and School of Medicine Strategic Plans.

-Provide robust research and educational experiences in pharmacology and toxicology for the education and training of future biomedical scientists who will provide and advance biomedical education, research, and service.

-Provide instruction of the highest quality in pharmacology and toxicology appropriate for students at the undergraduate, graduate, and postgraduate levels.

-Provide service to the School of Medicine, the Health Sciences Center, the University of Louisville and the surrounding region, the Commonwealth of Kentucky, professional organizations, the nation, and the world.

Goals of the Program

The Department of Pharmacology and Toxicology is dedicated to advancing biomedical knowledge through active contribution to high-quality research in pharmacology and toxicology and to providing high-quality research and educational experiences for the education and training of future biomedical scientists who advance biomedical education, research, and service.

Student Financial Support

Students accepted into the PhD program will be considered for an IPIBS graduate student fellowship. The fellowship pays an annual stipend of \$28,000 in addition to payment of student tuition and health insurance. The Department also houses a NIEHS-funded T32 environmental health sciences training program (<https://louisville.edu/medicine/departments/pharmacology/research/program-description/>) and participates in the

NIEHS-funded Superfund Research Program (<http://louisville.edu/enviromeinstitute/superfund/>), both provide stipend, tuition, and fees for selected students.

Since all PhD students and candidates are considered to be full-time students, they generally are not permitted to seek outside employment while enrolled in the doctoral program. In cases where financial aid is limited and additional support is essential, students needing outside employment must apply in writing for departmental faculty approval. The faculty must also approve any change in employment, as well as approving continued outside employment on an annual basis.

The University of Louisville reserves the right to change programs of study, academic requirements, fees, schedules of courses, the announced academic calendar and deadlines without prior notice.

Admission Requirements

For the Department of Pharmacology and Toxicology complete guidelines are given below:

1. Application forms. All candidates for admission to graduate programs at the University of Louisville must complete the online application form (<http://louisville.edu/graduate/apply/>).

Applications are received at any time for starting dates of approximately August 1, however, for full consideration for IPIBS fellowships, applications should be received by January 15th of the prior calendar year. All credentials and/or communications should be submitted to the Graduate School, Graduate Admissions and should contain the student's full name and University of Louisville issued student ID. Admission on a conditional basis is a possibility in rare, special cases, even though application materials are incomplete. Please contact (phtxapps@louisville.edu) the department for additional information.

2. Application Fee. An application will not be forwarded to the department until this fee is paid. A check or money order should be made payable to the "University of Louisville."
3. Transcripts. Applicants for admission to a degree program must submit an official transcript from each college attended. All University of Louisville transcripts will automatically be submitted with completion of an application. All applications are considered on an individual basis. Normally, a successful applicant will have an undergraduate GPA of 3.00 or higher and will have successfully completed sufficient coursework in biology, chemistry and mathematics.
4. Statement of Experience and Professional Goals. At the time of application, a two to three page typed statement should be sent to introduce the student to the faculty of the Department, describing past educational, laboratory and relevant life experiences, as well as outlining professional goals after the degree program. This statement can be sent electronically to gradadm@louisville.edu.
5. English Proficiency. All applicants for whom English is a second language must also submit official TOEFL scores of 79 or higher on the internet-based test, official IELTS scores of at least 6.5 overall band score from the academic module exam or official Duolingo overall score of 105. Students holding a bachelor's or advanced degree from an accredited institution in the United States are exempt from this requirement. Information concerning the TOEFL exam can be obtained from: University Testing Center, or Test of English as a Foreign Language PO Box 6151 Princeton, NJ 08541 USA or [toefl.org](http://www.toefl.org) (<http://www.toefl.org>) The institutional code of UofL for TOEFL is 1838. The TOEFL department code

is 30 (other biological sciences); IELTS information can be obtained from www.ielts.org (<https://www.ielts.org/>); Duolingo information can be obtained from www.duolingo.com/ applicants (<https://nam11.safelinks.protection.outlook.com?url=http%3A%2F%2Fenglishtest.duolingo.com%2FApplicants&data=04%7C01%7Ccheryl.schroader%40louisville.edu%7C0baa30a62e8345914a7c08d9faf80847%7Cdd246e4a54344e158ae391ad9797b209%7C0%7C637816765462146305%7CUnknown%7CTWFpbGZsb3d8eyJWljiMC4wLjAwMDAiLCJQIjoiV2luMzliLjBtI6IklwaWw%3D%7C3000&sdata=touQ%2Brap6mVG4VBHkhRok5SfbyjKROnFk0yseS6clh8%3D&reserved=0>).

6. Personal Interview. Whenever possible, a personal interview, either in person or via Zoom, will be held before final offer and acceptance of a position in the PhD program.
7. Letters of Recommendation. Three letters of recommendation from persons familiar with the applicant's research and/or academic work are required. These recommendations will ideally include a letter attached to the recommendation form or may be completed electronically via the online application (<http://louisville.edu/graduate/apply/>).
8. International Student Applicants. In addition to satisfying the appropriate credential requirements, applicants are required to provide the following documents.
 - Applicants who attended college outside the US must submit verbatim notarized English translations of all academic records and credentials.
 - Transcripts must be evaluated by a credential evaluation service such as World Education Services ([wes.org](http://www.wes.org)) or Educational Credential Evaluators ([ece.org](http://www.ece.org)) for admission.
 - If on a Visa that requires an I-20 or IAP-66, the applicant is required to complete an Application Supplement/Financial Declaration form (<http://louisville.edu/internationalcenter/iss/current-f1-j1-students/forms-and-documents/>) and submit appropriate financial documentation.
9. Financial Aid. All applicants to the PhD program of the Department of Pharmacology and Toxicology are automatically considered for financial aid upon admission. Typically, such aid consists of a stipend, tuition remission, and a health insurance benefit.

PHTX 606	Seminar	1
Written qualifying exam 2 (end of semester)		
Hours		11
Summer		
PHTX 632	Analysis of Parametric & Non-parametric Data	2
PHTX 619	Research	4
Written qualifying exam 3 (end of semester)		6
Fall		
PHTX 625	Scientific Writing	2
Students may take 1-3 elective courses for enrichment		1-8
Co-curricular		
PHTX 619	Research	4
PHTX 606	Seminar	1
Written qualifying exam 3 (end of semester)		
Hours		8
Spring		
Students may take 1-3 elective courses for enrichment (Master's Candidacy)		1-9
Co-curricular		
Submission, presentation, and defense of PhD proposal (NIH grant format) and MS thesis.		
Awarding of MS degree and transition to PhD candidacy.		
Hours		1
Minimum Total Hours		40

Program Requirements

Course	Title	Hours
Year 1		
Fall		
PHTX 641	Pharmacology I	3
PHTX 643	Toxicology I	3
BIOC 645	Advanced Biochemistry I	4
PHZB 602	Physiological Concepts for General Life Sciences	2
Co-curricular		
PHTX 617	Laboratory Rotation Research	1
PHTX 606	Seminar	1
Written qualifying exam 1 (end of semester)		
Hours		14
Spring		
PHTX 642	Pharmacology II	3
PHTX 644	Toxicology II	3
BIOC 667	Cell Biology	3
BIOC 630	Responsible Conduct of Research: Survival Skills and Research Ethics	1
Co-Curricular		
PHTX 619	Research	1