

# PHARMACOLOGY AND TOXICOLOGY (MS)

## Master of Science in Pharmacology and Toxicology

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

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

Academic Plan Code(s): PHARMS

## 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 includes five broad objectives:

- Provide instruction in pharmacology and toxicology of the highest quality for the education and preparation of medical, dental, nursing, and other health care professional students. Emphasis will be 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 active contribution to high-quality research and other scholarly activities, particularly in pharmacology and toxicology and other areas of focus within the University of Louisville Strategic Plan.
- Provide high-quality research and educational experiences in pharmacology and toxicology for the education and training of future biomedical scientists who can provide and advance biomedical education, research, and service.
- Provide instruction of the highest quality in pharmacology and toxicology that is appropriate for students at the undergraduate, graduate, and postgraduate levels.
- Provide high-quality service to the School of Medicine, the Health Sciences Center, the University, the people 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.

## Admission Requirements

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

## Application Forms

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

Applications are received at any time for starting dates of approximately August 1. All credentials and/or communications should be submitted to the Graduate School, Graduate Admissions and should contain

the student's full name and Social Security Number or University of Louisville issued student ID. Lack of Social Security Number may cause processing to be delayed. Applications received by January 1 are assured of full consideration for that year. Admission on a conditional basis is a possibility in rare, special cases, even though application materials are incomplete. Please contact the department ([phtxapps@louisville.edu](mailto:phtxapps@louisville.edu)) for additional information.

## Application Fee

A non-refundable application fee is required with the application form. 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."

## 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.

## Test Scores

Applicants normally must take the general section of the Graduate Record Examination (GRE). There is no absolute cutoff score for acceptance. Each case is decided on the totality of its merits. At the discretion of the department, MCAT or other entrance examination scores may be accepted in place of the GRE. Information can be obtained from:

- University of Louisville Testing Center, or
- Graduate Record Examination Educational Testing Service Box 955 Princeton, NJ 08541, [gre.org](http://gre.org) (<https://www.ets.org/gre>).

The GRE Advanced Test in a discipline is not required, but if available will be used in admissions and placement decisions.

**NOTE:** GRE Institution Code is R1838-University of Louisville. The GRE major codes are 0216 - Pharmacology or 0219 - Toxicology.

## 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](mailto:gradadm@louisville.edu) ([jcstat01@louisville.edu](mailto:jcstat01@louisville.edu)) or via mail to:

### Graduate School

### Graduate Admissions

Houchens Building, Room 105  
University of Louisville  
Louisville, KY 40292  
United States of America

## 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 or 550 or higher on the paper-based test for verification of English proficiency. 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>) The institutional code of UofL for TOEFL is 1838. The TOEFL department code is 30 (other biological sciences.)

## Personal Interview

Whenever possible, a personal interview, either in person or via telephone will be held before final offer and acceptance of a position in the MS program.

## 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://graduate.louisville.edu/apply>).

## International Student Applicants

In addition to satisfying the appropriate credential requirements, applicants may be 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.

## Financial Aid

The Department normally provides no funds for such support of master's degree students.

## Residency Policy

Residency status for students is determined in the Graduate School, Graduate Admissions. The status is determined according to the policy on classification of students for fee assessment purposes at state-supported institutions of higher education. Except as provided in the guidelines, it is presumed that a resident has remained in the state in a non-student status for the twelve months immediately preceding the last date for enrollment in the institution.

The domicile of an unemancipated person, as defined in the guidelines, is that of his/her parent. The domicile of a married person is determined by the provisions of the guidelines independent of the residence of the spouse. Copies of the guidelines and appropriate forms for requesting change of residence classification may be obtained from the Office of Student Services.

## Indiana Tuition Reciprocity

The University of Louisville is participating in an Indiana Tuition Reciprocity Program for residents of Clark, Crawford, Floyd, Harrison or Scott Counties who have been admitted directly into an approved graduate program. Eligible participants are required to notify the Admissions Office prior to their first enrollment and the Registrar's Office after their first enrollment of any changes in residency status (e.g., if they no longer live in one of the eligible counties, or are no longer in an eligible program). The university reserves the right to further investigate and require documentation of eligibility for tuition reciprocity.

## For Military Personnel

If an applicant, spouse or parent (if dependent) is currently stationed in Kentucky on military active duty for one or more years, please attach a copy of the military orders, a lease or mortgage showing Kentucky

address and a military dependent identification card if appropriate. If the applicant is a Kentucky resident but has been in the military and has been recently discharged, please send a copy of the military discharge papers (DD-214).

## International Students on Immigrant/ Permanent Resident Status

If currently on an immigrant/ permanent resident status, it will be necessary to submit a copy of an immigration/ permanent resident card, both sides, for review of possible residency classification for tuition purposes.

- Transcripts must be evaluated by a credential evaluation service such as World Education Services ([wes.org](http://www.wes.org) (<http://www.wes.org>)) or Educational Credential Evaluators ([www.ece.org](http://www.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 and submit appropriate financial documentation.

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.

## Program Requirements

The Master of Science in Pharmacology and Toxicology program is a 1.5+ year course of study culminating in the presentation and defense of a master's thesis. The master's thesis may be based on laboratory research, a "dry" library-based research project, or a combination of the two.

The MS curriculum is designed for:

1. Individuals interested in a terminal master's degree who do not require extensive research experience or credentials, e.g., pharmaceutical representatives, medical insurance providers, medico-legal professionals
2. Pairing with other programs to form hybrid or dual science/business or public health degrees, such as an MS/MBA or MS/MPH programs
3. Individuals interested in progressing through management ranks in Pharmacology or biotech businesses
4. The basis for a scientific writing career, when coupled with extensive scientific writing experience or electives
5. The basis for a career in biotechnology, when combined with theoretical and practical training in laboratory analysis

## Program Requirements

Course	Title	Hours
<b>Year 1</b>		
<b>Fall</b>		
PHTX 641	Pharmacology I	3
PHTX 643	Toxicology I	3
BIOC 645	Advanced Biochemistry I	4
PHZB 616	Selected Topics in Physiology and Biophysics (Physiological Concepts for General Life Sciences)	2
Co-curricular:		
PHTX 606	Seminar	1
PHTX 617	Laboratory Rotation Research	1
	Hours	14
<b>Spring</b>		
PHTX 642	Pharmacology II	3

PHTX 644	Toxicology II	3
BIOC 667	Cell Biology	3
Co-Curricular:		
PHTX 619	Research	3-4
PHTX 606	Seminar	1
BIOC 630	Responsible Conduct of Research: Survival Skills and Research Ethics	1
Hours		13
<b>Summer</b>		
PHTX 619	Research	6
PHTX 632	Analysis of Parametric & Non-parametric Data	2
Hours		8
<b>Year 2</b>		
<b>Fall</b>		
PHTX 625	Scientific Writing	2
Electives		2-5
Co-curricular:		
PHTX 619	Research	2-4
PHTX 606	Seminar	1
Hours		7
<b>Spring</b>		
Master's Candidacy		
Preparation, presentation, and defense of Master's thesis and award of MS degree (if required)		
Hours		0
Minimum Total Hours		42