

# Master of Science in Pharmacology and Toxicology

## Pharmacology and Toxicology Graduate Programs

The Department of Pharmacology and Toxicology has research strengths in neuropharmacology — especially in neurodegeneration, mood disorders, and addiction — and the effects of diabetes on the nervous system. The research program is founded on a strong graduate program. The major aim of this Master of Science (MS) degree program is to provide qualified graduates to institutions in academia, industry, and government. The Master of Science in Pharmacology and Toxicology program emphasizes student's research skills in molecular and neuropharmacology. In addition to the didactic component of our training, we view hands-on training in laboratory research critical to the master's thesis experience. The department's research programs and faculty place it at the leading edge of research in the pharmacological and toxicological neurosciences.

## Distance Master's Degree Program

The department also offers a distance master's program. Please see the website (<https://pharmtox.ku.edu/distance-masters/>) for details. The program features the same high-quality lectures and courses offered in the Ph.D. program. The program allows the industrial scientist or student to remain at their respective institutions and earn the M.S. degree under a collaborative academic environment. Students will typically take 1 course a semester and the program is designed for individuals who are seeking additional academic qualifications that will facilitate their professional advancement or increase their competitiveness for admission to other advanced degree programs. For questions, contact our Administrative Assistant Ms. Sarah Hoadley, 785-864-4001, [pharmtox@ku.edu](mailto:pharmtox@ku.edu) or the Director of the Distance Master's Program, Rick T. Dobrowsky, Ph.D., 785-864-3531, [dobrowsky@ku.edu](mailto:dobrowsky@ku.edu)

## Graduate Admission

Admission is based on the student's undergraduate record in a relevant field, Graduate Record Examination scores, and 3 letters of recommendation. A minimum grade-point average of 3.0 on a 4.0 scale is required. Applications from non-English-speaking countries must include a copy of the Test of English as a Foreign Language score. Acceptance depends on the availability of space and faculty commitment.

Students are expected to have bachelor's degrees in pharmacy, chemistry, biology, pharmacology, toxicology, or other physical science related disciplines. Submit your graduate application online (<http://www.graduate.ku.edu/>). Send transcripts of all completed college and university course work and all other requested application materials to the department:

**The University of Kansas**  
**Department of Pharmacology and Toxicology**  
**Malott Hall**

1251 Wescoe Hall Drive, Room 5064  
Lawrence, KS 66045

## M.S. Degree Requirements

### Course Work

Students must earn 18 credit hours in the following courses or their equivalents:

Code	Title	Hours
P&TX 730	Advanced Pharmacology I - CNS and ANS	2
P&TX 731	Advanced Pharmacology II - Cardiovascular and Renal System	2
P&TX 732	Advanced Pharmacology III - Immunology and Inflammatory Diseases	2
P&TX 733	Advanced Pharmacology IV - Endocrinology	2
P&TX 741	Biomedical Statistics (3 credits)	
P&TX 742	Experimental Pharmacology	3
P&TX 747	Molecular Toxicology	2
P&TX 799	Pharmacology and Toxicology Seminar	1-2
P&TX 825	Research in Pharmacology and Toxicology (Combination of P&TX 825 and P&TX 899 must equal 12 hours)	3-9
P&TX 899	Master's Thesis (Combination of P&TX 825 and P&TX 899 must equal 12 hours)	3-9

## Research Skills Requirement

Each MS degree student is required to take credit hours of Research in Pharmacology and Toxicology (P&TX 825) and Masters Thesis (P&TX 899). Enrollment in either course must continue until a total of 12 credit hours are earned, such that when taken together with didactic coursework, research, and thesis, totals 30 hours of graduate coursework.

Students need to maintain continuous enrollment in the program until completion. It is expected that students usually will complete the requirements and graduate in two years.

Each MS degree student is required to submit and defend a thesis resulting from research of sufficient originality and quality for publication in peer reviewed scientific journals. The research is conducted under the supervision and guidance from the student's advisor, with input from the thesis committee as needed.

Top graduates, if interested, may transfer into a Ph.D. program in Pharmacology and Toxicology offered in the department.

At the completion of this program, students will be able to:

- select and defend a significant problem of topic of study and demonstrate mastery of relevant knowledge in the field.
- communicate effectively in academic writing and effectively defend the work when questioned.
- apply rigorous methods of the discipline and produce a valuable contribution to the field.