DOCTOR OF PHILOSOPHY IN NATURAL SCIENCES: PHARMACEUTICAL SCIENCE

Student Learning Outcomes

Students graduating from this program will:

As part of the Natural Sciences Ph.D. program, students in a primary discipline of Pharmaceutical Sciences must meet the minimum Ph.D. program requirements. These can be found within the main program page (https://catalog.umkc.edu/colleges-schools/graduate-studies/phd-programs/) and subsequent requirement pages.

Pharmaceutical Sciences

Please see the School of Graduate Studies web page (https://sgs.umkc.edu/academics/nat-sci-coordinators.html) for the contact information for the discipline Coordinator. To view all doctoral and graduate faculty in Pharmaceutical Sciences, see this web page (https://sgs.umkc.edu/faculty-and-staff/doctoral-graduate-faculty-lists.html).

Admission Requirements

Applicants must meet both the general and the discipline-specific criteria for admission and be recommended for admission by the faculty review group. Upon approval by the graduate dean, students are admitted to the School of Graduate Studies.

Please see the website (https://sgs.umkc.edu/admissions/natural-sciences-apply.html) for updated application deadlines.

Applicants must hold a degree in pharmacy (Pharm.D. or B.S.) or a baccalaureate degree in a related field such as chemistry, biology or biomedical engineering with an undergraduate GPA of at least 3.0 on a 4.0 scale. Students who hold a master's degree in an appropriate discipline may be admitted on satisfaction of the general requirements of the School of Graduate Studies.

Core Coursework Requirements

Students with a Pharmaceutical Sciences primary discipline will complete a minimum of 45 credit hours for the degree. This includes at least 12 credit hours in the primary discipline, 3 hours of statistics, 6 credit hours of electives, 3 hours of the divisional seminar course, 9-12 hours outside the primary discipline (decided in consultation between the student and primary advisor), and at least 12 hours of dissertation credit in the primary discipline.

Primary Discipline

Code	Title	Credits
Pharmaceutical Sciences	Courses:	12
Statistics course		3
Electives (coursework must be in Pharmacy)		
PHARM 5580A	Seminar in Pharmaceutical Sciences (One-hour course taken three times)	3
Coursework Outside of Primary Discipline (either in designated secondary discipline or multiple other disciplines) 1		
Dissertation		12
Total Credits	45	

Total Credit Hours: 45

¹ Minimum of 9 hours with possibility of more required. Decided in consultation with primary advisor.

Secondary Discipline Program Requirements

Students with a Pharmaceutical Sciences secondary discipline will complete a minimum of 9 credit hours in the discipline.

Code	Title	Credits	
A minimum of 9 credit hours, selected from the list below.			
PHARM 5521	Advanced Organic Medicinal Chemistry		
PHARM 5527	Analytical Methods		
PHARM 5533	Advanced Pharmacokinetics and Biopharmaceutics		
PHARM 5588	Biotechnology		
PHARM 5605	Fundamentals of Pharmaceutical Sciences		
PHARM 5631	Pharmaceutical Formulations I		

PHARM 5632	Novel Drug Delivery Systems
PHARM 5634	Protein and Nucleic Acid Drug Delivery

Other Discipline-Specific Special Requirements

Requirements for Retention

Students who receive two C grades or one D grade in didactic courses are subject to dismissal from the program. A student who receives one F grade will not be retained. Students will not be allowed to attain more than one C grade in a secondary discipline course.

Appeals

Appeals by graduate students on matters pertaining to research or studies in the discipline will be routed initially to the supervisory committee and managed according to the appropriate procedures established within the School of Pharmacy.

Comprehensive Examination Guidelines

Ph.D. students who choose Pharmaceutical Sciences as the primary discipline must successfully pass comprehensive oral and written examinations given by the supervisory committee by the end of the third year. The comprehensive examinations will be given after the student has completed the majority of didactic coursework requirements but not later than the end of the third year. The comprehensive examinations (written and oral) must be passed before a doctoral student can be advanced to candidacy.