

DOCTOR OF PHARMACY

Doctor of Pharmacy Competencies

A pharmacist is a medication expert whose obligation is to deliver pharmaceutical care. Pharmaceutical care is "the responsible provision of drug therapy for the purpose of achieving a definite outcome that improves a patient's quality of life" (Hepler and Strand). The following are Educational Goals of the program:

- Function collaboratively as members of an interprofessional team
- Advocate for patients and demonstrating leadership
- Provide care for diverse patient populations
- Contribute to the health and wellness of individuals and communities
- Educate a broad range of constituents
- Effectively manage a highly technical workplace

Program goals are achieved through four Domains and aligned Student Learning Outcomes (detailed below):

- Domain 1- Knowledge
- Domain 2- Skills
- Domain 3 - Attitudes

Many practice areas are covered by these responsibilities. The curriculum is designed to develop the competencies of graduates, allowing them to assume these responsibilities as well as the all of the current curricular outcomes expected of Doctor of Pharmacy graduates detailed on the School of Pharmacy website under the *Curriculum Policies* section at: <https://pharmacy.umkc.edu/current-students/curriculum-policies.html>

Admission Requirements

The doctor of pharmacy (Pharm.D.) degree provides minimum and advanced level competencies necessary for the graduate to assume a pharmacist's professional responsibilities and qualify for national and state pharmacist licensure examinations. The program of study emphasizes clinical sciences and training experiences. The training of doctor of pharmacy students concentrates on rational drug therapy decision-making within the inter-professional health care team. For consideration, an applicant must have a minimum cumulative grade point average of 2.0 or higher. Admission to the Pharm.D. program is competitive, and applications are reviewed in detail, therefore, meeting the minimum cumulative grade point average does not guarantee admission. Applicants must strive to earn above satisfactory grades in their college courses and prepharmacy requirements. The School of Pharmacy Admissions Committee reviews applicants' academic transcripts closely. All college credits and grade points are factored into the cumulative college GPAs. Repeated course grades are averaged together for overall cumulative, prepharmacy, and science/math GPA calculations meaning that the original grade and the repeated grade will both count toward GPA calculations.

Doctor of Pharmacy Minimum Pre-Pharmacy Course Requirements

A minimum of 57 credit hours of pre-professional, college level coursework, including the specified requirements listed below, must be successfully completed, with a grade of C- or higher, prior to the fall of the entering class year of the professional pharmacy program of study. Applicants should note that admission is competitive and that meeting the minimum requirements is not a guarantee of admission. Applicants are encouraged to contact the Pharmacy Student Affairs Office to discuss the strength of their application.

Equivalent, pre-pharmacy courses must be completed at UMKC or any regionally accredited college or university. Applicants should contact the UMKC Pharmacy Office of Student Affairs to ensure proper course equivalents have been met. Second year college pre-pharmacy courses, listed below, must be successfully completed within five years prior to admission entry date. Applicants with elective space during their pre-pharmacy preparation should consider courses that shape their understanding of the human condition. Courses in psychology, sociology, ethics, health sciences, and anthropology, will assist a student in assuming their role in caring for people. Completion of additional communication studies courses is also encouraged.

Pre-Pharmacy Courses / Minimum Semester Hours

Year I	Credits
General Chemistry I & II with Labs	8
Calculus with Analytical Geometry	3-4
General Biology I & II ¹	6
Physics with Lab ²	4
English Composition I & II	6
Public Speaking or Communication Studies Course	3

American History I or II or Introduction to Political Science course covering U.S. Constitution 3

Year II	Credits	33-34
Organic Chemistry I & II with Labs ³		8
Cell Biology ³		3
Human Anatomy with Lab ^{3,4}		4
Microbiology with Lab ³		4
Medical Terminology ³		1
Statistics		3
Electives completed at student discretion		
		23

Total Credits: 56-57

¹ Preparatory or introductory biology courses will not meet the minimum requirement.

² Physics courses must be at least algebra and trigonometry based.

³ NOTE: Second year college pre-pharmacy courses must be successfully completed within five years prior to Fall admission entry date.

⁴ Successful completion of 5.0 credit hours or two semesters of Human Anatomy and Physiology with labs will meet the Human Anatomy requirement. Comparative or Vertebrate Anatomy courses will not meet the Human Anatomy requirement.

General CLEP credits will not be accepted to fulfill the mathematics, biology, physics, or chemistry requirements. Advanced Placement Program scores through the College Board are accepted for some pre-pharmacy courses. Check acceptable scores and courses at <http://www.umkc.edu/registrar/transfer-credit/default.asp>. Contact an academic advisor in the School of Pharmacy regarding minimum score requirements and course transferability. Official scores from the College Board must be sent to the UMKC Registrar's Office for evaluation.

Pharmacy Assurance Program (PAP)

UMKC School of Pharmacy offers the Pharmacy Assurance Program for high school students with a strong interest in and aptitude for science and math and excellent communication skills. Students who meet the PAP criteria for admission from high school have an assured seat in the Pharm.D. program if the minimum specified requirements from PAP to the Pharm.D. program are achieved during their collegiate freshmen and sophomore years. The minimum eligibility criteria to apply for PAP include 1) a non-weighted high school GPA at the end of the junior year of 3.5 or higher; or 2) a non-weighted high school GPA at the end of the junior year of 3.0 or higher and a minimum ACT composite of 25 or higher or SAT equivalent; and meet the UMKC core requirements through high school curricular units. Students wanting to apply for the Pharmacy Assurance Program must complete and submit the following: the on-line UMKC Application For Admission and fee; Pharmacy Assurance Application; official high school transcripts through semester six; official college transcripts of dual credit courses as applicable; official ACT/SAT scores, as applicable; and one reference letter. The priority deadline to apply for the PAP is March 1st.

Additional information regarding degree program and admission requirements is located on the UMKC School of Pharmacy Pharm.D. Admissions webpage located at <https://pharmacy.umkc.edu/admissions/index.html> (<https://pharmacy.umkc.edu/admissions/>) Applicants with questions regarding admission should contact

UMKC School of Pharmacy
Office of Student Affairs
2464 Charlotte Street, Suite 1219 / Kansas City, MO / 64108
(816) 235-1613/ Fax (816) 235-5562
pharmacy@umkc.edu

Application Procedures

Applications for the doctor of pharmacy program are accepted between July 15 through June 1 for consideration for admission to the class entering the following fall. Admission to the Doctor of Pharmacy program is competitive and meeting minimum requirements for admission does not guarantee admission. New students are admitted to the doctor of pharmacy program only in the fall of each year.

The Early Action program is a non-binding option for applicants who would like the application process to be complete early in the school year. Early Action applicants will be considered for one of the first two interview dates. In addition to completing the PharmCAS application, Early Action applicants must arrange for PharmCAS to receive all of their official transcripts and fees by the October 1st deadline.

The Pharmacy Future Admissions Scholars Track (FAST) is intended for college students who plan to complete a baccalaureate degree before applying to the UMKC Pharm.D. program. Applicants must have successfully completed 45 credit hours of select prepharmacy prerequisite courses with a grade of C or higher for consideration.

As part of the process for application to the Doctor of Pharmacy program, all of the application steps and instructions must be adhered to carefully and all required documents must be submitted no later than the June 1 deadline, unless otherwise stated. Applicants must:

1. Complete and submit the PharmCAS application with all supporting and required documentation and fee. The PharmCAS application is located at <http://www.pharmcas.org/>. Official transcripts(s) from each college and/or university attended showing all coursework attempted and completed through the Fall term prior to admission entry date must be submitted to PharmCAS;
2. Submit an electronic PharmCAS reference from specified categories only as noted on the UMKC Doctor of Pharmacy application; references from relatives, friends, or co-workers, that are not supervisors, will not be accepted.
3. Complete and submit a UMKC Doctor of Pharmacy Application for Admission and application fee. The UMKC Pharm.D. Application for Admission is located at Pharm.D. Application Process - Admissions - School of Pharmacy | University of Missouri-Kansas City (umkc.edu) (<https://pharmacy.umkc.edu/admissions/pharmd-application-process/>).
4. Meet and adhere to the *UMKC School of Pharmacy Minimal Technical Standards for Admission, Matriculation and Graduation* as part of the Pharm.D. Application. Students admitted to the Pharm.D. program must continue to meet and adhere to these standards throughout their tenure in the Pharm.D. program;
5. International applicants must also complete the UMKC International Undergraduate Application for Admission (<http://www.umkc.edu/isao/>) in addition to the PharmCAS Application and the UMKC Doctor of Pharmacy Application. Copies of all materials submitted to the International Student Affairs Office must be sent to the Pharmacy Office of Student Affairs. The minimum TOEFL iBT score required for Pharm.D. applicants is 83. The minimum IELTS Academic Score is 6.5. International applicants whose native language is not English or who received their education in a country where the first language is not English must:
 - a. Meet the UMKC English Proficiency requirements
 - b. Complete the English Evaluation Examination prior to the first semester of enrollment
 - c. Follow recommendations from the UMKC Applied Language Institute.
6. Complete a formal interview, if selected, at the School of Pharmacy as a factor for admission. Applicants are notified by e-mail before their scheduled interview. Applicants should note that meeting minimum eligibility requirements does not automatically qualify an applicant for an interview. Based on the academic and application credentials of the applicant and the applicant pool, the school will select candidates for an interview. Students who do not qualify for the interview will receive written notice.

Notification of Acceptance

Admission to the Pharm.D. program is competitive. Applicants will receive written notification of the school's decision concerning their applications.

Official supplementary college transcripts must be submitted to UMKC upon completion of winter/spring and summer coursework. Final acceptance is contingent on submission and clearance of a criminal background check, good academic and behavioral standing, successful completion (grade of C- or higher) of the specified minimum hours of required pre-pharmacy courses and any other coursework completed during the winter/spring and/or summer terms prior to admission. Those applicants approved for admission will be required to confirm their acceptance and submit an advance deposit to guarantee their place in the entering class. This deposit is applied to the first term's educational fees and is not refundable. Admitted students are required to attend the School of Pharmacy orientation sessions.

Curricular Requirements

The doctor of pharmacy degree program provides broad and general preparation in professional areas of practice with the intent that, on completion, graduates will be able to practice at a level sufficient to perform the established functions of a pharmacist. In addition, the Pharm.D. program prepares the student for advanced levels of professional practice. The major emphasis is on the clinical sciences and drug-related patient care.

This program is designed to provide advanced education and training in clinical pharmacy and drug information with particular emphasis on interprofessional team participation in the delivery of health care. To enable students to concentrate solely on this advanced professional coursework, those entering the doctor of pharmacy program are strongly encouraged to limit their work and/or intern hours during the academic year.

Because pharmacy is a profession undergoing rapid change, the curriculum is subject to continual review and modification. As society's needs for specific types of pharmaceutical service change, the curriculum will change as well. To assure the best pharmacy education for its students, the School of Pharmacy reserves the right of making judicious changes and improvements in course sequence, course content, or other program requirements at any time that must be completed and adhered to in order to meet graduation degree requirements.

Pharm.D. Graduation Requirements

To graduate, Pharm.D. candidates must successfully complete the 4 year curricular course requirements as listed in addition to the pre-pharmacy course requirements listed above.

To graduate, students must successfully complete all credit and non-credit requirements as listed and in effect at the time of completion. Within these hours, the following credit hour minimums must be met:

Pharm.D. Admission Pre-Pharmacy Course Requirements

Code	Title	Credits
Semester 1 Prerequisites		
CHEM 211 & 211L	General Chemistry I and Experimental General Chemistry I	5
MATH 210	Calculus I	4
BIOLOGY 108	General Biology I	3
ENGLISH 110	Introduction to Academic Prose	3
GEFSE 101	First Semester Experience	3
Total Credits		18

Code	Title	Credits
Semester 2 Prerequisites		
CHEM 212R & CHEM 212LR	General Chemistry II and Experimental General Chemistry II	5
PHYSICS 210	General Physics I	4
BIOLOGY 109	General Biology II	3
ENGLISH 225	English II: Intermediate Academic Prose	3
Total Credits		15

Code	Title	Credits
Semester 3 Prerequisites		
BIOLOGY 218 & 218L	Introductory Anatomy and Introductory Anatomy Laboratory ¹	5
CHEM 321 & 321L	Organic Chemistry I and Organic Chemistry Laboratory I ¹	4
BIOLOGY 202	Cell Biology ¹	3
COMM-ST 110 or COMM-ST 140 or COMM-ST 277	Fundamentals of Effective Speaking and Listening Introduction to Communication Interpersonal Communication	3
Total Credits		15

Code	Title	Credits
Semester 4 Prerequisites		
NURSE 125	Medical Terminology ¹	1
CHEM 322R	Organic Chemistry II ¹	3
CHEM 322L	Organic Chemistry Laboratory II ¹	1
LS-MCRB 121 & 121L	Human Biology III (Microbiology) and Human Biology III (Microbiology) Lab ¹	4
STAT 235	Elementary Statistics	3
Select any one of the following courses:		3
HISTORY 101	U.S. History to 1877	
HISTORY 102	U.S. History Since 1877	
POL-SCI 210	American Government	
Total Credits		15

¹ Marked Science courses must be completed within five years of Pharm.D. program start date.

Student Learning Outcomes

Students graduating from this program will:

- Develop, integrate and apply knowledge from the foundational sciences (pharmaceutical, social/administrative/behavioral, and clinical sciences) to evaluate the scientific literature, explain drug action, solve therapeutic problems and advance population health and patient-centered care.
- Provide patient-centered care as the medication expert (collect and interpret evidence, prioritize, formulate assessments and recommendations, implement, monitor and adjust plans, and document activities).
- Manage patient healthcare needs using human, financial, technological, and physical resources to optimize the safety and efficacy of medication use systems.
- Design prevention, intervention, and educational strategies for individuals and communities to manage chronic disease and improve health and wellness.
- Describe how population-based care influences patient-centered care and influences the development of practice guidelines and evidence-based best practices.
- Identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution.
- Educate all audiences by determining the most effective and enduring ways to impart information and assess understanding.
- Assure that patients' best interests are represented.
- Actively participate and engage as a healthcare team member by demonstrating mutual respect, understanding, and values to meet patient care needs.
- Recognize social determinants of health to diminish disparities and inequities in access to quality care.
- Effectively communicate verbally and nonverbally when interacting with an individual, group, or organization.
- Examine and reflect on personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth.
- Demonstrate responsibility for creating and achieving shared goals, regardless of position.
- Engage in innovative activities by using creative thinking to envision better ways of accomplishing professional goals.
- Exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers, and society.

Curricular Outcomes Expected of Doctor of Pharmacy Graduates

Doctor of Pharmacy graduates must possess the basic knowledge, skills, attitudes, and values to independently practice pharmacy at the time of graduation. These Curricular Outcomes expectations are outlined in full on the UMKC School of Pharmacy website under the *Curriculum Policies and Procedures* section at: <https://pharmacy.umkc.edu/current-students/curriculum-policies.html>.

First Year

Fall	Credits	Spring	Credits	Summer	Credits
PHARM 7341	3	PHARM 7344	3	PHARM 7378	3
LS-PHYS 399	4	LS-PHYS 400	4		
LS-BIOC 370	4	PHARM 7202	3		
PHARM 7101	1	PHARM 7233	3		
PHARM 7110	2	PHARM 7361	2		
Professional Electives 1.0 - 8.0 ¹	1	PHARM 7405	3		
PHARM 7334	0.5	PHARM 7405L	0.5		
PHARM 7414	2	Professional Electives 1.0 - 8.0 ¹	1		
	17.5		19.5		3

Second Year

Fall	Credits	Spring	Credits	Summer	Credits
PHARM 7203	3	PHARM 7303	3	PHARM 7379	3
PHARM 7307	3	PHARM 7308	3		
PHARM 7326	2	PHARM 7426	2		
PHARM 7362	4	PHARM 7426L	0.5		
PHARM 7420	5	PHARM 7363	4		
Professional Electives 1.0 - 8.0 ¹	1	PHARM 7485L	1		
		PHARM 7485P	5		
		Professional Electives 1.0 - 8.0 ¹	1		
	18		19.5		3

Third Year

Fall	Credits	Spring	Credits	Summer	Credits
PHARM 7389		2 PHARM 7151		1 Advanced Pharmacy Practice Experiences (APPE hours vary) ⁴	4
PHARM 7406P ²	2	PHARM 7331	1		
Professional Electives 1.0 - 8.0 ¹	2	PHARM 7331L	0.5		
PHARM 7465	3	PHARM 7434	1		
PHARM 7486	5	PHARM 7434L	1		
PHARM 7486L	0.5	PHARM 7451	1		
		PHARM 7466	3		
		PHARM 7487	5		
		PHARM 7487L	0.5		
		Professional Electives 1.0 - 8.0 ¹	2		
	14.5		16		4

Fourth Year

Fall	Credits	Spring	Credits
Advanced Pharmacy Practice Experiences (hours vary) ⁴	16	Advanced Pharmacy Practice Experiences (hours vary) ⁴	16
	16		16

Total Credits: 147

- ¹ A minimum of eight credit hours of professional elective course work must be successfully completed prior to enrollment in Advanced Pharmacy Practice Experiences (APPE). Visit <https://pharmacy.umkc.edu/current-students/curriculum-policies.html> under the *Curriculum and Registration* section and review the Guidelines for Electives and the list of potential professional elective offerings. Students should choose electives and semester placement after consultation with a pharmacy academic advisor in the Office of Student Affairs and/or their faculty advisor.
- ² PHARM 7406P IPPE: General Medicine I is a continuous introductory pharmacy practice experience completed over both fall and spring semesters.
- ³ Students must complete 36 credit hours of Advanced Pharmacy Practice Experiences [APPE] over Semesters 6a-8. APPE prerequisites include satisfactory completion of all credit and non-credit degree and course requirements prior to Semester 6a of the professional curriculum.

Because pharmacy is a profession undergoing rapid change, the curriculum is subject to continual review and modification. As society's needs for specific types of pharmaceutical service change, the curriculum will change as well. To assure the best pharmacy education for its students, the School of Pharmacy reserve the right of making judicious changes and improvement in course sequence, course content, or other program requirements at any time that must be completed and adhered to in order to meet graduation requirements.

Prospective Applicants are encouraged to:

- Visit <http://pharmacy.umkc.edu> (<http://pharmacy.umkc.edu/>) to see equivalencies for schools in Missouri and Kansas to see how prerequisites will transfer to UMKC.
- Visit <http://www.umkc.edu/registrar/transfer-credit/default.asp> to review UMKC AP & IB course work minimums.