

Department of Chemistry and Biochemistry

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Career Preparation

Pharmacy practice is an important part of total health care. Pharmacists are the most accessible health care professional and critical health care team members. First and foremost, pharmacists care for their patients. They help patients find and receive the best results from their specific medication therapy. They also help patients prevent diseases through providing wellness services such as immunizations and health screenings. Pharmacists are medication experts who understand the use, composition and effect of drugs and how human behavior affects the outcome of treatment. They need a strong foundation in chemistry, biology, physiology and math. They use their knowledge and skills in medication, health and disease, adherence, patient assessment, cultural competency, education, business, health care systems and technology to improve patient outcomes.

In addition to providing patient care services, a pharmacist employed in a community pharmacy may have other duties, such as hiring and supervising personnel and overseeing the operation of the pharmacy. A pharmacist employed in a hospital or clinic dispenses inpatient and outpatient prescriptions and advises the medical and nursing personnel on the selection and effects of drugs. Some put their pharmaceutical training to other uses such as sales, teaching, research or writing.

There are a wide range of career opportunities available to Pharmacists. Some of which include: community pharmacies, hospitals, schools of pharmacy, research labs, nursing homes, the military, Indian Health Services, physician offices, state and federal health agencies, drug enforcement agencies, insurance companies, health information technology companies and disaster response teams to name just a few. The average starting salary for a pharmacist is more than \$120,000 annually.



Academic Program

Missouri State collaborates with the University of Missouri-Kansas City (UMKC) School of Pharmacy (SOP), which offers the Doctor of Pharmacy (Pharm.D.) degree through the UMKC School of Pharmacy at Missouri State University, located in Brick City, Building #1 downtown Springfield, MO. The UMKC SOP has campus sites in Kansas City, Columbia and Springfield. Applicants are able to list their preferred campus site for admission. UMKC will admit 95 students to the Kansas City campus, 30 to the Springfield-MSU site, and 30 to the Columbia-Mizzou site. High grades (specifically in the science & math courses), high PCAT scores, pharmacy experience and applying early in the application process will better enhance applicant's admission into the Pharm.D. program, and more specifically into the applicant's first choice of campus site.

Generally, a minimum of approximately 60 hours of prerequisites are needed for admission into a Pharm.D. program. Applicants typically take two or more years to complete their prerequisites in order to improve their cumulative and science/math grade point averages for competitive entry.

For a list of equivalent coursework to complete at Missouri State University necessary for admission to the UMKC PharmD program please visit:

<http://pharmacy.umkc.edu/college-equivalency-sheets/>

UMKC Requirements are as follows:

COM 115
HST 121 or 122 or PLS 101
ENG 110 and ENG 210 or 221
LLT 102
CHM 160/161 and 170/171
CHM 342, 343 and 345
MTH 261 or 287
PHY 123
BIO 121 or BMS 110
BIO 122 or BMS 231 or BIO 235/236
BIO 320 or BMS 521
BIO 312 and 313
BMS 307

*Statistics is not required for students entering Fall 2020 or Fall 2021.

**Students require at least one organic chemistry lab.

St. Louis College of Pharmacy
4588 Parkview Place
St. Louis, MO, 63110-1088
314-367-8700
Website: www.stlscop.edu/

St. Louise College of Pharmacy Requirements are as follows:

ENG 110 and 210
CHM 160, 161, 170 and 171
BIO 121 and 122
PSY 121
SOC 150
ECO 155 or 156
MTH 261 or 287
MTH 340
BMS 307 and 308
BIO 210 or 312 and 313
CHM 342, 343, 345, and 352
PHY 123
COM 115

*Humanities 12 hours

Courses

Please consult the Missouri State Catalog online at www.missouristate.edu/catalog for course descriptions and specific degree requirements, including courses in the Department of Chemistry and the Departments of Biology, Biomedical Sciences, Physics and Mathematics.

College Mission

The College of Natural and Applied Sciences develops educated persons who, upon graduation, are prepared to make sound decisions relative to the natural and applied sciences and society and to be productive and successful in their careers - our commitment to public affairs. We are committed to excellence in teaching, research and scholarly activities, and community and professional service, and seek to be recognized regionally and nationally for teaching, scholarly productivity, professional and community service, and our outstanding students and alumni.

UMKC School of Pharmacy at MSU

Brick City, Building 1, 4th Floor
327 W. Mill Street
Springfield, MO 65806
Phone: 417-837-3600 Fax: 417-837-3825
Website: <http://pharmacy.umkc.edu/>



Pre-Pharmacy Advisor Contact Information:

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MSiebert@missouristate.edu

* Students who plan to apply to pharmacy school early should take genetics (BIO 235 & 236).

** Students planning to complete three years and reverse transfer from year 1 at pharmacy school should take CHM 302.

Students who plan to apply to pharmacy school early should take BIO 312 and BIO 313 or BIO 320.

† Required for student entering year 2022 and beyond.

€ For students planning to complete three years and reverse transfer courses from year 1 pharmacy school should take CHM 502.

The following is a sample schedule--your actual schedule may vary and should be made in consultation with an advisor.

Sample Schedule for B.Sc. in Chemistry / minor in Biology

First Semester (Fall)

GEP 101 1st yr foundations	2 hr
BIO 121 Gen Bio or BMS 110 Intro to BMS	4 hr
CHM 160 Gen Chem I	4 hr
CHM 161 Gen Chem I lab	1 hr
ENG 110 Writing I	3 hr
LLT 102 Scientific & Medical Terminology	2 hr
	16 hr

Second Semester (Spring)

CHM 170 Gen Chem II	3 hr
CHM 171 Gen Chem II lab	1 hr
BIO 122* Gen Bio II or BMS 231 Human Genetics	4 hr
COM 115 Public Speaking	3 hr
ENG 210 Writing II or 221 Writing II	3 hr
MTH 261 Analytical Geometry or 287 Calculus I	3-5 hr
	17-19 hr

Third Semester (Fall)

HST 121 or 122 or PLS 101	3 hr
CHM 342 Organic Chem I	3 hr
CHM 375 Inorganic Chem or 302 Analytical Chem **	3-5 hr
BIO 235 Genetics # and BIO 236 Genetics Lab #	3+1 hr
PHY 123 Intro to Physics I	4 hr
	17-19 hr

Fourth Semester (Spring)

CHM 343 Organic Chem II & CHM 345 Organic Chem Lab I	3+2 hr
BIO 312 & 313 Microbiology or BIO 320 Intro to Cellular BIO4-5 hr	
BMS 307 Human Anatomy	4 hr
MTH 340 Statistical Methods †	3 hr
	16-17 hr

Fifth Semester (Fall)

BIO 312 & 313 Microbiology or BIO 320 Intro to Cellular BIO 4+1 hr	
CHM 375 Inorganic Chem or 302 Intro to Analytical Chem **3-5 hr	
Public Affairs: Cultural Competence Elective	3 hr
CHM 445 Organic Chem Lab II	2 hr
CHM 399 Undergrad Research	1-2 hr
	14-17 hr

Sixth Semester (Spring)

CHM 504 & 505 Fund. of Physical Chemistry € & Lab	3+1 hr
CHM 398 Chemical Symposium	1 hr
CHM Electives †	3 hr
Human Cultures: Arts Elective & Humanities Elective	3 hr
PHY 124 Intro to Physics II	4 hr
	15 hr

Seventh Semester (Fall)

CHM 502 & 503 Instrumental Analysis € & Lab	3+1 hr
CHM Electives	3 hr
CHM 498 Chemistry Careers	1 hr
PSY 121 or SOC 150 ; Behavioral Sciences, Human Cultures	3 hr
Human Cultures: Arts Electives & Humanities Elective	3 hr
	14 hr

Eight Semester (Spring)

CHM 492 Program Assessment	0 hr
CHM Electives	3 hr
CHM 499 Advances Undergrad Research	1-2 hr
PSY 121 or SOC 150 ; Behavioral Sciences, Human Cultures	3 hr
Public Affairs Electives: Cultural Competence & Public Issues	6 hr
	13-14 hr



Pre-Pharmacy Fact Sheet

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College of Natural and Applied Sciences

www.chemistry.missouristate.edu

Missouri State
UNIVERSITY